The Leapfrog Hospital Survey Scoring Algorithms

Scoring Details for Sections 2 – 10 of the 2021 Leapfrog Hospital Survey

LEAPFROG HOSPITAL SURVEY

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2021 Leapfrog Hospital Survey Scoring Algorithms

http://leapfroggroup.org/hospital

This document includes the scoring algorithms for the 2021 Leapfrog Hospital Survey. The scoring algorithms are organized by section:

- What's New in 2021
- Change Summary Since Release
- Section 1 Basic Hospital Information
- Section 2 Medication Safety - Computerized Physician Order Entry (CPOE)
- Section 3 Adult and Pediatric Complex Surgery
- Section 4 Maternity Care
- Section 5 ICU Physician Staffing
- Section 6 Patient Safety Practices
- Section 7 Managing Serious Errors
- Section 8 Medication Safety
- Section 9 Pediatric Care
- Section 10 Outpatient Procedures

For a hard copy of the Leapfrog Hospital Survey, which includes measure specifications, endnotes, and FAQs, please visit the Survey and CPOE Materials webpage.

Leapfrog is committed to data accuracy. Please carefully review Leapfrog's data accuracy protocols on our website.

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Scoring and Public Reporting Overview

Once a hospital submits a Leapfrog Hospital Survey via the Online Hospital Survey Tool, the submitted responses will be scored using the algorithms detailed in this document. Only those responses that have been submitted will be scored and publicly reported; saved responses will not be scored or publicly reported.

Leapfrog Hospital Survey Results will be available on the Hospital Details Page and publicly reported on the public reporting website within the first five (5) business days of August. After August, the Hospital Details Page and public reporting website will be refreshed monthly within the first five (5) business days of each month to reflect Surveys submitted or resubmitted between August 1 and November 30 and previously submitted Surveys that were corrected before January 31. Survey Results are frozen from February to July 25. More information about Survey submission deadlines is available on our website.

Hospitals should review their Survey Results following their submission to ensure accuracy and completeness.

For the purposes of public reporting, performance on each measure on the Leapfrog Hospital Survey is placed into one of four performance categories:

- **Achieved the Standard** (displayed as four filled bars)
- **Considerable Achievement** (displayed as three filled bars)
- **Some Achievement** (displayed as two filled bars)
- **Limited Achievement** (displayed as one filled bar)

Additional scoring terms include:

- **Does Not Apply**: This term is used for hospitals that report not performing a particular procedure (e.g., SSI Colon), not having a particular unit (e.g., ICU), or are not applicable for a particular measure (e.g., facility doesn't deliver newborns).
- **Unable to Calculate Score**: This term is used for hospitals that report a sample size that does not meet Leapfrog's minimum reporting requirements. For the healthcare-associated infections, this term is used if the hospital reported too small of a sample size to calculate their results reliably (i.e., the number of predicted infections across all locations is <1) or the number of observed MRSA or CDI infections present on admission (community-onset prevalence) was above a pre-determined cut-point.
- **Declined to Respond:** This term is used for hospitals that do not submit a Survey or a section of the Survey.
- **Pending Leapfrog Verification:** This term is used for hospitals that have Survey responses that are undergoing Leapfrog's standard verification process.

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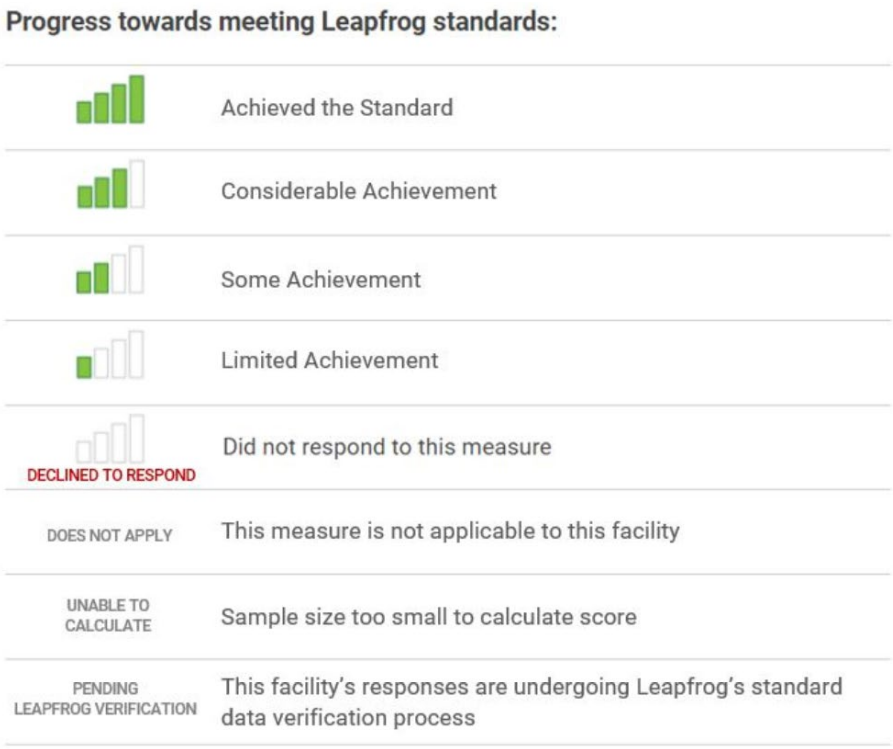
Figure 1: Legend from Leapfrog's public reporting website.



For the purposes of public reporting, measures are grouped together under ten main groups. The following measures are included in each group:

Group Name	Section/ Subsection	Measure Name	Shown on public reporting website as:
Preventing and Responding to Patient Harm	Subsection 6A	NQF Safe Practice #1 Culture of Safety Leadership Structures and Systems	*Effective Leadership to Prevent Errors*
	Subsection 6B	NQF Safe Practice #2 Culture Measurement, Feedback, and Intervention	*Staff Work Together to Prevent Errors*
	Subsection 6C	NQF Safe Practice #9 Nursing Workforce	*Support for Nursing Workforce*
	Subsection 6D	Hand Hygiene	*Handwashing*
	Subsection 7A	Never Events Policy	*Responding to Never Events*
Medication Safety	Section 2	Medication Safety - Computerized Physician Order Entry (CPOE)	*Safe Medication Ordering*
	Subsection 8A	Bar Code Medication Administration (BMCA)	*Safe Medication Administration*
	Subsection 8B	Medication Reconciliation	*Medication Reconciliation*
	Subsection 10E	Medication Safety for Outpatient Procedures- Medication and Allergy Documentation	*Medication Documentation for Elective Outpatient Procedure Patients*

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Group Name	Section/ Subsection	Measure Name	Shown on public reporting website as:
Healthcare Associated Infections	Subsection 7B	Central Line-Associated Blood Stream Infections (CLABSI) in ICUs and Select Wards	*Infection in the Blood*
	Subsection 7B	Catheter-Associated Urinary Tract Infections (CAUTI) in ICUs and Select Wards	*Infection in the Urinary Tract*
	Subsection 7B	Facility-wide inpatient MRSA Blood Laboratory-identified Events	*MRSA Infection*
	Subsection 7B	Facility-wide inpatient C. Diff. Laboratory-identified Events	*C. difficile Infection*
	Subsection 7B	Surgical Site Infection: Colon	*Surgical Site Infection after Colon Surgery*
Maternity Care	Subsection 4B	Elective Delivery	*Early Elective Deliveries*
	Subsection 4C	Cesarean Birth	*Cesarean Sections*
	Subsection 4D	Episiotomy	*Episiotomies*
	Subsection 4E	Newborn Bilirubin Screening Prior to Discharge	*Screening Newborns for Jaundice before Discharge*
	Subsection 4E	Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery	*Preventing Blood Clots in Women Undergoing Cesarean Section*
	Subsection 4F	High-Risk Deliveries	*High-Risk Deliveries*
Pediatric Care	Subsection 9A	CAHPS Child Hospital Survey	*Experience of Children and Their Parents*
	Subsection 9B	Pediatric Computed Tomography (CT) Radiation Dose – Head Scans	*Radiation Dose for Head Scans*
	Subsection 9B	Pediatric Computed Tomography (CT) Radiation Dose – Abdomen/Pelvis Scans	*Radiation Dose for Abdomen/Pelvis Scans*
Critical Care	Section 5	ICU Physician Staffing	*Specially Trained Doctors Care for Critical Care Patients*
Complex Adult Surgery	Section 3A and 3B	Carotid Endarterectomy	*Carotid Artery Surgery*
	Section 3A and 3B	Mitral Valve Repair and Replacement	*Mitral Valve Repair and Replacement*
	Section 3A and 3B	Open Aortic Procedures	*Open Aortic Procedures*
	Section 3A and 3B	Bariatric Surgery for Weight Loss	*Bariatric Surgery for Weight Loss*
	Section 3A and 3B	Esophageal Resection for Cancer	*Esophageal Resection for Cancer*
	Section 3A and 3B	Lung Resection for Cancer	*Lung Resection for Cancer*
	Section 3A and 3B	Pancreatic Resection for Cancer	*Pancreatic Resection for Cancer*
	Section 3A and 3B	Rectal Cancer Surgery	*Rectal Cancer Surgery*

