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OVERVIEW OF THE LEAPFROG VALUE-BASED PURCHASING PROGRAM

The Leapfrog Value-Based Purchasing (VBP) Program™ is a comprehensive hospital pay-for-performance program that creates composite scores from the measures on the Leapfrog Hospital Survey and focuses on the most important national patient safety, quality, and resource use standards. This program allows users to benchmark hospital performance nationally, state-wide, and regionally against other hospitals and with hospitals that have similar characteristics, such as bed size, teaching status, type, etc. Performance can be compared by:

- **VBP Measure Scores**
- **VBP Domain Scores**
- **VBP Value Score**

VBP Measure Scores, VBP Domain Scores, and the VBP Value Score are used by employers, purchasers, and health plans to inform network design, recognition programs, and value-based payment programs. VBP data are used by hospitals for internal benchmarking, board and staff engagement, and to inform quality improvement efforts.

SCORING OVERVIEW

Hospitals are assigned a numerical VBP Measure Score for each individual measure on the Leapfrog Hospital Survey, ranging from 0 (worst performance) to 100 (best performance). These individual VBP Measure Scores are each assigned to one of six domains, weighted, and then used to calculate VBP Domain Scores and a VBP Value Score.

The domains and measures included are:

- **Medication Safety**: Computerized Physician Order Entry (CPOE) and Bar Code Medication Administration (BCMA)
- **Inpatient Care Management**: ICU Physician Staffing (IPS), NQF Safe Practices, Never Events Policy, and Antibiotic Stewardship Practices
- **Infections**: Central-Line Associated Blood Stream Infections (CLABSI) in ICUs and Select Wards, Catheter-Associated Urinary Tract Infections (CAUTI) in ICUs and Select Wards, Surgical Site Infections from Colon Surgery (SSI: Colon), Facility-wide inpatient Methicillin-resistant *Staphylococcus Aureus* (MRSA) Blood Laboratory-identified Events, and Facility-wide inpatient Clostridium difficile (C.Diff.) Laboratory-identified Events
- **Maternity Care**: Elective Delivery, Cesarean Birth, Episiotomy, Maternity Care Processes (including Newborn Bilirubin Screening and DVT Prophylaxis for Women Undergoing Cesarean Section), and High-Risk Deliveries
- **Inpatient Surgery**: Carotid Endarterectomy, Mitral Valve Repair and Replacement, Open Aortic Procedures, Lung Resection for Cancer, Esophageal Resection for Cancer, Pancreatic Resection for Cancer, Rectal Cancer Surgery, and Bariatric Surgery for Weight Loss
- **Pediatric Care**: CAHPS Child Hospital Survey, Pediatric Computed Tomography (CT) Radiation Dose for Head Scans, Pediatric Computed Tomography (CT) Radiation Dose for Abdomen/Pelvis Scans
WHAT’S NEW IN 2019

In 2019, Leapfrog is using the term “Pending Leapfrog Verification” in public reporting for hospitals that have self-reported survey responses that are under further review by Leapfrog. In the Leapfrog VBP Program Methodology, hospitals that have any measures reported as “Pending Leapfrog Verification” will not have a VBP Value Score calculated but will receive VBP Measure Scores and VBP Domain Scores. More information can be found on page 7.

In addition, two measures included in the Leapfrog VBP Program have updated specifications and/or scoring changes in the Leapfrog Hospital Survey, which means results should not be compared with the prior year’s results. These measures include Open Aortic Procedures and Bar Code Medication Administration.

VBP MEASURE SCORES

The Leapfrog Hospital Survey includes process, structural, and outcome measures. Process measures assess adherence to evidence-based clinical guidelines. Structural measures assess whether or not hospitals have certain evidence-based structures in place to improve patient safety and quality. Outcome measures represent what happens to a patient while receiving care.

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

- Fully Meets the Standard
- Substantial Progress
- Some Progress
- Willing to Report

However, for the purposes of the Leapfrog VBP Program, instead of using performance categories, each measure is placed on a zero (0) to 100 scale so that all VBP Measure Scores can be combined into VBP Domain Scores and a VBP Value Score.

To convert the performance category for each of the process and structural measures to a VBP Measure Score of zero (0) to 100, Leapfrog uses two different methods:

1. **Scores Assigned by Leapfrog’s National Steering Committee** – VBP Measure Scores for each performance category are determined by Leapfrog’s national, multi-stakeholder Steering Committee.
2. **Peer Comparison Methodology** – VBP Measure Scores for each performance category represent the percentage of other hospitals that the individual hospital scored equal to or better than, based on an analysis of all Leapfrog reporting hospitals.

