Measuring to Improve Medication Reconciliation in a Large Subspecialty Outpatient Practice

Elizabeth Kern, MD, MS; Meg B. Dingae, MHSA; Esther L. Langmack, MD; Candace Juarez, MT; Gary Cott, MD; Sarah K. Meadows, MS

Background: To assess performance in medication reconciliation (med rec)—the process of comparing and reconciling patients’ medication lists at clinical transition points—and demonstrate improvement in an outpatient setting, sustainable and valid measures are needed.

Methods: An interdisciplinary team at National Jewish Health (Denver) attempted to improve med rec in an ambulatory practice serving patients with respiratory and related diseases. Interventions, which were aimed at physicians, nurses (RNs), and medical assistants, involved changes in practice and changes in documentation in the electronic health record (EHR). New measures designed to assess med rec performance, and to validate the measures, were derived from EHR data.

Results: Across 18 months, electronic attestation that med rec was completed at clinic visits increased from 9.8% to 91.3% (p < 0.0001). Consistent with this improvement, patients with medication lists missing dose/frequency for at least one prescription-type medication decreased from 18.1% to 15.8% (p < 0.0001). Patients with duplicate albuterol inhalers on their list decreased from 4.0% to 2.6% (p < 0.0001). Percentages of patients increased for printing of the medication list at the visit (18.7% to 94.0%; p < 0.0001) and receipt of the printed medication list at the visit (52.3% to 67.0%; p = 0.0074). Documentation that patient education handouts were offered increased initially then declined to an overall poor performance of 32.4% of clinic visits. Investigation of this result revealed poor buy-in and a highly redundant process.

Conclusion: Deriving measures reflecting performance and quality of med rec from EHR data is feasible and sustainable over the time periods necessary to demonstrate change. Concurrent, complementary measures may be used to support the validity of summary measures.

Medication reconciliation (med rec) is the process of systematically and comprehensively reviewing the medications a patient is taking, to ensure that medications added, changed, or discontinued are evaluated for potential safety concerns. One of the three current Joint Commission National Patient Safety Goals (NPSGs) on medication safety (Goal 3), concerns medication reconciliation, which ambulatory care organizations have been expected to perform since 2005. The current version of the goal (NPSG.03.06.01), effective July 1, 2011, stipulates that ambulatory care organizations maintain and communicate accurate patient medication information. One requirement is that the organization obtain the patient’s medication information at the beginning of an episode of care, with the information to be updated when the patient’s medications change. Ideally, med rec should occur at each transition of care or handoff, as reflected in Joint Commission Provision of Care, Treatment, and Services (PC) Standard PC.02.02.01, which addresses the coordination of information during transitions, including medications and medication reconciliation. PC.02.03.01 addresses patient education on safe medication use. For outpatient care, then, each clinic visit represents a transition during which med rec should be performed. Impediments to med rec may be attributed to both patients and providers, who are partners in the process. On the patient side, inaccuracies and incompleteness of self-reported medication lists are common. Med rec may be improved by training patients to maintain personal written medication lists or to bring all medications to visits. Such interventions aim to retrieve the most accurate patient-reported medication list, leading to the accepted standard of the “best possible medication history” (BPMH) as the basis for reconciliation. On the provider side, lack of education regarding med rec, and lack of understanding of roles and responsibilities, impede effective med rec. Providers’ failure to update the list in the medical record occurs frequently. Variability and complexity in workflow among health care settings precludes prescriptive solutions for the med rec process. However, measures resulting from the med rec process may be used to reflect how well med rec is performed. For example, properly reconciled medication lists should not contain duplicate medications, and listed prescription-type medications should include both the dose and frequency. Selected measures should be fundamental to the med rec process, unlikely to change in importance, and easily captured with existing institutional resources. Ideally, measurement of med rec in the outpatient setting should not impede clinic work.