

# Characterization of Information Collected from Decision Support Request Forms in Academic Medical Centers

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## Introduction

In academic medical centers, requests for new Clinical Decision Support (CDS) tools can involve a lengthy and sometimes inefficient process of soliciting functional and data requirements from clinicians. Characterizing the type of information that different organizations collect in their CDS request forms can help in developing a more effective and productive CDS request system. We analyzed the information collected from the CDS request forms of three academic medical centers in order to create a set of categories of information collected in all three forms.

## Methods

Three informatics experts (the authors) independently created categories for each question in two of the three CDS request forms. Next, discrepancies were reconciled through consensus, yielding a master set of categories along with definitions. Last, the three experts assigned the categories to the questions on the third form. Collectively, the experts have extensive experience in CDS, terminologies and standards, public health, and information management.

## Results

We evaluated 78 questions from the three CDS request forms (34, 17, and 27 questions for forms 1, 2, and 3 respectively), which were assigned to 11 categories. The table lists the categories with definitions along with the number of questions per category in each of the three forms.

Information Categories	Definition	F1	F2	F3
Requester	Information about the individual or group who submitted the CDS request.	1	2	5
Request Metadata	Information about the request used by the decision support committee to keep track of the status and communication related to the request.	0	2	5
Rationale	Reasons justifying the benefit or need for the CDS.	2	6	2
Supporter	Individuals or groups that have endorsed the proposed CDS and/or will support its implementation.	1	0	2
Target audience	Intended care settings, users or recipients of the CDS intervention.	1	3	1
Target patient population	The broad population of patients who are intended to benefit from the CDS implementation.	2	1	2
CDS Logic	User actions, patient conditions, or events that should trigger the execution of the CDS intervention.	7	0	1
CDS behavior / workflow	Considerations regarding the behavior, content, and user interface as well as integration with the clinical workflow.	9	3	8
Effort	Estimate of the resources required to complete and implement the CDS request.	1	0	0
Implementation	Considerations regarding the CDS implementation, such as need for training, awareness and buy-in of CDS recommendations among target audience.	4	0	1
Evaluation and monitoring	Criteria, measures, procedures, or activities that are available or planned and that will be needed to evaluate and/or continuously monitor the effect of the CDS intervention.	6	0	0

## Discussion

As organizations update their CDS request forms, the collection of information from these categories can improve how organizations prioritize CDS requests and define requirements. Our research enhances our knowledge of the CDS request process while working toward a standard platform to submit CDS requests that can be shared and re-used across organizations. This project will help streamline communication between experts and CDS requesters. It may reduce time spent in CDS meetings by soliciting CDS functional and data requirements from requesters before meeting with CDS committees. Ultimately, we plan to implement a logic-based CDS request form in REDCap to be used across institutions and evaluate additional institutions as part of our future work.

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