To convert the performance category for each of the outcome measures to a VBP Measure Score of zero (0) to 100, Leapfrog uses a single method:

1. **Continuous Measure Methodology** - VBP measure scores are assigned based on an analysis of the rate of performance on the measure, e.g., numerical rates. Top and bottom deciles are calculated and hospitals in the bottom decile receive a VBP Measure Score of 0. Hospitals in the top decile receive a VBP Measure
Score of 100. For hospitals that fall in between the top and bottom deciles, Leapfrog applies the following calculation:

\[
\text{VBP Measure Score} = 100 \times \frac{\text{hospital's score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}}
\]

For measures where the rate of performance across all hospitals is clustered, the Peer Comparison Methodology is used to ensure that all hospitals that “Fully Meets the Standard” receive a VBP Measure Score of 100. This is the case for both the NQF Safe Practices and Early Elective Delivery measures.

For measures where a measure is publicly reported as “Declined to Respond,” meaning that the hospital did not submit a particular section of the Survey, the measure receives a VBP Measure Score of zero (0) and the standard measure weight is applied to calculate the VBP Domain Score and VBP Value Score.

### WHEN A VBP MEASURE SCORE CANNOT BE ASSIGNED

Sometimes performance on a Leapfrog Hospital Survey measure cannot be determined. When this occurs, results are publicly reported using one of the following terms, which are each treated differently in the Leapfrog VBP methodology.

- **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., the facility doesn’t deliver newborns). In the Leapfrog VBP Methodology, the standard weight assigned to the measure is distributed to other applicable measures in the VBP Domain.

- **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. In the Leapfrog VBP Methodology, the standard weight assigned to the measure is distributed to other applicable measures in the VBP Domain.

- **Pending Leapfrog Verification**: This term is used for hospitals who have self-reported survey responses that are under further review by Leapfrog. In the Leapfrog VBP Methodology, the standard weight assigned to the measure is distributed to other applicable measures in the VBP Domain. However, a VBP Value Score is not calculated.
MEDICATION SAFETY DOMAIN MEASURES

COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE)

Computerized Physician Order Entry (CPOE) measures hospitals’ use and effectiveness of CPOE systems that include electronic clinical decision support, which reduces adverse drug events.

VBP Measure Scores are assigned by Leapfrog’s National Steering Committee for each performance category:

- Fully Meets the Standard receives a score of 100
- Substantial Progress receives a score of 70
- Some Progress receives a score of 40
- Willing to Report receives a score of 15
- Declined to Respond receives a score of 0

BAR CODE MEDICATION ADMINISTRATION (BCMA)

Bar Code Medication Administration (BCMA) measures hospitals’ use of BCMA in inpatient units, including medical/surgical units, adult, pediatric, and/or neonatal ICUs, and labor and delivery units, which reduces medication administration errors.

VBP Measure Scores are assigned by Leapfrog’s National Steering Committee for each performance category:

- Fully Meets the Standard receives a score of 100
- Substantial Progress receives a score of 75
- Some Progress receives a score of 50
- Willing to Report receives a score of 25
- Declined to Respond receives a score of 0

INPATIENT CARE MANAGEMENT DOMAIN MEASURES

ICU PHYSICIAN STAFFING (IPS)

ICU Physician Staffing (IPS) measures the use of critical care-certified physicians to manage/co-manage critical care patients in adult and pediatric medical and/or surgical ICUs and neuro ICUs, which significantly reduces mortality.

VBP Measure Scores are assigned by Leapfrog’s National Steering Committee for each performance category:

- Fully Meets the Standard receives a score of 100
- Substantial Progress receives a score of 50
- Some Progress receives a score of 15
- Willing to Report receives a score of 5
- Declined to Respond receives a score of 0
**NQF SAFE PRACTICES**

NQF Safe Practices measure hospitals’ implementation of evidence-based practices endorsed by the National Quality Forum, which reduce adverse events.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 21 (hospital did as well or better than 21% of all hospitals)
- Some Progress receives a score of 11 (hospital did as well or better than 11% of all hospitals)
- Willing to Report receives a score of 9 (hospital did as well or better than 9% of all hospitals)
- Declined to Respond receives a score of 0