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Group Name	Section/ Subsection	Measure Name	Shown on public reporting website as:
	Section 3A	Norwood Procedure	*Congenital Heart Surgery for Infants*
	Section 3A and 3B	Total Hip Replacement Surgeries	*Total Hip Replacement Surgery*
	Section 3A and 3B	Total Knee Replacement Surgeries	*Total Knee Replacement Surgery*
Care for Elective Outpatient Surgery Patients	Subsection 10B	Clinicians Present While Adult Patients are Recovering	*Elective Outpatient Surgery Recovery Staffing - Adult*
	Subsection 10B	Clinicians Present While Pediatric Patients are Recovering	*Elective Outpatient Surgery Recovery Staffing - Pediatric*
	Subsection 10D	Safe Surgery Checklist	*Safe Surgery Checklist – Elective Outpatient Surgery*
	Subsection 10F	Patient Experience (OAS CAHPS)	*Experience of Patients Undergoing Elective Outpatient Surgery*
Elective Outpatient Surgery - Adult*	Subsection 10C	Gastroenterology	*Gastroenterology (Stomach and Digestive)*
	Subsection 10C	General Surgery	*General Surgery*
	Subsection 10C	Ophthalmology	*Ophthalmology (Eyes)*
	Subsection 10C	Orthopedic	*Orthopedic (Bones and Joints)*
	Subsection 10C	Otolaryngology	*Otolaryngology (Ear, Nose, Mouth, and Throat)*
	Subsection 10C	Urology	*Urology (Urinary Tract, Male Reproductive)*
	Subsection 10C	Dermatology	*Dermatology (Skin)*
	Subsection 10C	Neurological Surgery	*Neurosurgery*
	Subsection 10C	Obstetrics and Gynecology	*Obstetrics and Gynecology*
	Subsection 10C	Plastic and Reconstructive Surgery	*Plastic and Reconstructive Surgery*
Elective Outpatient Surgery – Pediatric*	Subsection 10C	Gastroenterology	*Gastroenterology (Stomach and Digestive)*
	Subsection 10C	General Surgery	*General Surgery*
	Subsection 10C	Ophthalmology	*Ophthalmology (Eyes)*
	Subsection 10C	Orthopedic	*Orthopedic (Bones and Joints)*
	Subsection 10C	Otolaryngology	*Otolaryngology (Ear, Nose, Mouth, and Throat)*
	Subsection 10C	Urology	*Urology (Urinary Tract, Male Reproductive)*

*Note: These data will not be scored, but volumes will be displayed on Leapfrog's public reporting website.

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Summary of Changes to the 2021 Leapfrog Hospital Survey

Leapfrog is implementing the following changes to the 2021 Leapfrog Hospital Survey related to scoring and public reporting due to the continued impact of COVID-19. For details on all changes to the 2021 Leapfrog Hospital Survey, visit the Survey and CPOE Materials webpage.

Hospitals that submit a 2021 Leapfrog Hospital Survey by the July 31 Submission Deadline will see their 2021 Leapfrog Hospital Survey Results displayed on Leapfrog's public reporting website in August. After August, Survey Results will be refreshed within the first 5 business days of each month to reflect Surveys submitted or re-submitted between August 1 and November 30, and previously submitted Surveys that are corrected by January 31. Survey Results are frozen from February to July 25.

Hospitals that only submit the minimum required sections of the 2021 Leapfrog Hospital Survey (Sections 1, 2, 4, 5 and 6) will be publicly reported as "Declined to Respond" for all remaining sections. Hospitals are urged to submit all applicable sections.

The CPOE Evaluation Tool will be included in **Section 2** of the 2021 Leapfrog Hospital Survey for adult and general hospitals, but Leapfrog is making a one-time only update to the scoring algorithm, giving hospitals two options to Achieve the Standard. The first option includes implementation status only and the second option includes both implementation status and results from the CPOE Evaluation Tool. **Please note, hospitals that choose to take the Adult Inpatient Test via the CPOE Evaluation Tool will have their score from the Test included in their Overall CPOE Score, regardless of the score and without exception.** See **Section 2** for additional information on the two scoring options.

Additional changes to scoring and public reporting for the 2021 Leapfrog Hospital Survey are highlighted below:

- **Section 3A Hospital and Surgeon Volume** –
  - Leapfrog will score and publicly report hospital performance on the Norwood Procedure, total hip replacement surgery, and total knee replacement surgery.
  - Mitral valve repair and replacement will be scored using four criteria: (1) total hospital volume, (2) whether the hospital's surgeon privileging process incorporates Leapfrog's minimum surgeon volume standards, (3) participation in the STS Adult Cardiac Surgery Database (ACSD), and (4) outcomes from the STS Adult Cardiac Surgery Database (ACSD).
  - Hospitals will no longer be able to report that they plan to implement Leapfrog's minimum surgeon volume standards as part of their process for privileging surgeons within the next 12 months. The scoring algorithm for each procedure in Section 3 has been updated to reflect this change.
- **Section 3B Surgical Appropriateness** – To align with our public reporting of appropriateness criteria for carotid endarterectomy, mitral valve repair and replacement, open aortic procedures, and bariatric surgery for weight loss, Leapfrog will publicly report whether a hospital does or does not meet all five surgical appropriateness criteria (questions #1-5 in Section 3A) for total hip replacement surgery and total knee replacement surgery.
- **Section 4C Cesarean Birth** – To align with the Healthy People 2030 Goal, Leapfrog has updated its target for Section 4C to 23.6%. All other performance categories have been adjusted based on the distribution of performance from 2019 and 2020 Leapfrog Hospital Surveys.
- **Section 4E Process Measures of Quality** – Leapfrog will score and publicly report the two maternity care process measures, newborn bilirubin screening prior to discharge and appropriate DVT prophylaxis in women undergoing cesarean delivery, separately. Hospitals will need to achieve a rate of 90% or greater to meet Leapfrog's standard for each measure.
- **Section 4F High-Risk Deliveries** – To align with TJC's recent decision to retire PC-03 Antenatal Steroids from their Perinatal Care Core Measure Set, Leapfrog has removed the antenatal steroids measure from the 2021 Leapfrog Hospital Survey. Hospitals will continue to report on high-risk deliveries using either their neonatal intensive care unit (NICU) volume or the Vermont

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Oxford Network's (VON) Death or Morbidity Outcome Measure. The scoring algorithm for the High-Risk Deliveries measure has been updated to reflect this change.

- **Section 6D Hand Hygiene** – In 2020, Leapfrog publicly reported hospitals in the bottom two performance categories ("Some Achievement" and "Limited Achievement") for the Hand Hygiene Practices measure as "Not Available." This year, Leapfrog will score and publicly report all four performance categories.
- **Section 7C Antibiotic Stewardship Practices** – Section 7C Antibiotic Stewardship Practices has been removed from the 2021 Leapfrog Hospital Survey.
- **Section 8B Medication Reconciliation** – Leapfrog updated the sample size and reporting period from 15 patients over a 3-month reporting period to 30 patients over a 6-month reporting period. Pharmacy technicians that have earned either the ASHP Medication Reconciliation Certification or the Pharmacy Technicians Certification Board's (PTCB) Medication History Certificate are now able to obtain the Gold Standard Medication History from each sampled patient for the purposes of this measure (rather than just the pharmacist). Leapfrog will also begin scoring and publicly reporting a hospital's rate of unintentional medication discrepancies.
- **Section 9B Pediatric Computed Tomography (CT) Radiation Dose** – Leapfrog also updated some of the cut-points used to score the Pediatric CT Radiation Dose measures (both head and abdomen/pelvis scans), which were originally calculated using Surveys submitted by August 31, 2020, using Surveys submitted by January 31, 2021 due to a significant increase in Survey submissions at the close of the Survey Cycle.

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Change Summary Since Release

This section will be updated if changes are made to scoring after this document's initial release on April 1, 2021.

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Section 1: 2021 Basic Hospital Information

Basic Hospital Information

This section will not be scored in 2021. However, the responses will be shown on Leapfrog's public reporting website. For example, Leapfrog will display the number of ICU beds.

Person-Centered Care: Billing Ethics and Monitoring Health Care Inequity

This section is new and optional, and in 2021, responses will not be scored or publicly reported.

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Section 2: 2021 Medication Safety - Computerized Physician Order Entry (CPOE) Scoring Algorithms

CPOE Scoring Algorithm for Adult/General Hospitals

As part of Leapfrog's continued response to COVID-19, we are making a one-time only update to the scoring algorithm for CPOE, giving hospitals two options to Achieve the Standard.

Please note: Hospitals that choose to take the Adult Inpatient Test via the CPOE Evaluation Tool will have their score from the Test included in their Overall CPOE Score, regardless of the score and without exception. This means that hospitals that fail the deception analysis or time out of the test will be scored and publicly reported as Limited Achievement on Leapfrog's CPOE Standard.

Option 1: Based on Implementation Status Only

CPOE Score (Performance category)	**Implementation Status** (from Leapfrog Hospital Survey Questions #3-4)
Achieved the Standard	**85% or greater** of all inpatient medication orders entered through CPOE System
Considerable Achievement	**75-84%** of all inpatient medication orders entered through CPOE System
Some Achievement	**50-74%** of all inpatient medication orders entered through CPOE System
Limited Achievement	CPOE implemented in at least one inpatient unit but **<50%** of all inpatient medication orders entered through CPOE System OR CPOE not implemented in at least one inpatient unit
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

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Option 2: Based on Implementation Status and Score on Adult Inpatient Test via the CPOE Evaluation Tool

	Score on Adult Inpatient Test via the CPOE Evaluation Tool (see Appendix I for details on the CPOE Evaluation Tool Scoring Algorithm)					
Implementation Status (from Leapfrog Hospital Survey Questions #3-4)	***Full Demonstration of National Safety Standard for Decision Support*** *(60% or greater of test orders correct)*	***Substantial Demonstration of National Safety Standard for Decision Support*** *(50-59% of test orders correct)*	***Some Demonstration of National Safety Standard for Decision Support*** *(40-49% of test orders correct)*	***Completed the Evaluation*** *(Less than 40% of test orders correct)*	***Insufficient Evaluation*** *(Hospital was not able to test at least 50% of test orders)*	***Incomplete Evaluation*** *(Failed deception analysis or timed out)*
85% or greater of all inpatient medication orders entered through CPOE System	**Achieved the Standard**	**Considerable Achievement**	**Considerable Achievement**	**Some Achievement**	**Unable to Calculate Score**	**Limited Achievement**
75-84% of all inpatient medication orders entered through CPOE System	**Achieved the Standard**	**Considerable Achievement**	**Some Achievement**	**Some Achievement**	**Unable to Calculate Score**	**Limited Achievement**
50-74% of all inpatient medication orders entered through CPOE System	**Considerable Achievement**	**Considerable Achievement**	**Some Achievement**	**Limited Achievement**	**Unable to Calculate Score**	**Limited Achievement**
CPOE implemented in at least one inpatient unit but **<50%** of all inpatient medication orders entered through CPOE System	**Considerable Achievement**	**Some Achievement**	**Some Achievement**	**Limited Achievement**	**Unable to Calculate Score**	**Limited Achievement**
CPOE not implemented in at least one inpatient unit	Cannot take CPOE Evaluation Tool; hospital will be scored as “Limited Achievement”					

Declined to Respond:
The hospital did not submit a Survey.

