Order-Related Clinical Decision Supports

Significance

The Connect Care clinical information system (CIS) anticipates near 100% prescriber order-entry, speeding a cumbersome process while helping clinicians avoid error, improve utilization and contribute to our understanding of how health care interventions relate to health outcomes. Indeed, much of the value-case for a CIS pivots on effective clinical decision support (CDS). The most present and prevalent CDS relates to order-entry. Epic provides a variety order-enhancement tools, labelled as follows.

Order Objects

Term	Definition	Implications
Order Sets	Organized collection of discrete inpatient orders, and optionally other clinical content such as prompts or guides, relevant to a specific health problem or diagnosis.	• Share a common organizational structure, reflected in order groups with standardized section names such as diet, test and medications. • Can contain tips, suggestions, prompts for information (e.g. diagnosis, disposition, follow-up) reminders and links to external guidance. • Support user-level personalizations.
Order Panels	Small order clusters (15 orders or less) that can be used independently, combined with other orders, or embedded in one or more order sets in multiple contexts (inpatient, ER, outpatient).	• Available to prescribers from the ordering activity. • Can be added to personal preference lists. • Best for common clusters of orders that may related to multiple health problems or presenting complaints; often where things like medications must be co-ordered with related tests. • Elements can be pre-selected or unselected by default. • Convenience of issuing multiple orders via a single ordering action. • All elements of a panel must share a common ordering mode (i.e., current, future). • Can be nested within the SmartGroups that comprise Order
SmartGroups	Small order clusters (15 orders or less) that cannot be used/ordered independently and must be situated within Order Sets.	• Unlike Order Panels, cannot be searched for and used independently by ordering prescribers. • Can have pre-selected and/or unselected elements by default. • Appropriate for standardized order elements that can be incorporated in multiple Order Sets.
SmartSets	Organized collection of discrete outpatient orders	• Can contain orders, prompts, information and other components of an outpatient workflow.

Term	Definition	Implications
	and other actionable clinical content.	• Like Order Sets, composed of order groups, consistently labelled and sequenced for rapid recognition of actions related to, for example, tests, medications, referral, etc. • Can contain tips, prompts, documentation (e.g., diagnosis, disposition, follow-up), immunization) and links to external evidence or guidance. • Support user-level personalization.
Express Lanes	SmartSets automatically triggered by a specific visit type or reason.	• Like SmartSets, composed of order groups. • Can contain other content, like SmartSets. • Support user-level personalization. • All components organized into a simple single screen to speed user interaction and completion. • Appropriate for common, routine and repeatable office/clinic visit encounters.
Therapy Plans	Pre-defined collection of multiple orders that can apply to multiple encounters occurring at intervals, all linked to a common “episode” of ongoing care.	• Allow coordination of investigations and interventions across time and space in the management of a defined or persisting health condition. • Appropriate for managing conditions requiring long-term, recurring treatment such as renal failure (dialysis) or surveillance (transplant care). • Unlike Protocols, Therapy Plans can be edited to fit specific patient needs.
Treatment Protocols	While there are many types of “protocols”, CIS usage relates to chemotherapy treatment templates containing recurring medications, tests and procedures that span treatment of a specific neoplasm at a specific stage.	• Protocols may also refer to standardized preparation and conduct of imaging interventions performed by radiologists and cardiologists. • Oncology protocols are not patient specific. They can be combined with therapy plans to pre-approve a set of steps to be taken in the management of a particular malignancy in a particular paper. • Decision rules and suggestions built into protocols automatically adjust dosages based on variables such as patient weight and age.

Order Comparisons

Order Set	SmartSet
Can be used in any setting, including inpatient, outpatient, emergency room.	Can only be used in outpatient and emergency room contexts.
Can include SmartGroups containing orders and Order Panels.	Can include SmartGroups containing orders and Order Panels, as well as other clinical content.
Can be personalized and shared.	Can be personalized and shared.

Smart Group	Order Panel
Contains orders and order panels.	Contains orders only.
Can only be used as a component of an Order Set or SmartSet.	Can be ordered on its own or as part of an Order Set or a SmartSet.

Facility List	Specialty List	User List
Orders common or important to all prescribers.	Orders common or important to a specific clinical area.	Orders or panels that individuals maintain for quick access.
Available to all prescribers.	Attached to specialty profiles at the department level.	Created by individual users.
Can suppress elements not available in particular locations or contexts.	Should be limited in size to avoid excessive scrolling.	Can be copied for sharing with other users.

Order Preferences

Level	Definition	Implications
Facility	Pre-defined lists that are a subset of a CIS object class, such as orders, which reflect what is common or important for the entire organization.	• Facility order preference lists group order objects commonly used throughout the organization for a particular module (e.g., ICU, ER, Outpatient, InPatient, Cancer, etc.). • Typically, one list is created for each order group or section (e.g., diet, imaging, laboratory tests, medications, etc.). • Elements that are not available in a particular location or context can be suppressed.

Level	Definition	Implications
Specialty	Pre-defined lists that are a subset of a CIS object class that can be (optionally) defined for a clinical area.	• Orders commonly ordered by a specific group of clinicians and appearing only to that group when in an ordering activity. • Important to carefully select what is useful, as lists longer than ~200 items can take more time to navigate than is gained by using the preference list instead of searching for specific order elements.
User	Dynamically built and maintained lists that reflect a subset of a CIS object class most common or important to an individual.	• Users can create and curate their own lists of preferred orders or order panels. • Defaults (selected and unselected elements) can be set by the user. • Can be shared with other users.

Order Personalization

Order Sets, Smart Sets and Order Panels can be personalized (default selected and unselected elements) and saved to speed future ordering activities for similar patient presentations.

- Order cluster elements cannot be added or removed. However, their default state (selected or not selected) can be saved in the personalized version of the set. This preserves the intent of the order cluster.
- Favorite personalized order sets appear in personal preference lists.
- Personalized order sets can be shared with other clinicians.
- If a system-wide change is made to the source order set, personalized default settings are lost and have to be re-set and re-saved.