**NEVER EVENTS POLICY**

Leapfrog’s Never Events Policy measures hospitals’ commitment to nine different actions if a never event, e.g., an adverse event that experts say should never happen, were to occur.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 27 (hospital did as well or better than 27% of all hospitals)
- Some Progress receives a score of 23 (hospital did as well or better than 23% of all hospitals)
- Willing to Report receives a score of 22 (hospital did as well or better than 22% of all hospitals)
- Declined to Respond receives a score of 0

**ANTIBIOTIC STEWARDSHIP PRACTICES**

Antibiotic Stewardship Practices measure hospitals’ commitment to the Center for Disease Control and Prevention’s Seven Core Elements of Antibiotic Stewardship Programs.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Willing to Report receives a score of 12 (hospital did as well or better than 12% of all hospitals)
- Declined to Respond receives a score of 0

**INFECTIONS DOMAIN MEASURES**

**CENTRAL-LINE ASSOCIATED BLOOD STREAM INFECTIONS (CLABSI)**

Central-Line Associated Blood Stream Infections (CLABSI) in ICUs and Select Wards is an outcome measure that compares the actual number of infections to an expected number of infections (which is based on national benchmarks), resulting in a standardized infection ratio (SIR). A lower SIR is always better.
VBP Measure Scores are assigned using a hospital’s SIR and the continuous measure methodology:

- Top decile (SIR of 0.000) receives a score of 100.
- Bottom decile (SIR of 1.461 or higher) receives a score of 0
- SIRs in-between top and bottom deciles receive a score based on the following formula:

\[
\text{VBP Measure Score} = 100 \times \frac{\text{hospital's score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}}
\]

- Declined to Respond receives a score of 0

**CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CAUTI)**

Catheter-Associated Urinary Tract Infections (CAUTI) in ICUs and Select Wards is an outcome measure that compares the actual number of infections to an expected number of infections (which is based on national benchmarks), resulting in a standardized infection ratio (SIR). A lower SIR is always better.

VBP Measure Scores are assigned using a hospital’s SIR and the continuous measure methodology:

- Top decile (SIR of 0.000) receives a score of 100
- Bottom decile (SIR of 1.577 or higher) receives a score of 0
- SIRs in-between top and bottom deciles receive a score based on the following formula:

\[
\text{VBP Measure Score} = 100 \times \frac{\text{hospital's score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}}
\]

- Declined to Respond receives a score of 0

**SURGICAL SITE INFECTIONS FROM COLON SURGERY (SSI: COLON)**

Surgical Site Infections from Colon Surgery (SSI: Colon) is an outcome measure that compares the actual number of infections to an expected number of infections (which is based on national benchmarks), resulting in a standardized infection ratio (SIR). A lower SIR is always better.

VBP Measure Scores are assigned using a hospital’s SIR and the continuous measure methodology:

- Top decile (SIR of 0.000) receives a score of 100
- Bottom decile (SIR of 1.737 or higher) receives a score of 0
- SIRs in-between top and bottom deciles receive a score based on the following formula:

\[
\text{VBP Measure Score} = 100 \times \frac{\text{hospital's score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}}
\]

- Declined to Respond receives a score of 0
METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

Facility-Wide inpatient Methicillin-Resistant Staphylococcus Aureus (MRSA) Blood Laboratory-Identified Events is an outcome measure that compares the actual number of infections to an expected number of infections (which is based on national benchmarks), resulting in a standardized infection ratio (SIR). A lower SIR is always better.

VBP Measure Scores are assigned using a hospital’s SIR and the continuous measure methodology:

- Top decile (SIR of 0.000) receives a score of 100
- Bottom decile (SIR of 1.734 or higher) receives a score of 0
- SIRs in-between top and bottom deciles receive a score based on the following formula:

  \[
  \text{VBP Measure Score} = 100 \times \frac{\text{hospital’s score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}}
  \]

- Declined to Respond receives a score of 0

CLOSTRIDIUM DIFFICILE INFECTION (C. DIFF.)

Facility-Wide Inpatient Clostridium Difficile Infection (C. Diff.) Laboratory-Identified Events is an outcome measure that compares the actual number of infections to an expected number of infections (which is based on national benchmarks), resulting in a standardized infection ratio (SIR). A lower SIR is always better.

