

# Strength in Numbers — Shared Resources for Implementing Clinical Decision Support in the Small Practice

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## ***What is Clinical Decision Support (CDS)?***

The Center for Medicare and Medicaid Services (CMS) defines CDS, with respect to meaningful use, as a Health Information Technology (Health IT) functionality that “builds upon the foundation of an EHR to provide persons involved in care processes with general and person-specific information, intelligently filtered and organized, at appropriate times, to enhance health and healthcare.”(1) The Health Information Management and Systems Society (HIMSS), in their CDS Guidebook Series, defines CDS somewhat more broadly, as “a process for enhancing health-related decisions and actions with pertinent, organized clinical knowledge and patient information to improve health and healthcare delivery.” Whichever definition is used, the core intent for the practicing clinician is to actively assist in delivering optimal patient care.

Table I: The Five Major Types of CDS Tools

- **Alerts and Reminders** deliver information at the point of care in a way that gets the provider’s attention. They can appear as pop-up boxes, strategically placed reminder lists, or changes in visual presentation such as font or color. They are commonly used to support prescribing and time-sensitive care like annual preventive care screening.
- **Order sets** are pre-specified bundles of orders grouped by a clinical purpose. They eliminate the need to specify each individual test, which makes the ordering process more efficient and can reduce human error. After an order set is created or specified, it may not appear to be different from any other order, with the exception that an order set will group multiple orders for a particular purpose. They are also used to standardize a level of care across the practice.
- **Infobuttons** provide clickable links to reference information for selected terms or phrases that appear in the EHR. Providers can seek out information using infobuttons, as opposed to alerts and reminders, which automatically deliver information to the provider. They usually appear as a small icon (such as a question mark, or an “i”) next to key words or phrases.

- **Data displays** are reference, guidance or patient-specific information provided at appropriate times, such as ordering or chart review, to help clinicians make more informed decisions. Unlike alerts and reminders, data displays are not triggered by specific user-action, but are triggered by information. They show health information for a particular disease, such as a diabetes flow sheet, or the display of allergy status when writing a new prescription. They may even appear as a dashboard, or could even be a unit tracking system like an Emergency Department monitor.
- **Documentation templates** are structured electronic forms that collect clinical information. They are considered a type of CDS if they are used to support information collection for other CDS tools later in the workflow, or other clinical purposes like quality measurement. They typically look like electronic forms with areas where the provider can enter information, often with free text or with drop down menus. They can be used to support any data collection effort that the practice wants to standardize.

### ***What's in it for small practices?***

For Stage I of meaningful use, practices are required by CMS to “implement one clinical decision support rule relevant to a specialty or high clinical priority along with the ability to track compliance to that rule.”(1) In addition, the CMS states, “we purposefully used a description that would allow a provider significant leeway in determining the clinical decision support rules that are more relevant to their scope of practice.”(1)

Research has shown CDS to be effective in improving quality of care while also preventing unnecessary costs.(2) At the practice level, physicians have found that CDS helps them to streamline workflow, offload repetitive work, ensure patient safety, and ultimately create a more productive practice environment. Village Health Partners, a small practice in Plano, Texas, for example, was able to leverage CDS to shift more of the workload to clinical staff to allow physicians to spend more time with patients. Templates and order sets for common diseases were used to allow the nurse to play a larger role in collecting relevant information and executing orders prior to the physician seeing the patients.(3)

Solo practices, such as Cooper Pediatrics in Duluth, Georgia, have experienced over 40% reduction in wait time with the use of documentation templates.(4) Dr. Cooper was also able to sustain high quality review scores such as >99% immunization rate with the use of rule-based prompting. However, as Dr. Cooper is fond of saying, “Time is the only thing a physician has to sell. The system must save a physician time.” By leveraging shared CDS resources, providers can reduce the efforts needed to implement and optimize their CDS system, and focus their energy and time on their primary mission — patient care.

### ***Do small practices really need shared resources?***

Studies have found that solo and small practice settings lag behind larger practices in leveraging Health IT to support their clinical and administrative tasks.(5) Realizing all the potential benefits of CDS requires careful planning, understanding of the practice workflow, and integration of clinical knowledge appropriate to the type of patients seen in the practice. Providers typically need resources beyond those offered by software vendors, such as documentation, tutorials, and initial training when the EMR system is installed. Large healthcare institutions and group practices typically rely on outside contractors or internal expertise for their CDS implementation, maintenance, and optimization; however, solo and small practices are often unable to hire external consultants because of their limited financial resources.

The process of translating best practice guidelines into clinical decision support within the EMR is also often beyond the capacity of small office care settings. Solo and small practice providers have little or no time to review relevant clinical literature, design the clinical workflow, and translate and codify clinical knowledge into CDS rules within the EMR.

