

## Measure Background

Adverse Drug Events (ADEs), defined as patient injuries related to using a drug,<sup>1</sup> are an epidemic patient safety issue. ADEs occur in 5% to 40% of hospitalized patients and in 12% to 17% of patients after hospital discharge.<sup>2,3</sup> Transitions of care, such as hospital admission and discharge, contribute to ADEs through medication discrepancies: unexplained differences in documented medication regimens across different sites of care.<sup>4,5</sup> Medication discrepancies occur in up to 70% of patients at hospital admission or discharge.<sup>6-10</sup> Almost one-third of these discrepancies have the potential to cause patient harm (i.e., potential ADEs [PADEs]).<sup>10</sup> ADEs associated with medication discrepancies can prolong hospital stays and may lead to subsequent emergency department visits, hospital readmissions, and use of other health care resources.<sup>11,12</sup>

## Why is Medication Reconciliation Important?

Medication reconciliation is the “process of identifying the most accurate list of all medications a patient is taking...and using this list to provide correct medications for patients anywhere within the health care system.”<sup>13</sup> When a patient is admitted or discharged from a site of care (e.g., a hospital), it is vitally important that the health care provider ensures that the patient’s list of medications is completely accurate. It must include any new medications and exclude any medications that the patient should discontinue. Medication reconciliation interventions have been shown to improve important outcomes such as reducing medication discrepancies, PADEs, and ADEs.<sup>14</sup>

## Medication Reconciliation Measure

The medication reconciliation measure that Leapfrog is collecting through its annual Hospital Survey is a measure endorsed by the National Quality Forum (NQF#2456). The measure is intended to reflect the ‘quality’ or accuracy of a hospital’s medication reconciliation processes. The measure is applicable to adult patients only. Therefore, pediatric hospitals do not report on this measure.

The measure asks hospitals to conduct a random sample of its adult patients to collect the total number of unintentional medication discrepancies identified

between the patient’s gold standard medication history and the patient’s admission and discharge orders. The “gold standard medication history” is created by a licensed pharmacist, or a specially trained and certified pharmacy technician, interviewing the patient to identify what medications the patient was taking prior to admission to the hospital. This may be in addition to any pre-admission medication list that was obtained by the care team.

The patient’s gold standard medication list should be created by the licensed pharmacist or certified pharmacy technician shortly after a patient is admitted to the hospital. Leapfrog has provided a medication history checklist to aid in the development of this list.

To identify unintentional medication reconciliation discrepancies, the gold standard medication history is compared to the patient’s admission orders and discharge medication orders to identify discrepancies in medication dose, route, or frequency between the lists.

## Medication Reconciliation Standard

Hospitals achieving the medication reconciliation standard use a nationally endorsed protocol to collect data on the accuracy of its medication reconciliation process for at least 30 patients and have a rate of unintentional medication discrepancies that is lower than or equal to the 50th percentile (where lower performance is better).

Download the complete 2022 Leapfrog Hospital Survey scoring algorithms document at [Hospital Scoring and Results webpage](#).

## Why Purchasers Need to Get Involved

Medication discrepancies are a common, preventable cause of harm to patients. Patients that experience an ADE can have longer lengths of stay and return visits to the hospital. The time employees could be out of work due to a serious medication discrepancy alone places a large burden on employers with lost time and productivity. Beyond the lost time, medication discrepancies increase the costs of care. Hospitals that have robust medication reconciliation practices in place can help save purchasers lost employee time and productivity, as well as reduce costs. Hospitals will

[www.leapfroggroup.org/hospital](http://www.leapfroggroup.org/hospital)

benefit from having a signal from health care purchasers that this is an important patient safety issue.

### References

1. Bates DW, Cullen DJ, Laird N, et al. ADE prevention study group. Incidence of adverse drug events and potential adverse drug events: implications for prevention. *JAMA*. 1995;274(1):29-34.
2. Krahenbuhl-Melcher A, Schlienger R, Lampert M, Haschke M, Drewe J, Krahenbuhl S. Drug-related problems in hospitals: a review of the recent literature. *Drug Saf*. 2007;30(5):379-407.
3. Lazarou J, Pomeranz BH, Corey PN. Incidence of adverse drug reactions in hospitalized patients: a meta-analysis of prospective studies. *JAMA*. 1998;279(15):1200-1205.
4. Coleman EA, Smith JD, Raha D, Min SJ. Post-hospital medication discrepancies: prevalence and contributing factors. *Arch Intern Med*. 2005;165(16):1842-1847.
5. Smith JD, Coleman EA, Min SJ. A new tool for identifying discrepancies in postacute medications for community-dwelling older adults. *Am J Geriatr Pharmacother*. 2004;2(2):141-147.
6. Cornish PL, Knowles SR, Marchesano R, et al. Unintended medication discrepancies at the time of hospital admission. *Arch Intern Med*. 2005;165(4):424-429.
7. Gleason KM, Groszek JM, Sullivan C, Rooney D, Barnard C, Noskin GA. Reconciliation of discrepancies in medication histories and admission orders of newly hospitalized patients. *Am J Health Syst Pharm*. 2004;61(16):1689-1695.
8. Pippins JR, Gandhi TK, Hamann C, et al. Classifying and predicting errors of inpatient medication reconciliation. *J Gen Intern Med*. 2008;23(9):1414-1422.
9. Tam VC, Knowles SR, Cornish PL, Fine N, Marchesano R, Etchells EE. Frequency, type and clinical importance of medication history errors at admission to hospital: a systematic review. *CMAJ*. 2005;173(5):510-515.
10. Wong JD, Bajcar JM, Wong GG, et al. Medication reconciliation at hospital discharge: evaluating discrepancies. *Ann Pharmacother*. 2008;42(10):1373-1379.
11. Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates DW. Adverse drug events occurring following hospital discharge. *J Gen Intern Med*. 2005;20(4):317-323.
12. Johnson JA, Bootman JL. Drug-related morbidity and mortality: a cost-of-illness model. *Arch Intern Med*. 1995;155(18):1949-1956.
13. Institute for Healthcare Improvement. Medication reconciliation review. 2007. <http://www.ihc.org/resources/Pages/Tools/MedicationRecMedicationReconci.aspx>. Accessed March 15, 2017.
14. Mueller SK, Sponsler KC, Kripalani S, Schnipper JL. Hospital-based medication reconciliation practices: a systematic review hospital-based medication reconciliation practices. *Arch Intern Med*. 2012:1-13.