VBP Measure Scores are assigned using a hospital’s SIR and the continuous measure methodology:

- Top decile (SIR of 0.246 or lower) receives a score of 100
- Bottom decile (SIR of 1.135 or higher) receives a score of 0
- SIRs in-between top and bottom deciles receive a score based on the following formula:

  \[
  \text{VBP Measure Score} = 100 \times \frac{\text{hospital’s score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}}
  \]

- Declined to Respond receives a score of 0

MATERNITY CARE DOMAIN MEASURES

ELECTIVE DELIVERY

Elective Delivery measures the rate of patients with elective vaginal deliveries or elective cesarean births at >= 37 and < 39 weeks of gestation completed, which can carry risks to both babies and mothers.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 20 (hospital did as well or better than 20% of all hospitals)
• Some Progress receives a score of 16 (hospital did as well or better than 16% of all hospitals)
• Willing to Report receives a score of 15 (hospital did as well or better than 15% of all hospitals)
• Declined to Respond receives a score of 0

CESAREAN BIRTH

Cesarean Birth measures the rate of first time mothers having C-sections when delivering a single newborn who is full term and in the vertex position, which can carry risks to both babies and mothers.

VBP Measure Scores are assigned to each decile using a hospital’s cesarean birth rate and the continuous measure methodology:

• Top decile (rate of 17.5% or lower) receives a score of 100
• Bottom decile (rate of 34.1% or higher) receives a score of 0
• Rates in-between top and bottom deciles receive a score based on the following formula:

  \[ \text{VBP Measure Score} = 100 \times \frac{\text{hospital's score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}} \]

• Declined to Respond receives a score of 0

EPISIOTOMY

Episiotomy measures the rate of episiotomy in vaginal deliveries, which can cause long-term complications among mothers.

VBP Measure Scores are assigned to each decile using a hospital’s episiotomy rate and the continuous measure methodology:

• Top decile (rate of 1.3% or lower) receives a score of 100
• Bottom decile (rate of 13.7% or higher) receives a score of 0
• Rates in-between top and bottom deciles receive a score based on the following formula:

  \[ \text{VBP Measure Score} = 100 \times \frac{\text{hospital's score} - \text{bottom decile score}}{\text{top decile score} - \text{bottom decile score}} \]

• Declined to Respond receives a score of 0

MATERNITY CARE PROCESSES

The Maternity Care Processes measure a hospital’s adherence to two evidence-based clinical guidelines, newborn bilirubin screening and appropriate DVT prophylaxis for women undergoing cesarean section, which can improve the standard of care for newborns and mothers.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:
• Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
• Substantial Progress receives a score of 27 (hospital did as well or better than 27% of all hospitals)
• Some Progress receives a score of 27 (hospital did as well or better than 27% of all hospitals)
• Willing to Report receives a score of 18 (hospital did as well or better than 18% of all hospitals)
• Declined to Respond receives a score of 0

HIGH-RISK DELIVERIES

High-Risk Deliveries measures the volume or outcome of very-low-birth-weight deliveries at hospitals with neonatal intensive care units (NICUs), as well as adherence to an evidence-based clinical guideline for the administration of antenatal steroids prior to delivery, which improves outcomes for these newborns.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

• Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
• Substantial Progress receives a score of 82 (hospital did as well or better than 82% of all hospitals)
• Some Progress receives a score of 61 (hospital did as well or better than 61% of all hospitals)
• Willing to Report receives a score of 41 (hospital did as well or better than 41% of all hospitals)
• Declined to Respond receives a score of 0

INPATIENT SURGERY DOMAIN MEASURES

CAROTID ENDARTERECTOMY

Carotid Endarterectomy measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

• Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
• Substantial Progress receives a score of 83 (hospital did as well or better than 83% of all hospitals)
• Some Progress receives a score of 80 (hospital did as well or better than 80% of all hospitals)
• Willing to Report receives a score of 42 (hospital did as well or better than 42% of all hospitals)
• Declined to Respond receives a score of 0

MITRAL VALVE REPAIR AND REPLACEMENT

Mitral Valve Repair and Replacement measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:
Leapfrog VBP Program Scoring Methodology

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 92 (hospital did as well or better than 92% of all hospitals)
- Some Progress receives a score of 91 (hospital did as well or better than 91% of all hospitals)
- Willing to Report receives a score of 70 (hospital did as well or better than 70% of all hospitals)
- Declined to Respond receives a score of 0