### ***What shared resources can small practices leverage?***

When multiple small practices share resources, “they achieve greater health information technology capacity, are better able to track and manage patient information, and are more

likely to participate in quality monitoring or clinical benchmarking than small and medium practices that do not share resources.”(5) Here are some resources to help small practices successfully implement CDS:

### **Government-funded Resources**

Recognizing the challenges small practices face in implementing Health IT such as CDS, government agencies, including the Office of the National Coordinator for Health Information (ONC) and the Agency for Healthcare Research and Quality (AHRQ) have created various resources to help providers.

### **Regional Extension Centers**

The HITECH Act authorized a Health Information Technology Extension Program consisting of Health Information Technology Regional Extension Centers (RECs). The RECs are charged to “support and serve health care providers and to help them quickly become adept and meaningful users of electronic health records (EHRs)... [and] to make sure that primary care clinicians get the help they need to use EHRs.”(6) The RECs provide training and support services to assist providers, offer information and guidance to help with implementation, and give technical assistance as needed. Providers can identify the REC funded to support their practice, along with contact address, phone, and website link, by using ONC’s REC map at [http://healthit.hhs.gov/portal/server.pt/community/hit\\_extension\\_program/1495/home/17174](http://healthit.hhs.gov/portal/server.pt/community/hit_extension_program/1495/home/17174).

### **The Clinical Decision Support Consortium**

The Clinical Decision Support Consortium (CDSC) is a project funded by AHRQ to improve the translation of knowledge in clinical practice guidelines into actionable clinical decision support in healthcare information technology. One of the products of the CDSC, the Knowledge Management Portal at <http://cdsportal.partners.org>, is

designed for public sharing of “clinical decision support processes and procedures (“CDS content”) created by healthcare providers, hospitals, and medical centers to be shared with the medical community for the improvement of patient care.” Using the portal, providers can search for CDS content by care setting, patient population, clinical specialty, meaningful use stage, and clinical information system.(7)

### **Advancing Clinical Decision Support**

The Advancing Clinical Decision Support (ACDS) project is a project funded by ONC to create many resources (including this guide) to advance the use of CDS in the provider community. Several resources are suitable for small practices. One of these resources is the CDS starter kit, which is designed to help small practices take the first step toward implementing CDS tools. The CDS starter kit helps providers become familiar with CDS by providing step-by-step examples of how to manage the implementation of CDS within their EHRs, while gaining an understanding of the basic rationales and principles of using CDS. The kit provides specific examples of how to implement CDS rules that relate to meaningful use for diabetes care and smoking cessation. Another resource is a series of “how-to” guides and resources to support CDS across implementation stages, beginning with establishing strong foundations for CDS. These guides have important guidance and lessons specifically for small practices. These guides are available at <http://healthit.hhs.gov/cdsimplementation>.

### **Professional Societies and other Educational Forums**

Professional societies such as American Academy of Family Physicians (AAFP), American College of Physicians (ACP), and American Academy of Pediatrics (AAP) offer many practical resources to help their members in their daily practice that can be readily adapted to CDS.

For example, AAFP offers a collection of evidence-based “Point-of-Care Guides” that covers the spectrum from making decisions about a sore throat to managing Warfarin

doses. While these guidelines cannot be plugged directly into CDS software, they summarize the clinical knowledge in a compact, succinct form that can be readily adopted and implemented in CDS. Dr. Mark Morgan took AAFP's work further by creating a not-for-profit website, [soapnote.org](http://soapnote.org), dedicated for providers to share CDS tools, including those derived from the AAFP guides. While [soapnote.org](http://soapnote.org) is a standalone tool separate from the EHR, the calculators and documentation templates it offers can be readily adopted and incorporated into the EHR and CDS workflow.

Other professional societies, such as the American Medical Informatics Association (AMIA) and HIMSS also offer relevant education programs and publications. AMIA's website ([www.amia.org](http://www.amia.org)) has a dedicated CDS section, podcasts on Meaningful Use, and a CDS working group. HIMSS offers a Frequently Asked Question (FAQ) document specifically for CDS and Meaningful Use. HIMSS's CDS guidebook series also sets the standard in CDS planning, implementation, and use.

## **Vendor-supported Resources**

Vendors are aware of the provider's needs for CDS tools to satisfy meaningful use, and many are creating resources to help their customers to meet meaningful use requirements.

## **User Groups**

Some vendors, especially large EMR vendors, also have very successful national and regional user groups with annual or more frequent meetings where users can exchange insights, resources, and tools. Some providers choose specific vendors partly based on the strength and reputation of their user group. With an active user group, participating practices can focus on creating CDS tools for their particular area of expertise. Practices can then come together to exchange CDS tools and learn from each other.