Pending Leapfrog Verification:
The hospital’s responses are undergoing Leapfrog’s standard verification process.

Please note: Hospitals that choose to take the Adult Inpatient Test via the CPOE Evaluation Tool will have their score from the Test included in their Overall CPOE Score, regardless of the score and without exception. This means that hospitals that fail the deception analysis or time out of the test will be scored and publicly reported as Limited Achievement on Leapfrog’s CPOE Standard.

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CPOE Scoring Algorithm for Pediatric Hospitals

CPOE Score (Performance category)	**Implementation Status** (from Leapfrog Hospital Survey Questions #3-4)
Achieved the Standard	**85% or greater** of all inpatient medication orders entered through CPOE System
Considerable Achievement	**75-84%** of all inpatient medication orders entered through CPOE System
Some Achievement	**50-74%** of all inpatient medication orders entered through CPOE System
Limited Achievement	CPOE implemented in at least one inpatient unit but **<50%** of all inpatient medication orders entered through CPOE System OR CPOE not implemented in at least one inpatient unit
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

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Section 3: 2021 Adult and Pediatric Complex Surgery Scoring Algorithms

Hospital and Surgeon Volume

Leapfrog assesses whether the hospital met the minimum hospital volume standard and whether the hospital's process for privileging its surgeons includes meeting or exceeding the minimum surgeon volume standard detailed below:

Procedure	Hospital Volume (minimum per 12-months or 24-month average)	Surgeon Volume (minimum per 12-months or 24-month average)
Carotid endarterectomy	20	10
Mitral valve repair and replacement	40	20
Open aortic procedures	10	7
Lung resection for cancer	40	15
Esophageal resection for cancer	20	7
Pancreatic resection for cancer	20	10
Rectal cancer surgery	16	6
Bariatric surgery for weight loss	50	20
Total hip replacement surgery	50	25
Total knee replacement surgery	50	25
Norwood Procedure	8	5

Leapfrog then assigns a performance category based on whether the minimum hospital volume standard was met and whether the hospital's process for privileging surgeons includes the surgeons meeting or exceeding the minimum surgeon volume standard. Performance categories are assigned for each procedure as follows:

Hospital and Surgeon Volume Standard Score (Performance Category)	For each of the procedures performed by the hospital…
Achieved the Standard	• The hospital met the minimum hospital volume standard for the procedure; **and** • The hospital's process for privileging surgeons **does** include meeting or exceeding the minimum surgeon volume standard.
Considerable Achievement	• The hospital met the minimum hospital volume standard for the procedure; but • The hospital's process for privileging surgeons **does not** include meeting or exceeding the minimum surgeon volume standard.
Some Achievement	• The hospital **did not** meet the minimum hospital volume standard for the procedure, but • The hospital's process for privileging surgeons **does** include meeting or exceeding the minimum surgeon volume standard.
Limited Achievement	• The hospital **did not** meet the minimum hospital volume standard for the procedure; **and** • The hospital **does not** include the minimum surgeon volume standard in its privileging process.
Does Not Apply	The hospital does not perform the procedure.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not Submit a Survey.

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Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

For mitral valve repair and replacement:

Hospitals that perform mitral valve repair and replacement will be scored using four (4) criteria: total hospital volume, whether their surgeon privileging process incorporates Leapfrog's minimum surgeon volume standards, participation in The Society of Thoracic Surgeons' (STS) Adult Cardiac Surgery Database (ACSD), and outcomes from the STS ACSD.

First, hospitals are assigned points based on whether or not they meet each of the four (4) criteria:

Mitral Valve Repair and Replacement Criteria	Leapfrog's Standard	Points Assigned
The hospital met the minimum hospital volume standard	Hospital has experience with 40 cases per year	• 50 points, if met • 0 points, if not met
The hospital's process for privileging surgeons includes meeting or exceeding the minimum surgeon volume standard	Hospital's privileging process requires a surgeon to have experience with at least 20 cases per year	• 25 points, if met • 0 points, if not met
The hospital participates in the Society of Thoracic Surgeons (STS) Adult Cardiac Surgery Database (ACSD)	Hospital participates in STS ACSD	• 25 points, if participates • 0 points, if does not participate
The hospital's Mitral Valve Repair/Replacement Composite Score	The hospital's performance on the STS mitral valve repair/replacement composite score that looks at both mortality and absence of mortality	• 75 points for 3 Stars • 25 points for 2 Stars OR did not meet the data completeness requirement • 0 points for 1 star

Then points on each criterion are totaled together to assign an overall Performance Category for public reporting:

Mitral Valve Repair and Replacement Score (Performance Category)	Total Points
Achieved the Standard	100 or more points
Considerable Achievement	75 points
Some Achievement	50 points
Limited Achievement	25 or fewer points
Does Not Apply	The hospital does not perform the procedure or is a pediatric facility.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

For the Norwood procedure:

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Hospitals are assigned a performance category based on whether the minimum hospital volume standard was met and whether the hospital's process for privileging surgeons includes the surgeons meeting or exceeding the minimum surgeon volume standard using the scoring algorithm noted above. Questions from The Society of Thoracic Surgeons' (STS) Congenital Heart Surgery Database (CHSD) are new, and in 2021, responses will not be scored or publicly reported

Surgical Appropriateness

In 2021, responses to this subsection will not be scored. However, the responses are used in public reporting. For each procedure performed by the hospital, Leapfrog displays the hospital's overall score, which is based on the hospital's ability to meet the hospital volume standard and inclusion of the minimum surgeon volume standard in its privileging process, and, for mitral valve repair and replacement only, participation and outcomes from The Society of Thoracic Surgeons' (STS) Adult Cardiac Surgery Database (ACSD).

When visitors to Leapfrog's public reporting website click "Show More on This Hospital's Performance" below the score icon (i.e. four filled bars, three filled bars, etc.) indicating the performance category for the procedure, they will see a statement indicating whether the hospital "does" or "does not" have protocols in place to ensure surgeries are only performed on patients that meet defined criteria for the following six high-risk procedures: **carotid endarterectomy, mitral valve repair and replacement, open aortic procedures, bariatric surgery for weight loss, total hip replacement surgery, and total knee replacement surgery**.

Surgical Appropriateness	For each of the procedures performed by the hospital…
Does	Hospital indicates having all five of the following regarding surgical appropriateness (questions #1-5): • Has appropriateness criteria for the procedure • Has processes or structures in place to promote ongoing adherence to the appropriateness criteria • Conducts regular retrospective reviews of surgical cases to evaluate the extent to which the appropriateness criteria are met or not met by each surgeon • Has a process in place for communicating with surgeons, surgical leadership, and administrative leadership when a surgeon's trend or pattern suggests challenges to adhering to the hospital's appropriateness criteria and works to understand potential barriers to meeting the criteria • Reports annually to its Board the findings from the retrospective reviews and plans to improve adherence to the appropriateness criteria
Does Not	Hospital indicates that they do not have all the above.

When visitors to Leapfrog's public reporting website click "Show More on This Hospital's Performance" below the score icon (i.e. four filled bars, three filled bars, etc.) indicating the performance category for the procedure, they will see a statement indicating whether the hospital "does" or "does not" have national accreditation from the American College of Surgeons (rectal cancer surgery only) or a multidisciplinary tumor board that prospectively reviews cancer cases to ensure that procedures for the following four cancer procedures are only performed on patients that meet defined criteria: **lung resection for cancer, esophageal resection for cancer, pancreatic resection for cancer, and rectal cancer surgery**.

Surgical Appropriateness	For each of the procedures performed by the hospital…

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Does	Hospital indicates having national accreditation from the American College of Surgeons (rectal cancer surgery only) or a multidisciplinary tumor board that prospectively reviews cancer cases to ensure surgical appropriateness.
Does Not	Hospital indicates that they do not have national accreditation from the American College of Surgeons (rectal cancer surgery only) or a multidisciplinary tumor board that prospectively reviews cancer cases to ensure surgical appropriateness.

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Section 4: 2021 Maternity Care Scoring Algorithms

Elective Deliveries

A hospital's early elective deliveries rate prior to 39 weeks completed gestation is used to determine in which performance category a hospital is placed:

Early Elective Deliveries Score (Performance Category)	Early Elective Deliveries Rate
Achieved the Standard	<= 5%
Considerable Achievement	> 5% and <= 10%
Some Achievement	> 10% and <= 15%
Limited Achievement	> 15%
Unable to Calculate Score	The hospital did not meet the minimum reporting size (n < 10).
Does Not Apply	The hospital did not deliver newborns during the reporting period or the labor and delivery unit is now closed.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Cesarean Birth

A hospital's unadjusted NTSV cesarean section rate is used to determine in which performance category a hospital is placed:

NTSV Cesarean Section Score (Performance Category)	NTSV Cesarean Section Rate
Achieved the Standard	<= 23.6%
Considerable Achievement	> 23.6% and <= 25.2%
Some Achievement	> 25.2% and <= 29.5%
Limited Achievement	> 29.5%
Unable to Calculate Score	The hospital did not meet the minimum reporting size (n < 10).
Does Not Apply	The hospital did not deliver newborns during the reporting period or the labor and delivery unit is now closed.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

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Episiotomy

A hospital's rate of episiotomy is used to determine in which category a hospital is placed:

Episiotomy Score (Performance Category)	**Episiotomy Rate**
Achieved the Standard	<= 5%
Considerable Achievement	> 5% and <= 10%
Some Achievement	> 10% and <= 15%
Limited Achievement	> 15%
Unable to Calculate Score	The hospital did not meet the minimum reporting size (n < 10).
Does Not Apply	The hospital did not deliver newborns during the reporting period or the labor and delivery unit is now closed.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Newborn Bilirubin Screening Prior to Discharge

A hospital's adherence to the newborn bilirubin screening prior to discharge clinical guideline is used to determine in which performance category a hospital is placed:

Newborn Bilirubin Screening Score (Performance Category)	**Meaning that…**
Achieved the Standard	The hospital met the 90% target for Newborn Bilirubin Screening Prior to Discharge.
Limited Achievement	The hospital did not meet the 90% target for Newborn Bilirubin Screening Prior to Discharge or did not measure.
Unable to Calculate Score	The hospital did not meet the minimum reporting size (n < 10).
Does Not Apply	The hospital did not deliver newborns during the reporting period or the labor and delivery unit is now closed.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery

A hospital's adherence to the appropriate DVT prophylaxis in women undergoing cesarean delivery clinical guideline is used to determine in which performance category a hospital is placed:

DVT Prophylaxis Score (Performance Category)	**Meaning that…**
Achieved the Standard	The hospital met the 90% target for Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery.