**OPEN AORTIC PROCEDURES**

Open Aortic Procedures measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 92 (hospital did as well or better than 92% of all hospitals)
- Some Progress receives a score of 88 (hospital did as well or better than 88% of all hospitals)
- Willing to Report receives a score of 65 (hospital did as well or better than 65% of all hospitals)
- Declined to Respond receives a score of 0

**LUNG RESECTION FOR CANCER**

Lung Resection for Cancer measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 94 (hospital did as well or better than 94% of all hospitals)
- Some Progress receives a score of 93 (hospital did as well or better than 93% of all hospitals)
- Willing to Report receives a score of 69 (hospital did as well or better than 69% of all hospitals)
- Declined to Respond receives a score of 0

**ESOPHAGEAL RESECTION FOR CANCER**

Esophageal Resection for Cancer measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 99 (hospital did as well or better than 99% of all hospitals)
• Some Progress receives a score of 98 (hospital did as well or better than 98% of all hospitals)
• Willing to Report receives a score of 82 (hospital did as well or better than 82% of all hospitals)
• Declined to Respond receives a score of 0

PANCREATIC RESECTION FOR CANCER

Pancreatic Resection for Cancer measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

• Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
• Substantial Progress receives a score of 95 (hospital did as well or better than 95% of all hospitals)
• Some Progress receives a score of 94 (hospital did as well or better than 94% of all hospitals)
• Willing to Report receives a score of 76 (hospital did as well or better than 76% of all hospitals)
• Declined to Respond receives a score of 0

RECTAL CANCER SURGERY

Rectal Cancer Surgery measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

• Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
• Substantial Progress receives a score of 93 (hospital did as well or better than 93% of all hospitals)
• Some Progress receives a score of 91 (hospital did as well or better than 91% of all hospitals)
• Willing to Report receives a score of 64 (hospital did as well or better than 64% of all hospitals)
• Declined to Respond receives a score of 0

BARIATRIC SURGERY FOR WEIGHT LOSS

Bariatric Surgery for Weight Loss measures whether or not hospitals are meeting Leapfrog’s minimum hospital volume standard for the procedure and including Leapfrog’s minimum surgeon volume standard in their process for privileging surgeons, which have been associated with better outcomes.

VBP Measure Scores are assigned using the peer comparison methodology for each performance category:

• Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
• Substantial Progress receives a score of 66 (hospital did as well or better than 66% of all hospitals)
• Some Progress receives a score of 63 (hospital did as well or better than 63% of all hospitals)
• Willing to Report receives a score of 41 (hospital did as well or better than 41% of all hospitals)
Declined to Respond receives a score of 0

### PEDIATRIC CARE DOMAIN MEASURES

#### CAHPS CHILD HOSPITAL SURVEY

The CAHPS Child Hospital Survey measures patient experience among children and their parents at each hospital.

VBP Measure Scores are assigned using the **peer comparison methodology** for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 89 (hospital did as well or better than 89% of all hospitals)
- Some Progress receives a score of 86 (hospital did as well or better than 86% of all hospitals)
- Willing to Report receives a score of 85 (hospital did as well or better than 85% of all hospitals)
- Declined to Respond receives a score of 0

#### PEDIATRIC COMPUTED TOMOGRAPHY (CT) RADIATION DOSE FOR HEAD SCANS

Pediatric Computed Tomography (CT) Radiation Dose for Head Scans measures hospitals’ radiation doses for CT scans of the head among pediatric patients and compares those doses to national benchmarks.

VBP Measure Scores are assigned using the **peer comparison methodology** for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 65 (hospital did as well or better than 65% of all hospitals)
- Some Progress receives a score of 51 (hospital did as well or better than 51% of all hospitals)
- Willing to Report receives a score of 43 (hospital did as well or better than 43% of all hospitals)
- Declined to Respond receives a score of 0

#### PEDIATRIC COMPUTED TOMOGRAPHY (CT) RADIATION DOSE FOR ABDOMEN/PELVIS SCANS

Pediatric Computed Tomography (CT) Radiation Dose for Abdomen/Pelvis Scans measures hospitals’ radiation doses for CT scan of the abdomen and pelvis among pediatric patients and compares those doses to national benchmarks.

