Tasks for CDS Implementation*

*This content was adapted from a 2011 book published by the Healthcare Information and Management Systems Society (HIMSS) entitled "Improving Outcomes with Clinical Decision Support: An Implementer's Guide, Second Edition."

Basic Concepts and Approach: A Shared Broad Understanding of CDS as an Operational Imperative

- Establish a strong/shared foundation around basic concepts (e.g. CDS definition and scope) and approaches for yourself and your team to underpin your efforts to develop successful CDS programs and interventions.

- Begin outlining, or refining, a set of initial strategic victories to be pursued and claimed

- Begin building a shared vision among key participants (e.g. physicians, nurses, implementers, practice managers, office staff, and patients to the extent that CDS affects their care) about CDS's role in enhancing the practice's clinical and operational performance.

- Likewise, begin building a shared, broad perspective on CDS toolkit – e.g. many potential content and intervention types, recipients, delivery channels, and workflow opportunities (i.e. 'CDS Five Rights'* approach for improving outcomes with CDS configurations that optimize these dimensions)

The CDS 5 Rights Model suggests that optimally effective and efficient interventions for improving outcomes with CDS require that the right information, be delivered to the right person, in the right intervention format, through the right channel, at the right point in workflow

Organizing a Successful CDS Program: Documented plan in place and used for CDS-related assessments, decision-making process, oversight and execution

- Why, what , how, who, and when of CDS approach and activities are documented

- CDS program appropriately integrated with quality and HIT planning and execution

- Oversight for various strategic and tactical decisions (such as initiation and review of interventions of various types) is in place

- All key participants are engaged (or represented) in CDS program decision-making process and oversight, and each recognizes personal advantages from the CDS activities.

- CDS approached as shared effort **with** intervention recipients as part of collaborative improvement culture

- Primary champions identified, representing "a collection of respected figures in various positions, such that everyone else will listen to at least one of them" – and richly engaged in the process

- Mechanism for ongoing communication identified and begun

- Staff, consultants, and/or vendor personnel are available to fill essential roles needed for CDS program success: design, development, implementation and evaluation

- Documented plan used for prioritizing CDS-mediated improvement objectives, based on internal/external drivers (e.g. Meaningful Use, PCMH Certification, clinical quality measures)

Other Key CDS Program Building Blocks: Systems, Workflow, and Measurement

- Tools and expertise in workflow analysis

- Capabilities and tools for measuring intervention effects on clinical quality & user-satisfaction

- Technology and organizational infrastructure catalogued and its implications understood (what you can do easily, what requires a greater or different type of effort)

Knowledge management for clinical decision support programs: Proactive and systematic process in place for acquiring, validating and updating CDS content

- Knowledge management policies in place, along with tools and processes to enforce policies

- Explicit approach (in-house or outsourced to vendor personnel or consultants) for managing the CDS content portfolio's life cycle (scope, currency, consistency)

Part Two: Selecting, Developing and Implementing CDS Interventions

Foundational considerations for effective CDS interventions

- Apply your CDS program's systematic approach to prioritizing improvement targets to select specific focal points for your CDS intervention efforts.

- Understand the components of the CDS 5 Rights and how each is applicable to development of effective CDS interventions

- There are several major types of CDS interventions that can be delivered via information systems and other channels. Understanding these different types, and their advantages and disadvantages, is critical in selecting and designing optimal interventions to accomplish specific goals.

- Understand the general life cycle of a CDS intervention; keep pertinent clinical and office staff engaged throughout this cycle.

Selecting the Optimal Intervention for the Need: Intervention type is the best choice for the objective

- Intervention(s) are focused on an improvement priority, driven by the CDS decision-making process

- Intervention type (alerts, reminder, order set, documentation templates etc) is the best choice for the objective; among appropriate intervention types, final choice reflects balance

between ease of implementation, acceptability and impact (these may be tuned based on your organization's experience and comfort level).

Specifying (or Configuring) Interventions: Intervention is optimally designed to fit workflow and clinical objective and vetted by stakeholders

- Intervention design

    o Critical elements of the intervention are included (easy to understand the reason, necessary supporting data and knowledge to make a decision, easy access to action items, mechanisms to document medical and patient reasons for exceptions, such as a patient's refusal of treatment)

    o Intervention content coordinated with related clinical quality/performance measure(s) as appropriate

    o Intervention is optimized to support workflow and desired outcomes – CDS Five Rights addressed, and unhelpful disruption minimized

    o Intervention behaves as expected, providing useful and appropriate information needed to support desired decisions, actions and outcomes; consider implications of possible future care process or data changes

    o Intervention contains ability to measure user response and process change

- Vetting interventions with stakeholders, and testing before go-live

    o All parties key to intervention success engaged at appropriate stage; an early shared vision is developed among end-users and other participants about needs, goals, strategies related to interventions; interventions are done **with** end-users, not **to** them

    o Intervention content thoroughly tested for usability and safety before deployment in live   environment; explicit responsibility for owner to approve final version of intervention before deployment; backup and failsafe measures in place as appropriate.

Putting interventions into action

Deployment plan is in place

- All stakeholders and all users prepared for intervention launch - e.g. via communication, training, user support

- Capability to address altered workflows and care delivery needs (e.g. providing more procedures, testing or medications that may result from successful CDS intervention)

- Capacity in place to obtain user feedback and to deal rapidly with immediate concerns

Measure Results & Continuously Refine the Program

- Plan is in place for identifying, tracking and addressing intended and unintended intervention behavior and effects

- Plan is in place for reporting intervention effects to pertinent stakeholders and supporting continuous monitoring and improvement

- Victories and exceptional efforts are tracked, frequently communicated and leveraged to sustain performance and set up enthusiasm for future CDS interventions

- Owners or responsible parties are identified for CDS interventions and their content; processes in place to maintain and update intervention, periodically and as needs arise.