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Limited Achievement	The hospital did not meet the 90% target for Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery or did not measure.
Unable to Calculate Score	The hospital did not meet the minimum reporting size (n < 10).
Does Not Apply	The hospital did not deliver newborns during the reporting period or the labor and delivery unit is now closed.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

High-Risk Deliveries

Scoring for this measure is based on either (a) a hospital's annual volume of very-low birth weight (VLBW) infants **or** (b) a hospital's performance on the VON outcome measure.

For hospitals reporting on Volume:

High-Risk Deliveries Score (Performance Category)	**NICU annual patient count (volume)**
Achieved the Standard	>= 50 VLBW infants
Considerable Achievement	25-49 VLBW infants
Some Achievement	10-24 VLBW infants
Limited Achievement	< 10 VLBW infants or No NICU

For hospitals reporting on VON's Death or Morbidity Outcome Measure:

If the **upper bound** of the shrunken standardized mortality ratios (SMR) is less than 1, the center is performing **better than expected**. (e.g., SMR: 0.7; lower bound: 0.3; upper bound: 0.9)

If the **lower bound** of the shrunken SMR is greater than 1, the center is performing **worse than expected**. (e.g., SMR: 1.6; lower bound: 1.2; upper bound: 2.1)

If the **lower and upper bounds include 1**, then the center is performing **as expected**. (e.g., SMR: 1.0; lower bound: 0.8; upper bound: 1.2)

High-Risk Deliveries Score (Performance Category)	**Death or Morbidity** (VON Outcome Measure)
Achieved the Standard	Hospital's outcomes are **better** than expected.
Considerable Achievement	Hospital's outcomes are **equal** to what is expected.
Limited Achievement	Hospital's outcomes are **worse** than expected or No NICU.
Does Not Apply	The hospital does not electively admit high-risk deliveries.
Declined to Respond	The hospital did not report on volume and did not elect to share their VON data with Leapfrog, did not provide a valid VON Transfer Code, or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

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Section 5: 2021 ICU Physician Staffing (IPS) Scoring Algorithm

ICU Physician Staffing

Hospitals are scored for the ICU Physician Staffing section of the Survey based on their answers to a set of 14 questions related to the staffing structures they have in place to care for ICU patients in adult and pediatric general medical and/or surgical intensive care units and neuro intensive care units.

IPS Score (Performance Category)	**Meaning that…**

Achieved the Standard	The hospital responded "Yes" or "Not applicable, intensivists are present 24/7" to **all** the following questions:
	
	• Question #3:
	Physicians certified in critical care medicine (i.e., "intensivists"), when present on-site or via telemedicine, manage or co-manage all critical care patients in adult and pediatric general medical and/or surgical ICU(s) and neuro ICUs
	• Question #4 **or** #5: One or more intensivist(s) is/are
	  ○ Ordinarily present on-site in each ICU during daytime hours for at least 8 hours per day, 7 days per week, providing clinical care exclusively in one ICU during these hours
	  ○ Present via telemedicine, in combination with on-site intensivist coverage, for a total of 24 hours per day, 7 days per week; meet all of Leapfrog's ICU requirements for intensivist presence in the ICU via telemedicine; and supported by an on-site intensivist who establishes and revises the daily care plan for each ICU patient
	• Question #6:
	When physicians (from question #3) are not present (on-site or via telemedicine) in these ICUs, one of them returns more than 95% of calls/pages/texts from these units within five minutes
	• Question #7:
	When physicians (from question #3) are not present (on-site or via telemedicine) in the ICU or not able to physically reach an ICU patient within 5 minutes, another physician, physician assistant, nurse practitioner or FCCS-certified nurse "effector" is on-site at the hospital and able to reach ICU patients within five minutes in more than 95% of the cases
	
	Note: When telemedicine is employed as a substitute for on-site intensivist coverage, it must meet all ten requirements detailed in endnote #27 (in the hard copy of the Survey), which includes some on-site intensivist time to manage the ICU patients' admissions, discharges, and care planning.

Considerable Achievement	The hospital responded "Yes" or "Clinical pharmacist rounds 7 days per week" to **all** the following questions:
	
	• Question #3:
	Physicians certified in critical care medicine (i.e., "intensivists"), when present on-site or via telemedicine, manage or co-manage all critical care patients in adult and pediatric general medical and/or surgical ICU(s) and neuro ICUs
	• Question #8 **or** #12:
	  ○ One or more intensivist(s) is/are ordinarily present in each ICU during daytime hours for at least 8 hours per day, 4 days per week or 4 hours per day, 7 days per week; providing clinical care exclusively in one ICU during these hours
	  ○ On-site clinical pharmacist makes daily rounds on all critical care patients in adult and pediatric medical and/or surgical and neuro ICUs

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IPS Score (Performance Category)	Meaning that…
	at least 5 days/week, and on the other 2 days/week, a clinical pharmacist returns more than 95% of calls/pages/texts from these units within five minutes; or on-site clinical pharmacist rounds 7 days per week • Question #13 **or** #14: ○ An intensivist leads daily, interprofessional rounds on-site on all critical care patients in adult and pediatric medical and/or surgical and neuro ICUs 7 days per week ○ When intensivists are on-site in adult and pediatric medical and/or surgical and neuro ICUs, they make all admission and discharge decisions
Considerable Achievement (alternative for hospitals)	The hospital responded "Yes" to **all** the following questions: • Question #3: Physicians certified in critical care medicine (i.e., "intensivists"), when present on-site or via telemedicine, manage or co-manage all critical care patients in adult and pediatric general medical and/or surgical ICU(s) and neuro ICUs • Question #9: One or more intensivist(s) is/are present via telemedicine 24 hours per day, 7 days per week, meet all of Leapfrog's modified ICU requirements, with on-site care planning done by an intensivist, hospitalist, anesthesiologist, or a physician trained in emergency medicine Note: When telemedicine is employed as a substitute for on-site intensivist coverage, it must meet all nine requirements detailed in endnote #32 (in the hard copy of the Survey).
Some Achievement	The hospital responded "Yes" to **all** the following questions: • Question #3: Physicians certified in critical care medicine (i.e., "intensivists"), when present on-site or via telemedicine, manage or co-manage all critical care patients in adult and pediatric general medical and/or surgical ICU(s) and neuro ICUs • Question #10: One or more intensivist(s) is/are present on-site at least 4 days per week to establish or revise daily care plans for all critical care patients • Question #13 **or** #14: ○ An intensivist leads daily, interprofessional rounds on-site on all critical care patients in adult and pediatric medical and/or surgical and neuro ICUs 7 days per week ○ When intensivists are on-site in adult and pediatric medical and/or surgical and neuro ICUs, they make all admission and discharge decisions Or the hospital responded "Yes" to **all** the following questions: • Question #11: If not all, at least some critical care patients are managed or co-managed by physicians who are certified in critical care medicine (i.e., "intensivists"), either on-site or via telemedicine • Question #13 **or** #14: ○ An intensivist leads daily, interprofessional rounds on-site on all critical care patients in adult and pediatric medical and/or surgical and neuro ICUs 7 days per week

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IPS Score (Performance Category)	**Meaning that…**
	○ When intensivists are on-site in adult and pediatric medical and/or surgical and neuro ICUs, they make all admission and discharge decisions Note: When telemedicine is employed as a substitute for on-site intensivist coverage, it must meet all nine requirements detailed in endnote #32 (in the hard copy of the Survey).
Limited Achievement	The hospital responded to all the questions in this section, but it does not yet meet the criteria for ***Some Achievement***.
Does Not Apply	The hospital does not operate an adult or pediatric general medical or surgical intensive care unit or a neuro intensive care unit.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

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Section 6: 2021 Patient Safety Practices Scoring Algorithms

National Quality Forum (NQF) Safe Practice #1

A hospital's progress for the National Quality Forum's (NQF) Safe Practice #1 – Culture of Safety Leadership Structures and Systems will be measured and scored based on the number of points earned.

NQF Safe Practice #1 Score (Performance Category)	**Overall Points Earned**
Achieved the Standard	100% of Points
Considerable Achievement	80% to 99% of Points
Some Achievement	50% to 79% of Points
Limited Achievement	0% to 49% of Points
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Scoring details are described below.

1. **Maximum Points:** NQF Safe Practice #1 – Culture of Safety Leadership Structures and Systems has a maximum number of points of 120.

2. **Point Values per Checkbox:** Each question has an equal point value, computed as the Maximum Points for this NQF Safe Practice divided by the number of checkboxes within this NQF Safe Practice.

3. **Points Earned:** Total points earned for this NQF Safe Practice is the sum of the points for each checkbox marked for this NQF Safe Practice.