VBP Measure Scores are assigned using the **peer comparison methodology** for each performance category:

- Fully Meets the Standard receives a score of 100 (hospital did as well or better than 100% of all hospitals)
- Substantial Progress receives a score of 64 (hospital did as well or better than 64% of all hospitals)
- Some Progress receives a score of 47 (hospital did as well or better than 47% of all hospitals)
- Willing to Report receives a score of 40 (hospital did as well or better than 40% of all hospitals)
- Declined to Respond receives a score of 0
VBP DOMAIN SCORES

In order to provide employers, purchasers, health plans, and hospitals opportunities for benchmarking, ranking, and comparisons, Leapfrog calculates VBP Domain Scores which provide summary level performance scores across six domains: Medication Safety, Inpatient Care Management, Infections, Maternity Care, Inpatient Surgery, and Pediatric Care.

VBP Domain Scores are calculated for each domain based on the performance and relative weights (See Appendix I and Appendix II) of the measures within the domain using the following formula:

VBP Domain Score =

\[
\frac{(VBP \text{ Measure } 1 \text{ Score} \times VBP \text{ Measure } 1 \text{ Weight}) + (VBP \text{ Measure } 2 \text{ Score} \times VBP \text{ Measures 2 Weight}) + \ldots}{VBP \text{ Domain Weight}}
\]

If VBP Measure Scores are not available for all measures within a domain, a VBP Domain Score is not assigned and the weight from that domain is redistributed to the other domains.

VBP VALUE SCORE

Leapfrog also calculates a VBP Value Score which summarizes performance on all 27 national measures of safety, quality, and efficiency from the Leapfrog Hospital Survey.

The VBP Value Score is calculated as the sum of the weighted (see Appendix I and Appendix II) VBP Measure Scores for all available measures using the following formula:

VBP Value Score =

\[
(CPOE \text{ VBP Measure Score} \times CPOE \text{ VBP Measure Weight}) + (BCMA \text{ VBP Measure Score} \times BCMA \text{ VBP Measure Weight}) + \ldots + (CT \text{ Dose Abdomen/Pelvis VBP Measure Score} \times CT \text{ Dose Abdomen/Pelvis VBP Measure Weight})
\]

WHEN A VBP VALUE SCORE CANNOT BE CALCULATED

Leapfrog is not able to calculate a VBP Value Score for hospitals that have too few scored and applicable measures. Leapfrog has established the following missing measure thresholds detailed below:

<table>
<thead>
<tr>
<th># of Expected Measures (n= 27)</th>
<th>Expected Measures</th>
<th>Missing Measure Thresholds</th>
<th>Leapfrog is not able to calculate the VBP Value Score for hospitals with scores for...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Hospitals</td>
<td>18</td>
<td>All (at least 1 Inpatient Surgery and 1 Pediatric Care measure)</td>
<td>1/2 must apply</td>
</tr>
</tbody>
</table>

Leapfrog VBP Program Scoring Methodology Last Updated 9/13/2019 17
<table>
<thead>
<tr>
<th># of Expected Measures (n=27)</th>
<th>Expected Measures</th>
<th>Missing Measure Thresholds</th>
<th>Leapfrog is not able to calculate the VBP Value Score for hospitals with scores for...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children’s Hospitals</td>
<td>CPOE, IPS, Safe Practices, Never Events, CLABSI, CAUTI, Antibiotic Stewardship, BCMA, CAHPS Child Hospital Survey, CT Dose Head, CT Dose Abdomen/Pelvis</td>
<td>1/2 must apply</td>
<td>5 or fewer of the expected measures (6 or more N/A)</td>
</tr>
<tr>
<td>Critical Access Hospitals</td>
<td>CPOE, Early Elective Deliveries, C-Section, Episiotomy, Maternity Care Process, Safe Practices, Never Events, Antibiotic Stewardship, BCMA</td>
<td>1/2 must apply</td>
<td>4 or fewer of the expected measures (5 or more N/A)</td>
</tr>
</tbody>
</table>