User groups and collaboration with vendors are also great opportunities for providers who have the time, expertise, and motivation to develop customized CDS content. For instance, Evans Medical Group, a small medicine-pediatrics practice in Evans, Georgia, was able to help their vendor, MedicaLogic, test software and develop content partly in exchange for discounted services and trainings.(8) Dr. Robert Lambert, a key member of Evans Medical Group, also gained national recognition as president of the MedicaLogic Logician user group. Dr. Lambert and Evans Medical Group shared CDS contents for disease management such as cholesterol and hypertension guidelines, and a Framingham cardiac risk calculator. Users of the same CDS software can easily obtain and implement the cardiac risk calculator to improve clinicians' care and educate patients to see how risk modifications such as smoking cessation could impact their cardiac risks.

### **Individualized Training**

Finally, some vendors and HIT consulting companies provide individualized, web-based training sessions that can be tailored to a provider's needs and schedules. For solo practitioners, such as Dr. Alicia Valdez in San Antonio, Texas, having individualized training sessions that could fit into lunch breaks while staying in the office minimized disruptions to the practice.(9) Individually tailored training also gave hands-on guidance to help Dr. Valdez create custom protocols and forms to match her practice style, improve process efficiencies, and reduce practice hours while increasing number of visits.

### **Local Hospitals and Medical Centers**

One commonly available resource that many small practices fail to leverage is the collective knowledge of their local hospitals and medical centers. Most providers already have some affiliation with local hospitals such as admission privileges. Some providers also participate in teaching responsibilities with local medical schools. By



working collaboratively with these larger organizations, providers can gain knowledge and resources to bring back to their own small practices.

For example, as a single-location private practice with only two pediatricians, Pediatrics @ the Basin in Rochester, New York, has fewer resources than its larger counterparts. However, by having Dr. Alice Loveys, one of the two pediatricians, participate on the University of Rochester Medical Center's Ambulatory Service Committee, Pediatrics @ the Basin gained the opportunity to review and consider a far greater number of CDS options than it would have otherwise.(10)

### **Local Healthcare Community**

Pediatrics @ the Basin also cited the Rochester Health Commission as one of their success factors.(10) The Rochester Health Commission, now the Rochester Regional Health Information Organization, is a non-profit organization comprised of local insurance companies, IPAs, and hospitals. They provided community-wide clinical guideline initiatives. Pediatrics @ the Basin was able to use their asthma guideline to create templates for the initial evaluation and follow up care of asthma patients. This greatly reduced the efforts that would otherwise be needed from the pediatricians to determine the asthma guideline appropriate for their community and to parameterize the guideline for their practice. Using these guideline-driven templates, Pediatrics @ the Basin is able to demonstrate how their assessment is supported by their history and physical, and how their treatment plans are in accordance with the national guidelines that are already reviewed and supported by local payers and other healthcare institutions.

Physicians at Sugar Creek in Sugar Land, TX joined forces with 25 other practices in a quality improvement group known as the Clinical Quality Improvement Collaborative (CQIC). CQIC was able to go beyond the capability of the vendor CDS systems by focusing specifically on quality and providing both the clinical knowledge and the CDS

rule sets. CQIC was able to help Physicians at Sugar Creek to implement an advanced clinical reminder for blood pressure control in diabetics that varies blood pressure goals by different levels of risk. Similarly, the CQIC health screening reminders were able to incorporate other factors such as family history of cancer to individualize the alerts by patient's risk levels. Physicians at Sugar Creek credit the robust alerts provided by CQIC as one of the elements that helped their practice to become certified as a Level 3 Physician Practice Connections — Patient-Centered Medical Home (PPC-PCMH) by the National Committee for Quality Assurance (NCQA).

## **Local Colleagues**

When choosing Health IT systems such as Electronic Health Records (EHRs), Practice Management Systems (PMSs), or CDS systems, many practices such as Pediatrics @ the Basin cited compatibility with nearby practices (such as call-sharing partner practices) as one key factor to consider.

Social networking among colleagues may also facilitate resource sharing. Clinicians are already used to informal social networks such as “hallway consults” and meeting other clinicians during hospital rounds. Most clinicians are also familiar with modern social networks such as Facebook and LinkedIn. More recent physician-specific social networks, such as Doximity, go a step further by actively linking physicians with close geographic proximity. While these social networks were meant to satisfy traditional provider business needs such as expanding referral networks, they can also be used to meet other providers who use similar CDS systems, trying to create CDS resources for similar clinical domains, or face other similar problems with CDS. Whether formally structured as a local CDS interest group or user group, or informally as a CDS support network, other physicians can often serve as an invaluable resource with their shared knowledge in how to make CDS work in the local practice environment.

### ***The bottom line***

CDS is becoming a critical tool in modern practice, and a requirement for meaningful use. By leveraging shared resources nationally, regionally, and locally, small practices can overcome their inherent resource limitations to successfully implement and use CDS in their practices.

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