4. **Performance Category Cut-points** are based on a percentage of the Maximum Points achievable for this NQF Safe Practice. The distribution of scores, including new or updated Survey Results, will be reviewed periodically to determine if there are compelling reasons to revise these performance category cut-points further. However, there are no current plans or commitments to change the cut-points during the 2021 Survey Cycle.

5. **Updated Submissions:** Hospitals may update and resubmit their Surveys as often as needed to reflect actual progress achieved or additional commitments undertaken in these patient safety areas up until **November 30.** Updates made to reflect a change in performance after November 30 will not be scored or publicly reported.

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National Quality Forum (NQF) Safe Practice #2

A hospital's progress for the National Quality Forum's (NQF) Safe Practice #2 – Culture Measurement, Feedback, and Intervention will be measured and scored based on the number of points earned.

NQF Safe Practice #2 Score (Performance Category)	**Overall Points Earned**
Achieved the Standard	100% of Points
Considerable Achievement	80% to 99% of Points
Some Achievement	50% to 79% of Points
Limited Achievement	0% to 49% of Points
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Scoring details are described below.

1. **Maximum Points:** NQF Safe Practice #2 - Culture Measurement, Feedback, and Intervention has a maximum number of points of 120.

2. **Point Values per Checkbox:** Each question has an equal point value, computed as the Maximum Points for this NQF Safe Practice divided by the number of checkboxes within this NQF Safe Practice.

3. **Points Earned:** Total points earned for this NQF Safe Practice is the sum of the points for each checkbox marked for this NQF Safe Practice.

4. **Performance Category Cut-points** are based on a percentage of the Maximum Points achievable for this NQF Safe Practice. The distribution of scores, including new or updated Survey Results, will be reviewed periodically to determine if there are compelling reasons to revise these performance category cut-points further. However, there are no current plans or commitments to change the cut-points during the 2021 Survey Cycle.

6. **Updated Submissions:** Hospitals may update and resubmit their Surveys as often as needed to reflect actual progress achieved or additional commitments undertaken in these patient safety areas up until **November 30.** Updates made to reflect a change in performance after November 30 will not be scored or publicly reported.

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National Quality Forum (NQF) Safe Practice #9

A hospital's progress for the National Quality Forum's (NQF) Safe Practice #9 – Nursing Workforce, will be measured and scored based on the number of points earned

NQF Safe Practice #9 Score (Performance Category)	**Overall Points Earned**
Achieved the Standard	100% of Points
Considerable Achievement	80% to 99% of Points
Some Achievement	50% to 79% of Points
Limited Achievement	0% to 49% of Points
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Scoring details are described below.

1. **Maximum Points:** NQF Safe Practice #9 – Nursing Workforce* has a maximum number of points of 100.

   *Hospitals indicating in NQF Safe Practice #9 that they have current Magnet status designation, as determined by the American Nurses Credentialing Center (ANCC), will receive full points for this Safe Practice.

2. **Point values per checkbox:** Each question has an equal point value, computed as the Maximum Points divided by the number of checkboxes within this NQF Safe Practice.

3. **Points Earned:** Total points earned for this NQF Safe Practice is the sum of the points for each checkbox marked for this NQF Safe Practice OR hospitals indicating that they have current Magnet status designation, as determined by the American Nurses Credentialing Center (ANCC), will automatically receive full credit.

4. **Performance Category cut-points** are based on a percentage of the Maximum Points achievable for this NQF Safe Practice. The distribution of scores, including new or updated Survey Results, will be reviewed periodically to determine if there are compelling reasons to revise these performance category cut-points further. However, there are no current plans or commitments to change the cut-points during the 2021 Survey Cycle.

5. **Updated Submissions:** Hospitals may update and resubmit their Surveys as often as needed to reflect actual progress achieved or additional commitments undertaken in these patient safety areas up until **November 30.** Updates made to reflect a change in performance after November 30 will not be scored or publicly reported.

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Hand Hygiene

Hospitals will be scored based on their performance on five domains of hand hygiene. In order to meet the requirements of each domain, the hospital must respond in the affirmative to all applicable questions.

1. Monitoring: questions #8-10
    a. Electronic: questions #11-12
    b. Direct Observation: questions #13-14
2. Feedback: questions #15-18
3. Training and Education: questions #1-3
4. Infrastructure: questions #4-7
5. Culture: questions #19-20

Hand Hygiene (Performance Category)	**Meaning that…**

Achieved the Standard	The hospital responded "yes" to **all** applicable questions in the Monitoring and Feedback Domains and meets the **monthly** sample size of **200** hand hygiene opportunities, or at least the number of hand hygiene opportunities outlined based on the unit type in tables 1-3 of the 2021 Hospital Survey (FAQ #44, Section 6), for monitoring hand hygiene opportunities, **each month in each patient care unit:**
	
	• **Monitoring Domain**:
	  ○ Question #8:
	  Hospital collects hand hygiene compliance data on at least 200 hand hygiene opportunities, or at least the number of hand hygiene opportunities outlined based on the unit type in tables 1-3 of the 2021 Hospital Survey (FAQ #44, Section 6), **each month in each patient care unit**
	  ○ Question #10:
	  Hospital uses hand hygiene coaches or compliance observers to provide individuals who touch patients or who touch items that will be used by patients with feedback on both when they are and are not compliant with performing hand hygiene
	  ○ The hospital responded "yes" to all questions pertaining to the monitoring method used (as indicated in question #8):
	  ▪ *Electronic Compliance Monitoring*: questions #11-12
	  ▪ *Direct Observation:* questions #13-14
	• **Feedback Domain:** questions #15-18
	
	AND
	
	The hospital responded "yes" to **all** questions in any **2** of the following domains:
	• **Training and Education Domain:** questions #1-3
	• **Infrastructure Domain:** questions #4-7
	• **Culture Domain:** questions #19-20

Considerable Achievement	The hospital responded "yes" to **all** applicable questions in the Monitoring and Feedback Domains and meets the **quarterly** sample size of **100** for monitoring hand hygiene opportunities, **each quarter in each patient care unit**:
	
	• **Monitoring Domain**:
	  ○ Question #9:
	  Hospital collects hand hygiene compliance data on at least 100 hand hygiene opportunities **each quarter in each patient care unit**

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Hand Hygiene (Performance Category)	**Meaning that…**
	○ Question #10: Hospital uses hand hygiene coaches or compliance observers to provide individuals who touch patients or who touch items that will be used by patients with feedback on both when they are and are not compliant with performing hand hygiene ○ The hospital responded "yes" to all questions pertaining to the monitoring method used (as indicated in question #9): ▪ *Electronic Compliance Monitoring*: questions #11-12 ▪ *Direct Observation:* questions #13-14 • **Feedback Domain:** questions #15-18 ***AND*** The hospital responded "yes" to **all** questions in any **2** of the following domains: • **Training and Education Domain:** questions #1-3 • **Infrastructure Domain:** questions #4-7 • **Culture Domain:** questions #19-20
Some Achievement	The hospital responded "yes" to **all** applicable questions in any **2** of the following domains: • **Monitoring Domain:** ○ Question #8 **or** #9: ▪ Hospital collects hand hygiene compliance data on at least 200 hand hygiene opportunities, or at least the number of hand hygiene opportunities outlined based on the unit type in tables 1-3 of the 2021 Hospital Survey (FAQ #44, Section 6), **each month in each patient care unit** ▪ Hospital collects hand hygiene compliance data on at least 100 hand hygiene opportunities **each quarter in each patient care unit** ○ Question #10: Hospital uses hand hygiene coaches or compliance observers to provide individuals who touch patients or who touch items that will be used by patients with feedback on both when they are and are not compliant with performing hand hygiene ○ The hospital responded "yes" to all questions pertaining to the monitoring method used (as indicated in question #8 or #9): ▪ *Electronic Compliance Monitoring*: questions #11-12 ▪ *Direct Observation:* questions #13-14 • **Feedback Domain:** questions #15-18 • **Training and Education Domain:** questions #1-3 • **Infrastructure Domain:** questions #4-7 • **Culture Domain:** questions #19-20
Limited Achievement	The hospital responded "yes" to **all** applicable questions in any **1** of the following domains: • **Monitoring Domain:** ○ Question #8 **or** #9: ▪ Hospital collects hand hygiene compliance data on at least 200 hand hygiene opportunities, or at least the number of hand hygiene opportunities outlined based on the unit type in tables 1-3 of the 2021 Hospital Survey (FAQ #44, Section 6), **each month in each patient care unit**

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Hand Hygiene (Performance Category)	**Meaning that…**
	▪ Hospital collects hand hygiene compliance data on at least 100 hand hygiene opportunities **each <u>quarter</u> in each patient care unit** ○ Question #10: Hospital uses hand hygiene coaches or compliance observers to provide individuals who touch patients or who touch items that will be used by patients with feedback on both when they are and are not compliant with performing hand hygiene ○ The hospital responded "yes" to all questions pertaining to the monitoring method used (as indicated in question #8 or #9): ▪ *Electronic Compliance Monitoring*: questions #11-12 ▪ *Direct Observation:* questions #13-14 • **Feedback Domain:** questions #15-18 • **Training and Education Domain:** questions #1-3 • **Infrastructure Domain:** questions #4-7 • **Culture Domain:** questions #19-20 ***<u>OR</u>*** The hospital met **0** domains.
Declined to Respond	The hospital did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Nurse Staffing and Skill Level

This section is new and optional, and in 2021, responses will not be scored or publicly reported.

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Section 7: 2021 Managing Serious Errors Scoring Algorithms

Never Events Policy

Adoption of the nine principles of The Leapfrog Group's Policy Statement on Serious Reportable Events ("Never Events") will be scored and publicly reported based on the criteria below.