In addition, Leapfrog does not calculate a VBP Value Score for any hospital with one or more measures that are publicly reported as “Pending Leapfrog Verification.”
The 2019 weight factors, VBP Domain Weights, and VBP Measure Weights (assuming all domains and weights are applicable) are displayed in the table below. Weights and weight factors are determined using the Weighting Methodology outlined in Appendix II.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measures</th>
<th>Volume Weight Factor</th>
<th>Harm Weight Factor</th>
<th>Resource Use Weight Factor</th>
<th>Weight Factor (Total)</th>
<th>VBP Domain Weight</th>
<th>VBP Measure Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication Safety</td>
<td>CPOE</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>15%</td>
<td>7.94%</td>
</tr>
<tr>
<td></td>
<td>BCMA</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td></td>
<td>7.06%</td>
</tr>
<tr>
<td>Inpatient Care Management</td>
<td>ICU Physician Staffing</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td></td>
<td>6.30%</td>
</tr>
<tr>
<td></td>
<td>NQF Safe Practices</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
<td>4.50%</td>
</tr>
<tr>
<td></td>
<td>Never Events Policy</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td>2.70%</td>
</tr>
<tr>
<td></td>
<td>Antibiotic Stewardship Practices</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
<td>4.50%</td>
</tr>
<tr>
<td>Infections</td>
<td>CLABSI</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td></td>
<td>5.13%</td>
</tr>
<tr>
<td></td>
<td>CAUTI</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td></td>
<td>5.13%</td>
</tr>
<tr>
<td></td>
<td>SSI Colon</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>3.21%</td>
</tr>
<tr>
<td></td>
<td>MRSA</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td></td>
<td>5.77%</td>
</tr>
<tr>
<td></td>
<td>C. Diff.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td></td>
<td>5.77%</td>
</tr>
<tr>
<td>Maternity Care</td>
<td>Elective Deliveries</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td></td>
<td>3.21%</td>
</tr>
<tr>
<td></td>
<td>Cesarean Birth</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td></td>
<td>3.21%</td>
</tr>
<tr>
<td></td>
<td>Episiotomy</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.68%</td>
</tr>
<tr>
<td></td>
<td>Process Measures of Quality</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.68%</td>
</tr>
<tr>
<td></td>
<td>High-Risk Deliveries</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td></td>
<td>3.21%</td>
</tr>
<tr>
<td>Inpatient Surgery</td>
<td>Carotid Endarterectomy</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Mitral Valve Repair and Replacement</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Open Aortic Procedures</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Lung Resection for Cancer</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Esophageal Resection for Cancer</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Pancreatic Resection for Cancer</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Rectal Cancer Surgery</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td></td>
<td>Bariatric Surgery for Weight Loss</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>2.00%</td>
</tr>
<tr>
<td>Pediatric Care</td>
<td>CAHPS Child Survey</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
<td>4.23%</td>
</tr>
<tr>
<td></td>
<td>CT Dose Head</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td>3.38%</td>
</tr>
<tr>
<td></td>
<td>CT Dose Abdomen/Pelvis</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td>3.38%</td>
</tr>
</tbody>
</table>
APPENDIX II: WEIGHTING METHODOLOGY

Each measure included in the Leapfrog VBP Program is assigned to one of six domains, which are each weighted based on recommendations from Leapfrog’s national, multi-stakeholder Steering Committee (see Appendix I). If all VBP Measure Scores within a domain are missing, the weight from that domain is redistributed to the other domains.

Each measure included in the Leapfrog VBP Program is also assigned a standard weight based on three criteria:

1. **Volume** - the number of patients impacted by the measure
2. **Harm** – the severity of harm being measured or resulting from hospitals not adhering to the clinical guidelines being measured
3. **Resource Use** – the excess costs related to the measure

The three criteria, along with the overall VBP Domain Weight, are combined in the following way to result in a VBP Measure Weight:

\[
\text{VBP Measure Weight} = \frac{\text{VBP Domain Weight} \times (\text{Volume Weight Factor} + \text{Harm Weight Factor} + \text{Resource Use Weight Factor})}{\text{Sum of Weight Factors for Available Measures in VBP Domain}}
\]

If a VBP Measure Score is not available for one or more measures within a domain (e.g., measures that are publicly reported as “Does Not Apply,” “Unable to Calculate Score,” or “Pending Leapfrog Verification”) then the weight for that measure is redistributed to the other measures within that domain using the formula noted above.

See **Appendix I** for a list of 2019 weight factors and standard VBP Domain Weights and VBP Measure Weights.

**VOLUME WEIGHT FACTOR**

Measures that affect larger populations of patients are weighted more heavily than those for smaller, specific populations.

