CPOE EVALUATION TOOL

HOW RESULTS ARE SCORED
(FOR ADULT AND GENERAL HOSPITALS ONLY)

Upon successful submission of the CPOE Evaluation Tool, responses are immediately scored and results are available for users to view and print. Results are archived by test and test date for subsequent reference and available once you log back into the CPOE Evaluation Tool.

The Results include an overall score and a score for each "Order Checking" category indicating how well the hospital's CPOE system caught potential medication errors or problems, based on the patient-order set tested by the hospital.

ORDER CHECKING CATEGORY DESCRIPTIONS

Each of the Order Checking test categories are included in the results and scoring of the CPOE Evaluation Tool, which checks how well the hospital's CPOE system catches the following types of **potential harmful, preventable errors**:

Order Checking Category	Description	Example
Therapeutic Duplication	Medication with therapeutic overlap with another new or active order; may be same drug, within drug class, or involve components of combination products.	Codeine AND Tylenol #3
Drug-Dose (Single)	Medication with a specified dose that exceeds recommended dose ranges.	Ten-fold excess dose of Methotrexate
Drug-Dose (Daily)	Medication with a specified dose that will result in a cumulative daily dose that exceeds recommended ranges.	Gentamicin 250 mg IV prescribed every 8 hours
Drug-Allergy	Medication for which patient allergy has been documented or allergy to other drug in same category has been documented.	Penicillin prescribed for patient with documented Penicillin allergy
Drug-Route	Order specifying a route of administration not appropriate for the identified medication.	Tylenol to be administered intravenously

Order Checking Category	Description	Example
Drug-Drug	Medication that results in known, dangerous interaction when administered in combination with a different medication in a new or existing order for the patient.	Digoxin AND Quinidine
Drug-Diagnosis	Medication either contraindicated based on patient diagnosis or diagnosis affects appropriate dosing.	Nonspecific beta-blocker in patient with asthma
Drug-Age	Medication contraindicated for this patient based on age or for which age must be considered in appropriate dosing.	Prescribing diazepam for a patient over 65 years old
Drug-Weight	Medication contraindicated for this patient based on weight or for which weight must be considered in appropriate dosing	Adult dose of antibiotic in a newborn
Drug-Labs	Medication either contraindicated for this patient based on laboratory studies or for which relevant laboratory results must be considered in appropriate dosing.	Prescribing a medication that elevates levels of liver enzymes for a patient with a lab test indicating liver disease
Drug-Renal	Medication requires dosage adjustment based on the patient's level of kidney function.	Normal adult dose regimen of renally eliminated medication in patient with elevated creatinine.
Monitoring	Checks how well the hospital's CPOE system generates other information about orders such as an intervention that requires an associated or secondary order to meet the standard of care.	Prompt to order drug levels when ordering aminoglycoside.
Nuisance Orders	Checks whether the hospital's CPOE system generates warnings or information for slight or inconsequential interactions that clinicians typically ignore	

The tool also includes a "Deception Analysis" test category, which checks for "false positives", i.e., orders that should not have generated any warning in the hospital's CPOE system. A hospital's performance on the "Deception Analysis" test category is a crucial component of their overall score on the tool.

POINT SCORES

Order Checking Scores

For each Order Checking category, the score represents the percentage of potential problem orders that were caught and reported in the test, with higher weighting applied to orders where an error could result in serious patient harm. (For Deception Analysis and Nuisance Orders, the percentage is a proportion of orders for which false positives and unnecessary warnings were <u>not</u> generated.) The score for each test category ranges from 0 – 100%.

Overall Score

The CPOE Evaluation Tool provides an overall score that summarizes test performance across Order Checking categories, according to the following algorithm. The overall score is reported to hospitals and will be reported by Leapfrog in its public results.

Overall Score	Scoring Criteria
Fully Implemented	Received at least 50% correct for: • Drug-Allergy • Drug-Drug **PLUS** any <u>four</u> other Order Checking categories (other than Deception Analysis or Nuisance Orders) **AND** passed the Deception Analysis (i.e., scored at least 25% in that category)
Good Progress in Implementing	Received at least 50% correct for: • Drug-Allergy • Drug-Drug **PLUS** any <u>two</u> other Order Checking categories (other than Deception Analysis or Nuisance Orders) **AND** passed the Deception Analysis (i.e., scored at least 25% in that category)
Good Early Stage Effort	Received at least 50% correct for: Drug-Allergy Drug-Drug **AND** passed the Deception Analysis, i.e., scored at least 25% in that category
Completed the Evaluation	Passed the Deception Analysis, i.e., scored at least 25% in that category but did not meet other criteria above
Incomplete evaluation	**Did not pass the Deception Analysis, i.e., scored below 25% in that category**

EXAMPLE A TEST RESULTS SCREENSHOT

Leapfrog CPOE Evaluation Tool

Test Results

Adult Inpatient	
Test Date-Time: 02/07/2011 8:54AM	
Medication Checking: Category	**Score (in percent)**
Therapeutic duplication	100.0%
Drug-allergy	50.0%
Drug-route	33.3%
Drug:drug	83.3%
Drug:diagnosis	75.0%
Drug-labs	100.0%
Monitoring	25.0%
Nuisance	0.0%
Drug-renal	100.0%
Drug-age	100.0%
Drug-dose (single)	80.0%
Drug-dose (daily)	50.0%

Medication Checking OVERALL score does not include Nuisance Orders or Deception Analysis categories.

Your OVERALL Score for Medication Checking

⬤ Fully implemented

The OVERALL Score is based on a composite of Scores for each of the Medication Checking categories above. See Understanding Test Results for definitions of these categories and how the overall score was derived.

Scored results from the CPOE Evaluation Tool test will be combined with a hospital's CPOE implementation status to determine its overall score on the CPOE Leap. The testing of a hospital's CPOE system against the Leapfrog CPOE Evaluation Tool is a key part of the Leapfrog Hospital Survey and all survey timelines apply to the CPOE Evaluation Tool as well.

To understand how the CPOE Evaluation results are scored, see Understanding Test Results. To see how those test results factor into a hospital's overall score in survey results, as publicly released by The Leapfrog Group, see Scoring: How Results of the Survey are Scored and Publicly Reported.