Never Events Score (Performance Category)	Meaning that…
Achieved the Standard	The hospital has implemented a policy that adheres to all 9 principles of The Leapfrog Group's Policy Statement on Serious Reportable Events ("Never Events").
Considerable Achievement	The hospital has implemented a policy that adheres to all the original 5 principles* of The Leapfrog Group's Policy Statement on Serious Reportable Events ("Never Events"), as well as at least 2 additional principles.
Some Achievement	The hospital has implemented a policy that adheres to all the original 5 principles* of The Leapfrog Group's Policy Statement on Serious Reportable Events ("Never Events").
Limited Achievement	The hospital responded to the Leapfrog Survey questions pertaining to adoption of this policy but does not yet meet the criteria for "Some Achievement."
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

*The Leapfrog Group's original five principles include: apologizing to the patient, performing a root cause analysis, reporting to an external agency within 15 days, waiving all associated costs, and making a copy of the policy available to patients and payers upon request. More information is available at http://www.leapfroggroup.org/ratings-reports/never-events-management.

Healthcare-Associated Infections

In 2021, The **standardized infection ratios (SIRs)** for CLABSI, CAUTI, MRSA, C. Diff., and SSI Colon will be calculated by **either** Leapfrog (for the first two NHSN data downloads) or NHSN (for the second two NHSN data downloads) and then scored and publicly reported for each hospital that joins Leapfrog's NHSN group, provides a valid NHSN ID in their Leapfrog Survey Profile, and submits Section 7 of the 2021 Leapfrog Hospital Survey.

For the **July and August NHSN Data Downloads**, Leapfrog will calculate the SIR for each of the five (5) infection measures using data downloaded from NHSN **grouped by quarter** for 2019Q3, 2019Q4, 2020Q3, and 2020Q4. This reporting period excludes quarters 2020Q1 and 2020Q2, as CMS announced these quarters were optional for hospitals due to COVID-19. Leapfrog will then sum the observed number of infections and the predicted number of infections for each of the 4 quarters to calculate a SIR (sum of observed # of infections / sum of predicted # of infections).

For the **October and December NHSN Data Downloads**, Leapfrog will download **cumulative** data for the full reporting period (2020Q3-2021Q2) as we have done in previous Survey Cycles and will obtain the SIR directly from NHSN.

As described in the hard copy of the Survey, all hospitals in Leapfrog's NHSN Group are required to (a) generate datasets within NHSN, (b) download CMS IQR reports, and (c) and download a copy of your

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2019 Patient Safety Component - Annual Hospital Survey from NHSN on the **same day** that Leapfrog will be downloading the data from NHSN for all current group members.

By generating datasets and downloading reports within NHSN on the same day as Leapfrog, hospitals can ensure that the data matches what Leapfrog has obtained. If hospitals do not generate datasets and download reports on the same day as Leapfrog, the Help Desk will not review any discrepancies. Leapfrog will provide hospitals with step-by-step instructions on how to download the same reports as Leapfrog will be using and to calculate the SIR. Additionally, Leapfrog plans to include the quarterly number of observed and predicted infections (for the first two data downloads) as well as the combined number of observed and predicted infections (for all data downloads) for the reporting period on the Hospital Detail Pages for hospitals to verify their data more easily.

A hospital's standardized infection ratio is used to determine in which performance category a hospital is placed for each healthcare-associated infection. Note that the MRSA and C. Diff. measures apply to all hospitals:

Score (Performance Category)	**CLABSI SIR**	**CAUTI SIR**	**MRSA SIR**	**CDI SIR**	**SSI Colon SIR**
Achieved the Standard	<= 0.413	<= 0.427	<= 0.496	<= 0.621	<= 0.349
Considerable Achievement	> 0.413 and <=0.788	> 0.427 and <=0.823	> 0.496 and <=0.901	> 0.621 and <=0.885	> 0.349 and <=0.783
Some Achievement	> 0.788 and <=1.184	> 0.823 and <=1.281	> 0.901 and <=1.516	> 0.885 and <=1.161	> 0.783 and <=1.302
Limited Achievement	> 1.184	> 1.281	> 1.516	> 1.161	> 1.302
Unable to Calculate Score	The hospital reported too small of a sample size to calculate their results reliably (i.e., the number of predicted infections across all locations is <1) or the number of observed MRSA or CDI infections present on admission (community-onset prevalence) was above a pre-determined cut-point.				
Does Not Apply	The measure did not apply to the hospital during the reporting period (e.g., zero device days or procedures, no applicable locations, etc.).				
Declined to Respond	The hospital did not join Leapfrog's NHSN group, did not provide a valid NHSN ID, did not respond to the questions in this section of the Survey, or did not submit a Survey.				
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.				

Note: Cut-points are based on the distribution of results from 2017 Leapfrog Hospital Surveys submitted as of July 31, 2017, which included data pulled from NHSN on July 25, 2017. These cut-points will remain in place for the entire Survey reporting cycle, unless it is determined that there are compelling reasons to make revisions.

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Section 8: 2021 Medication Safety Scoring Algorithms

Bar Code Medication Administration

In this section of the Survey, hospitals are scored on four (4) components of BCMA use:

- **% Units**: A hospital's implementation of BCMA throughout the hospital, as measured by the percentage of units with a focus on adult and pediatric medical and/or surgical units, intensive care units (adult, pediatric, and neonatal), and labor and delivery units.
- **% Compliance**: A hospital's compliance with scanning the patient and medication during the administration in applicable units where BCMA is implemented.
- **Decision Support**: The types of decision support that the hospital's BCMA system offers, including:
    1. Wrong patient
    2. Wrong medication
    3. Wrong dose
    4. Wrong time (e.g., early/late warning; warning that medication cannot be administered twice within a given window of time)
    5. Second nurse check needed
- **Workarounds**: A hospital's structures to monitor and reduce workarounds, including:
    1. Has a formal committee that meets routinely to review data reports on BCMA system use
    2. Has back-up systems for hardware failures
    3. Has a help desk that provides timely responses to urgent BCMA issues in real-time
    4. Conducts real-time observations of users at the unit level using the BCMA system
    5. Engages nursing leadership at the unit level on BCMA use
    6. In the past 12 months used the data and information obtained through items 1-5 to implement quality improvement projects that have focused on improving the hospital's BCMA performance
       OR
       In the past 12 months used the data and information obtained through items 1-5 to monitor a previously implemented quality improvement project focused on improving the hospital's BCMA performance
    7. In the past 12 months evaluated the results of the quality improvement projects (from 6) and demonstrated that these projects have resulted in higher adherence to your hospital's standard medication administration process
       OR
       In the past 12 months evaluated the results of the quality improvement projects (from 6) and demonstrated continued adherence to your hospital's standard medication administration process
    8. Communicated back to end users the resolution of any system deficiencies and/or problems that may have contributed to the workarounds

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BCMA Score (Performance Category)	**% Units**	**% Compliance**	**Decision Support**	**Processes & Structures to Prevent Workarounds**
Achieved the Standard	100%	95%	5 out of 5	6 out of 8
Considerable Achievement	The hospital meets 3 of the 4 standards			
Some Achievement	The hospital meets 2 of the 4 standards			
Limited Achievement	The hospital meets 1 or 0 of the 4 standards			
Does Not Apply	The hospital does not operate an ICU, medical/surgical unit, or labor and delivery unit.			
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.			
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.			

Medication Reconciliation

Data collection and reporting on the number of unintentional medication discrepancies identified between the Gold Standard Medication History obtained by a trained pharmacist and the admission and discharge orders, including the number of additional unintentional medications is scored and publicly reported based on the criteria below:

Medication Reconciliation Score (Performance Category)	**Meaning that…**
Achieved the Standard	• The hospital uses a nationally endorsed protocol to collect data on the accuracy of its medication reconciliation process, • The hospital sampled at least 30 patients, and • The hospital's rate of unintentional medication discrepancies is lower than the 50th percentile (where lower performance is better).
Considerable Achievement	• The hospital uses a nationally endorsed protocol to collect data on the accuracy of its medication reconciliation process, • The hospital sampled at least 30 patients, and • The hospital's rate of unintentional medication discrepancies is higher than the 50th percentile, but lower than the 75th percentile (where lower performance is better).
Some Achievement	• The hospital uses a nationally endorsed protocol to collect data on the accuracy of its medication reconciliation process, but • The hospital did not sample at least 30 patients **OR** • The hospital uses a nationally endorsed protocol to collect data on the accuracy of its medication reconciliation process, • The hospital sampled 30 patients, but • The hospital's rate of unintentional medication discrepancies is higher than the 75th percentile (where lower performance is better)

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	OR • The hospital's responses did not pass Leapfrog's Extensive Monthly Data Verification Process.
Limited Achievement	The hospital did not measure.
Unable to Calculate Score	More than 10 out of 30 patients (or one-third) included in the sample had zero (0) Gold Standard Medications.
Does Not Apply	The hospital is a pediatric facility.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Note: the 50th and 75th percentiles will be based on the distribution of hospital performance from 2021 Leapfrog Hospital Surveys submitted as of July 31, 2021. These cut-points will remain in place for the entire Survey reporting cycle, unless it is determined that there are compelling reasons to make revisions.

Opioid Prescribing

This section is optional, and in 2021, responses will not be scored or publicly reported

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Section 9: 2021 Pediatric Care Scoring Algorithms

Patient Experience (CAHPS Child Hospital Survey)

Hospitals are scored based on Top Box Scores from a subset of the domains (5 out of 13) included on the CAHPS Child Hospital Survey. These domains were selected for use in scoring due to having the lowest median performance and the largest variation in performance across hospitals:

- Communication with Parent – Communication about your child's medicines
- Communication with Parent – Keeping you informed about your child's care
- Communication with Child – How well nurses communicate with your child
- Communication with Child – How well doctors communicate with your child
- Attention to Safety and Comfort – Preventing mistakes and helping you report concerns

Hospitals are scored based on the number of domains where the hospital is performing in the top quartile.