- **3**= Measure assesses outcomes, processes, or structures that potentially benefit most patients (e.g. applies to the whole hospital)
- **2**= Measure assesses outcomes, processes or structures that apply to a hospital department or large population in the hospital
- **1**= Measure only applies to relatively small populations or rare occurrences

**HARM WEIGHT FACTOR**

Measures that protect patients against more severe harm are weighted more heavily than those that do not directly address patient harm.

- **3**= Measure assesses mortality or severe physical injury
- **2**= Measure of patient harm not including mortality or severe physical injury
- **1**= Measure does not directly assess patient harm
**RESOURCE USE WEIGHT FACTOR**

Measures that help avoid high costs and resource use are weighted more heavily than those that do not necessarily promote cost and resource use reductions.

- **3**= Measures that have strong resource use implications for patients (for example, measures that assess non-recommended procedures with a high incremental cost or long hospital stays, or structures that help avoid excess costs)
- **2**= Measures assess process or outcomes that have moderate resource use implications for patients
- **1**= Measures that may be met without necessarily reducing patient costs
Individual hospital data and comparative data from the Leapfrog VBP Program are provided in Competitive Benchmarking Reports. Competitive Benchmarking Reports include each hospital’s VBP Measure Scores, VBP Domain Scores, and VBP Value Score, along with benchmarks and comparisons to put the scores in context. Users of the reports can benchmark hospital performance nationally, state-wide, and regionally against other hospitals and with hospitals that have similar characteristics, such as bed size, teaching status, type, etc.

TYPES OF REPORTS

All hospitals that complete a Survey by June 30 are eligible to receive a Free Summary Report with their VBP Domain Scores and VBP Value Score compared to national averages. Free Summary Reports are e-mailed to all hospital CEOs in mid-September.

Two additional types of Competitive Benchmarking Reports are available for hospitals that are interested in using their Leapfrog Hospital Survey Results for targeted quality improvement and for engaging with their hospital leadership and staff.

BASIC PLUS REPORT

The Basic Plus Report includes:

- An overview of the Leapfrog VBP Program
- VBP Measure Scores compared to national and state benchmarks
- VBP Domain Scores compared to national benchmarks
- VBP Value Score compared to national and state benchmarks

PREMIUM REPORT

The Premium Report includes all of the items in the Basic Report, as well as:

- VBP Measure Scores compared to custom cohort (e.g., bed size cohort, hospital type cohort, region cohort, etc.) benchmarks
- VBP Value Score compared to custom cohort (e.g., bed size cohort, hospital type cohort, region cohort, etc.) benchmarks
- 2019 VBP Measure Scores compared to VBP Measure Scores from the previous year
STATE AND CUSTOM COHORT AVAILABILITY

MINIMUM REPORTING REQUIREMENTS FOR STATES AND CUSTOM COHORTS

For state or custom cohort data to be available for benchmarking in the report, there must be a minimum of 7 or more hospitals included for comparison.

INFORMATION PROVIDED

PAGE 4: BREAKDOWN BY MEASURE

Displays the VBP Measure Scores and benchmarks (national, state, and custom cohort, where applicable), as well as the VBP Measure Weights and VBP Domain Weights. VBP Measure Scores and VBP Domain Weights are rounded for display purposes only.

PAGES 5-6: BREAKDOWN BY DOMAIN

Displays VBP Domain Scores and national benchmarks by quartile and by average. VBP Domain Scores are rounded for display purposes only.

PAGE 7: YOUR VBP VALUE SCORE

Displays the VBP Value Score along with national, state and (in the Premium Report) custom cohort benchmarks. The VBP Value Score is also displayed as a histogram curve of all the VBP Value Scores in the nation, with the hospital’s VBP Value Score and national benchmarks indicated on the curve. VBP Value Scores are rounded to the nearest whole number.

A national decile ranking is also shown. Decile thresholds are calculated using unrounded VBP Value Scores for all hospitals receiving a VBP Value Score nationally and then are rounded based on standard rounding rules (deciles \( \geq .50 \) rounded up, \(< .50 \) rounded down).

Note: Some hospitals may not receive a VBP Value Score if they are missing too much data or if they have any measures that are publicly reported as “Pending Leapfrog Verification.”

PAGE 8: PAST PERFORMANCE (PREMIUM REPORT ONLY)

Current VBP Measure Scores are shown compared to VBP Measures Scores from the previous year.

Note: Comparisons are not made for measures that are new to the Leapfrog Hospital Survey or for measures that had a significant change to their specifications and/or scoring.