Top Quartile for CAHPS Child Hospital Survey Domains (Quartiles [Q])	**Communication about child's medicines (%)**	**Keeping you informed about child's care (%)**	**Child Communication with nurses (%)**	**Child Communication with doctors (%)**	**Preventing mistakes and reporting concerns (%)**
Top Quartile (>= Q3)	>= 83	>= 80	>= 82	>= 78	>= 66

Patient Experience (CAHPS Child Hospital Survey) Score (Performance Category)	**Meaning that the hospital…**
Achieved the Standard	Scored in top quartile of hospitals on at least **4 out of 5** Child CAHPS domains
Considerable Achievement	Scored in top quartile of hospitals on **3 out of 5** Child CAHPS domains
Some Achievement	Scored in top quartile of hospitals on **2 out of 5** Child CAHPS domains
Limited Achievement	Scored in top quartile of hospitals on **1 or fewer** Child CAHPS domains or the hospital did not measure.
Unable to Calculate Score	The hospital did not meet the minimum reporting requirements for the measure (<100 returned CAHPS Child Hospital Surveys).
Does Not Apply	The hospital had too few pediatric inpatient admissions (n < 500) to administer the CAHPS Child Hospital Survey, or had fewer than 100 non-NICU pediatric inpatient admissions
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Note: The top quartiles are based on the distribution of performance reported from 2019 Leapfrog Hospital Surveys and 2020 Leapfrog Hospital Surveys submitted by August 31, 2020. These cut-points will remain in place for the entire Survey reporting cycle, unless it is determined that there are compelling reasons to make revisions.

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Pediatric Computed Tomography (CT) Radiation Dose

Hospitals are scored on their performance for head scans and abdomen/pelvis scans separately, by comparing the median radiation dose length product (DLP) for each anatomic region and age stratum by phantom dose to two benchmarks. The first benchmark is the Median Benchmark, which is the median of the median doses reported across all Leapfrog-reporting hospitals.* The second benchmark is the 75th Percentile Benchmark, which is the median of the 75th percentile doses reported across all Leapfrog-reporting hospitals.*

Hospitals receive points based on their reported median dose (50th percentile) compared to the benchmarks. If the hospital's reported median dose is less than the Median Benchmark, then it receives 2 points. If the hospital's reported median dose is greater than or equal to the Median Benchmark and less than the 75th Percentile Benchmark, then it receives 1 point. Otherwise, if the hospital's reported median dose is greater than or equal to the 75th Percentile Benchmark, it receives no points for that category.

Therefore, for each anatomic region, there are at most 10 possible points. If a hospital had less than 10 CT scans for an age stratum, then the age stratum is not included in scoring.

HEAD SCANS					
Point Assignment (Benchmarks)	**< 1 year**	**1 - 4**	**5 - 9**	**10-14**	**15-17**
2 Points (Median Dose < Median Benchmark)	< 265	< 338	< 479	< 615	< 736
1 Point (Median Dose >= Median Benchmark and < 75th Percentile Benchmark)	>= 265 and < 318	>= 338 and < 441	>= 479 and < 602	>= 615 and < 758	>= 736 and < 862
0 Points (Median Dose >= 75th Percentile Benchmark)	>= 318	>= 441	>= 602	>= 758	>= 862

ABDOMEN/PELVIS SCANS					
Point Assignment (Benchmarks)	**< 1 year**	**1 - 4**	**5 - 9**	**10-14**	**15-17**
2 Points (Median Dose < Median Benchmark)	< 48	< 82	< 127	< 274	< 388
1 Point (Median Dose >= Median Benchmark and < 75th Percentile Benchmark)	>= 48 and < 73	>= 82 and < 110	>= 127 and <176	>= 274 and < 394	>= 388 and < 565
0 Points (Median Dose >= 75th Percentile Benchmark)	>= 73	>= 110	>= 176	>= 394	>= 565

*Note: Cut-points are based on the distribution of median doses from 2020 Leapfrog Hospital Surveys submitted by January 31, 2021. These cut-points will remain in place for the entire Survey reporting cycle, unless it is determined that there are compelling reasons to make revisions.

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For each anatomic region, the percentage of points awarded is calculated by summing the points earned and dividing by the total number of possible points (e.g., 2 times the number of age strata with at least 10 CT scans). This percentage of points earned is used to assign a performance category according to the table below:

Pediatric CT Dose Score (Performance Category)	**Head Scans**	**Abdomen/Pelvis Scans**
Achieved the Standard	>= 75% of total possible points	>= 75% of total possible points
Considerable Achievement	>= 50% and < 75% of total possible points	>= 50% and < 75% of total possible points
Some Achievement	>=25% and < 50% of total possible points	>=25% and < 50% of total possible points
Limited Achievement	< 25% of total possible points or the hospital did not measure	< 25% of total possible points or the hospital did not measure
Unable to Calculate Score	Fewer than 10 CT scans for all age ranges	Fewer than 10 CT scans for all age ranges
Does Not Apply	The hospital does not perform CT scans on pediatric patients.	
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.	
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.	

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Section 10: 2021 Outpatient Procedures Scoring Algorithms

Basic Outpatient Department Information

This section will not be scored in 2021. However, responses will be shown on Leapfrog's public reporting website. For example, Leapfrog will display the number of operating and/or procedure rooms.

Medical, Surgical, and Clinical Staff

Certified Clinicians Present While Patients Are Recovering

Hospitals will be scored on whether an Advanced Cardiac Life Support (ACLS) trained clinician, plus a second clinician, are always present and immediately available while adult patients are recovering and whether a Pediatric Advanced Life Support (PALS) trained clinician, plus a second clinician, are always present and immediately available while pediatric patients are recovering.

Note: Facilities that have a physician or CRNA serving as their ACLS or PALS trained clinician are not required to have a third clinician present while patients are recovering.

Clinicians Present While Patients are Recovering Score (Performance Category)	**Meaning that while adult patients are recovering from an outpatient procedure, the hospital ensures that…**	**Meaning that while pediatric patients are recovering from an outpatient procedure, the hospital ensures that…**
Achieved the Standard	• An ACLS trained clinician, as well as a second clinician (regardless of ACLS training), are present at all times and immediately available in the building while an adult patient is present in the hospital outpatient department; **AND** • A physician or CRNA is present at all times and immediately available in the building until **all** adult patients are physically discharged from the hospital outpatient department	• A PALS trained clinician, as well as a second clinician (regardless of PALS training), are present at all times and immediately available in the building while a pediatric patient (infant through 12 years) is present in the hospital outpatient department; **AND** • A physician or CRNA is present at all times and immediately available in the building until **all** pediatric patients are physically discharged from the hospital outpatient department
Some Achievement	• An ACLS trained clinician, as well as a second clinician (regardless of ACLS training), are present at all times and immediately available in the building while an adult patient is present in the hospital outpatient department; **OR** • A physician or CRNA is present at all times and immediately available in the building until **all** adult patients are physically	• A PALS trained clinician, as well as a second clinician (regardless of PALS training), are present at all times and immediately available in the building while a pediatric patient (infant through 12 years) is present in the hospital outpatient department; **OR** • A physician or CRNA is present at all times and immediately available in the building until **all**

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	discharged from the hospital outpatient department	pediatric patients are physically discharged from the hospital outpatient department
Limited Achievement	• An ACLS trained clinician, as well as a second clinician (regardless of ACLS training), are NOT present at all times and immediately available in the building while an adult patient is present in the hospital outpatient department; **AND** • A physician or CRNA is NOT present at all times and immediately available in the building until **all** adult patients are physically discharged from the hospital outpatient department	• A PALS trained clinician, as well as a second clinician (regardless of PALS training), are NOT present at all times and immediately available in the building while a pediatric patient (infant through 12 years) is present in the hospital outpatient department; **AND** • A physician or CRNA is NOT present at all times and immediately available in the building until **all** pediatric patients are physically discharged from the hospital outpatient department
Does Not Apply	The hospital does not perform outpatient procedures on adult patients.	The hospital does not perform outpatient procedures on pediatric patients.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.	
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.	

Volume of Procedures

Volume of Procedures

In 2021, responses to the annual volume of each procedure performed will not be scored. However, responses will be used to facilitate the search functionality on Leapfrog's public reporting website (e.g., allowing users to search for facilities that perform the procedure they need) and the information will be publicly reported to inform purchasers and consumers about the facility's experience with the procedure.

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Safety of Procedures

Patient Follow-up

This section will not be scored in 2021, and responses will not be shown on Leapfrog's public reporting website.

Patient Selection

This section will not be scored in 2021. However, responses will be shown on Leapfrog's public reporting website. Leapfrog will display the components of a facility's patient screening tool.

Patient Consent to Treat

This section will not be scored in 2021. However, responses will be shown on Leapfrog's public reporting website alongside information about procedure volume.

Safe Surgery Checklist

Hospitals will be scored on the use of a Safe Surgery Checklist and whether elements of the checklist are documented and used on every patient undergoing an applicable procedure.

Safe Surgery Checklist Score (Performance Category)	**Meaning that…**
Achieved the Standard	• The hospital uses a safe surgery checklist on **all** patients undergoing an applicable procedure; **AND** • Hospital has documented that **all** safe surgery checklist elements listed were completed for each patient, by responding "yes" to all the following: question #15, question #17, and question #19.
Considerable Achievement	• The hospital uses a safe surgery checklist on **all** patients undergoing an applicable procedure; **AND** • Hospital has documented that **most** of the safe surgery checklist elements listed were completed for each patient, by responding "yes" to 2 of the following: question #15, question #17, and question #19.
Some Achievement	• The hospital uses a safe surgery checklist on **all** patients undergoing an applicable procedure; **AND** • Hospital has documented that **few or none** of the safe surgery checklist elements listed were completed for each patient, by responding "yes" to 1 or 0 of the following: question #15, question #17, and question #19.
Limited Achievement	The hospital does not use a safe surgery checklist on all patients undergoing an applicable procedure.
Does Not Apply	The hospital does not perform outpatient procedures on adult/pediatric patients.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

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Medication Safety for Outpatient Procedures

A hospital's rates of documentation for home medications, visit medications, and allergies/ adverse reaction(s) will be used to determine in which performance category a facility is placed.

Medication and Allergy Documentation Score (Performance Category)	**Meaning that …**
Achieved the Standard	The hospital met the 90% target for documenting all three components: home medications, visit medications, and medication allergies/ adverse reaction(s) in the clinical record.
Considerable Achievement	The hospital met the 90% target for documenting two of the three components.
Some Achievement	The hospital met the 90% target for documenting one of the three components.
Limited Achievement	The hospital did not meet the 90% target for documenting any of the three components or the hospital did not measure.
Unable to Calculate Score	The hospital did not meet the minimum reporting requirements for clinical record documentation (n < 30).
Does Not Apply	The hospital does not perform outpatient procedures on adult/pediatric patients.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Patient Experience (OAS CAHPS)

Hospitals will be scored based on Top Box Scores from four domains included on the Outpatient and Ambulatory Surgery (OAS) CAHPS Survey:

- Facilities and Staff
- Communication About Your Procedure
- Patients' Rating of the Facility
- Patients Recommending the Facility

Hospitals will be scored based on the number of domains where the hospital is performing in the top quartile.

Top Quartile for OAS CAHPS Domains (Quartiles [Q])	**Facilities and Staff (%)**	**Communication About Your Procedure (%)**	**Patients' Rating of the Facility (%)**	**Patients Recommending the Facility (%)**
Top Quartile (>= Q3)	>= 97	>= 93	>= 88	>= 87

Patient Experience (OAS CAHPS) Score (Performance Category)	**Meaning that the hospital…**
Achieved the Standard	Scored in top quartile of facilities on **4 out of 4** OAS CAHPS domains.
Considerable Achievement	Scored in top quartile of facilities on **3 out of 4** OAS CAHPS domains.
Some Achievement	Scored in top quartile of facilities on **2 out of 4** OAS CAHPS domains.

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Limited Achievement	Scored in top quartile of facilities on **1 or fewer** OAS CAHPS domains or the hospital did not measure.
Unable to Calculate Score	The hospital did not meet the minimum reporting requirements for the measure (<100 returned OAS CAHPS Surveys).
Does Not Apply	The hospital had too few eligible discharges (n < 300) to administer the OAS CAHPS Survey or does not perform outpatient procedures on adult patients.
Declined to Respond	The hospital did not respond to the questions in this section of the Survey or did not submit a Survey.
Pending Leapfrog Verification	The hospital's responses are undergoing Leapfrog's standard verification process.

Note: The top quartiles are based on the distribution of hospital and ASC performance from 2020 Leapfrog Hospital Surveys and 2020 Leapfrog ASC Surveys submitted by August 31, 2020. These cut-points will remain in place for the entire Survey reporting cycle, unless it is determined that there are compelling reasons to make revisions.

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Appendix I: CPOE Evaluation Tool Scoring Algorithm

CPOE Evaluation Tool Scoring

(For Adult and General Hospitals Only)

In 2021, as part of Leapfrog's continued response to COVID-19, hospitals have two options to achieve Leapfrog's CPOE Standard:

- Option 1: each adult and general hospital must (1) ensure that licensed prescribers enter at least 85% of inpatient medication orders via a computer system that includes decision support software to reduce prescribing errors.
- Option 2: each adult and general hospital must (1) ensure that licensed prescribers enter at least 85% of inpatient medication orders via a computer system that includes decision support software to reduce prescribing errors, and (2) demonstrate, via a test, that its inpatient CPOE system can alert physicians to at least 60% of frequent serious medication errors known to cause harm to patients.

See Section 2 for more information.

Upon successful completion of an Adult Inpatient Test, a hospital's responses are immediately scored and available to be viewed and printed. Results from prior year's tests are also archived and can be accessed at any time by logging back into the CPOE Evaluation Tool from the Survey Dashboard.

Please note: Hospitals that choose to take the Adult Inpatient Test via the CPOE Evaluation Tool will have their score from the Test included in their Overall CPOE Score, regardless of the score and without exception. This means that hospitals that fail the deception analysis or time out of the test will be scored and publicly reported as Limited Achievement on Leapfrog's CPOE Standard.

Results from the Adult Inpatient Test

The CPOE Evaluation Tool calculates the results from the Adult Inpatient Test and displays a report that includes 10 individual category scores and an overall score using the criteria described below.

Category Scores

- Nine of the ten order checking categories included in the CPOE Evaluation Tool represent an area where a serious adverse drug event (ADE) could occur if the CPOE system's clinical decision support fails to alert the prescriber. The tenth order checking category includes Test Orders that, if presented interruptedly, could contribute to alert fatigue.
- Results are calculated for each category and are displayed as a percent correct (i.e., 80% in the drug-allergy category means that the hospital responded to 80% of the test orders in this category correctly).
- Test Orders that include medications that could not be electronically entered in any formulation are excluded from the overall score calculation. For some categories, orders that could not be entered with the specified dose, frequency, or route are also excluded.
- For any category for which too few orders were entered to reliably calculate a category score, "insufficient responses to evaluate performance in this category" appears instead of a percentage score. Individual orders that were able to be tested within a category are included in the overall score.

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Order Checking Category	Description	Example	Type of Clinical Decision Support
Inappropriate Drug Combinations	Medication combinations to avoid ordering together or ones to use with caution	Using clonazepam and lorazepam together	Scenario-specific advice/information
Drug Dose (Single)	Specified dose of medication exceeds safe range for single dose	Tenfold overdose of digoxin	Scenario-specific advice/information
Drug Dose (Daily)	Specified frequency of administration results in daily dose that exceeds safe range for daily dose	Ordering ibuprofen regular dose every three hours	Scenario-specific advice/information
Drug Allergy	Medication (or medication class) is one for which patient allergy has been documented	Penicillin prescribed for patient with documented penicillin allergy	Scenario-specific advice/information
Drug Route	Specified route of administration is inappropriate and potentially harmful	Use of hydroxyzine intravenously	Scenario-specific advice/information
Drug Diagnosis	Medication dose inappropriate/contraindicated based on documented problem/diagnosis	Non-selective beta-blocker in patient with asthma	Scenario-specific advice/information
Drug Age	Medication dose inappropriate/contraindicated based on patient age	Prescribing diazepam for a patient over 65 years old	Scenario-specific advice/information
Drug Laboratory	Medication dose inappropriate/contraindicated based on documented laboratory test results (includes renal status)	Use of nitrofurantoin in patient with severe renal failure	Scenario-specific advice/information
Drug Monitoring	Medication for which the standard of care includes subsequent monitoring of the drug level or lab value to avoid harm	Prompt to monitor drug levels when ordering aminoglycosides or INR/PT when ordering warfarin	Medication-specification advice/information
Excessive Alerts	Low-priority medication combinations, such as drug drug interactions or therapeutic duplications, that should not trigger decision support warnings.	Concurrent use of hydrochlorothiazide and captopril	Scenario-specific advice/information

The Tool also includes a “Deception Analysis” test category, which checks for “false positives” (e.g., orders that should not have generated any warning in the hospital’s CPOE system). Hospital’s that “fail” the Deception Analysis are scored as “incomplete evaluation” and will not be able to retake an Adult Inpatient Test for 120 days.

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Overall Score

In addition to individual category scores for each of the 10 categories for which hospitals were able to test a sufficient number of orders, the results also include an overall score based on all scored orders across all categories. The overall score is used as part of Leapfrog's CPOE Standard Scoring Algorithm.

The overall score is based on the performance of the hospital's CPOE clinical decision support to alert prescribers to frequent serious medication errors known to cause harm to patients. The test includes a number of orders that could result in a fatal adverse drug event. Any of these potentially fatal orders not flagged by the clinical decision support are listed on the results page of the CPOE Evaluation Tool. In addition, the test includes a number of orders that, if alerted on, could contribute to over-alerting. Any Excessive Alerts orders for which advice or information was reported are also listed on the results page of the CPOE Evaluation Tool.

Overall Score (Combined with the hospital's % of inpatient medication orders entered via CPOE and publicly reported)	**Description**
Full Demonstration of National Safety Standard for Decision Support	This hospital's CPOE system alerts prescribers to most common serious prescribing errors. Meaning that: • The hospital responded to ≥20 test orders • The hospital responded correctly to ≥60% of test orders across all categories
Substantial Demonstration of National Safety Standard for Decision Support	This hospital's CPOE system alerts prescribers to many common serious prescribing errors. Meaning that: • The hospital responded to ≥20 test orders • The hospital responded correctly to ≥50%, but less than 60% of test orders across all categories
Some Demonstration of National Safety Standard for Decision Support	This hospital's CPOE system alerts prescribers to some common serious prescribing errors. Meaning that: • The hospital responded to ≥20 test orders • The hospital responded correctly to ≥40%, but less than 50% of test orders across all categories
Completed the Evaluation	This hospital's CPOE system alerts prescribers to few common serious prescribing errors. Meaning that: • The hospital responded to ≥20 test orders • The hospital responded correctly to less than 40% of test orders across all categories
Insufficient Evaluation	This hospital was not able to test a sufficient number of orders (<20) to receive an overall score. However, the hospital may use the category scores for local hospital quality improvement efforts. The hospital is eligible to retake the test in 120 days.
Incomplete Evaluation	This hospital did not complete the CPOE Evaluation Tool within the allotted time. The hospital is eligible to retake the test in 120 days. Note: Hospital will not be able to view results within the CPOE Evaluation Tool. The test is not scored.
Failed Deception Analysis ***(Publicly reported as Incomplete Evaluation)***	This hospital submitted responses that included potentially inaccurate results. The hospital is eligible to retake the test in 120 days.

Please note: Hospitals that choose to take the Adult Inpatient Test via the CPOE Evaluation Tool will have their score from the Test included in their Overall CPOE Score, regardless of the score

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and without exception. This means that hospitals that fail the deception analysis or time out of the test will be scored and publicly reported as Limited Achievement on Leapfrog's CPOE Standard.

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Results from the 2021 Leapfrog Hospital Survey will be available at http://ratings.leapfroggroup.org/ in August 2021.

Beginning in September, results are updated within the first five (5) business days of each month to reflect new Survey submissions and resubmissions.

Find more information about the 2021 Leapfrog Hospital Survey at: http://leapfroggroup.org/hospital.

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