

Patient Safety Tip of the Week

March 7, 2023

One of Our Pet Peeves: Lack of Indication on Medications

Since the early 1990’s we’ve stressed how **inclusion of indication for a medication** can help reduce medication errors. In our December 18, 2018 Patient Safety Tip of the Week [“Great Recommendations for e-Prescribing”](#) we gave several reasons for including the **indication** for a medication when entering a prescription or order for a medication. Providing the indication for a prescription is important for more than one reason.

First, there are many medications that are used for treating multiple conditions. For example, beta blockers may be used in the treatment of MI, CHF, migraine, essential tremor, hypertension, etc. Knowing the reason for the initial prescription, thus, is important when decisions about discontinuation are being pondered.

Second, seeing the indication may help a pharmacist recognize when a wrong drug has been prescribed. That is especially important when LASA (“look-alike, sound-alike”) errors are made. For example, if a prescriber erroneously clicked on “Dilaudid” instead of “Dilantin” in a drop-down list but a pharmacist saw the indication was “for seizures”, the pharmacist would recognize a problem and contact the prescriber for clarification. The same concept should be used at the time of order entry to prevent prescribing the wrong medication. In the example above, if you looked for “seizures” as an indication in a drop-down box under the erroneously chosen “Dilaudid” you’d realize you had chosen the wrong drug.

Third, seeing the indication can help avoid wrong-dosing errors. For example, we’ve discussed the methotrexate problem in multiple columns. That is when methotrexate is ordered for treating an autoimmune condition, like rheumatoid arthritis, rather than for oncologic conditions. For the former, once weekly dosing is used rather than daily dosing. So, if the pharmacist saw an order for daily methotrexate and the indication was “rheumatoid arthritis”, the pharmacist might recognize the dosing error. Or there may be implications for duration of use of a drug. For example, knowing the indication for an

antibiotic is for prophylaxis for a surgical procedure rather than for treatment of an established infection could prevent a patient from getting multiple days of unnecessary antibiotic that could lead to superinfection or resistance or other problem.

Fourth, it may help even with longer term medication management. Let's say I am doing medication reconciliation at a transition of care, or I am doing an annual "brown bag" medication review on a patient, and I see they are taking a proton pump inhibitor (PPI). Knowing whether that PPI was prescribed for GERD or whether it had been started as prophylaxis while that patient had been in an ICU would be extremely important (and many patients might not be able to answer that question themselves).

In our May 24, 2022 "[Requiring Indication for Antibiotic Prescribing](#)" we discussed one area where including the indication is particularly important – prescribing antibiotics. Knowing exactly why or for what infection the antibiotic is being ordered can be an important part of every antibiotic stewardship program, whether at the hospital or clinic/office. An antibiotic stewardship program can help determine whether the specific antibiotic, dose, or duration is appropriate for the intended infection.

The core elements of CDC's "Core Elements of Hospital Antibiotic Stewardship Programs" ([CDC 2019](#)) include documentation of dose, duration, and indication for all antibiotic orders. CDC notes that requiring an indication for antibiotic prescriptions can facilitate other interventions, like prospective audit and feedback and optimizing post-discharge durations of therapy, and, in and of itself, can improve antibiotic use.

But there is little in the literature on the importance of including the indication for many other medications. A recent systematic review ([Feather 2023](#)) looked at indication documentation and indication-based prescribing within electronic prescribing systems. Feather et al. identified 21 studies describing interventions to support indication documentation via two mechanisms: indication documentation via selection from a list or as free text, and/or via use of indication-based order sentences.

Outcomes studied were diverse and included prescribing workflow, reducing prescribing errors, aiding transfer of information between healthcare professionals, and facilitating patient education. Six of eight studies showed a positive effect on "appropriateness of medication". Other studies demonstrated improvements in prescribing error rates, improved glycemic control, reduced length of stay, reduced time to complete medication orders and reduced number of prescriptions requiring pharmacy intervention.

The included studies also noted **barriers** to inclusion of the indication. Long drop-down lists, in particular, made selection difficult and risked mis-selection. Some considered including the indication to be time consuming. Prescribers often needed to use workarounds to navigate approval systems due to time or knowledge constraints. Prescribers also often seemed to prioritize dose and frequency over selection of an accurate indication.

For clinical, administrative, and research purposes selection of a specific indication from a drop-down list makes sense. This is preferable to entry of the indication via free text. However, it is difficult to get around the need for an “Other” category on such lists where prescribers can input text. If you do include an “Other” category, you should review the text responses in that category every few months to identify responses that occur with sufficient frequency to merit their own spot in a drop-down list.

In our May 24, 2022 [“Requiring Indication for Antibiotic Prescribing”](#) we noted Saini et al. ([Saini 2022](#)) had done a literature review on documentation of the indication for antimicrobial prescribing. They identified 123 peer-reviewed articles and grey literature documents for inclusion. Most studies took place in a hospital setting (89%). The median prevalence of antimicrobial indication documentation was 75% (range 4%–100%). A benefit to prescribing or patient outcomes was identified in 17 of 19 studies that looked at these end points. They note that several studies have shown that multipronged approaches can be used to improve this practice and that emerging evidence demonstrates that antimicrobial indication documentation is associated with improved prescribing and patient outcomes in both community and hospital settings. However, they concluded that setting-specific and larger trials are needed to provide a more robust evidence base for this practice.

Equally important is the need for **documenting reasons for discontinuations of medications**. We discussed this in our August 2019 What's New in the Patient Safety World column [“Including Indications for Medications: We Are Failing”](#) and multiple other columns listed below. It may be important to know whether a medication was discontinued because of:

- Ineffectiveness
- Side effects (dose-related or non-dose-related)
- Allergy (true allergy)
- Adverse event
- Cost considerations
- Other

For example, a patient comes to me with essential tremor. I’m considering prescribing propranolol for that tremor. The patient tells me that he/she was once on propranolol for migraine prophylaxis. It would be important for me to know whether it had been discontinued because it was ineffective for the initial indication (migraine prophylaxis) or discontinued because of an untoward side effect or true allergy.

Not only do we lack systems for documenting reasons for discontinuation, we also often fail to notify all who need to know a drug has been discontinued. The columns listed below have all dealt with the issue of documenting drug discontinuation, not only to other potential prescribers for a patient, but also to pharmacies that might continue to dispense drugs that had been discontinued. And keep in mind that, even if your CPOE or ePrescribing software includes a field for “reason for discontinuation” there must be a mechanism for transmitting that information to pharmacies.

Our August 2019 What's New in the Patient Safety World column “[Including Indications for Medications: We Are Failing](#)” cited a study ([Salazar 2019](#)) that found indications included in only 7.41%, of over 4 million prescriptions. We don't know of any updated statistics since that article, but our own experience is that we are still far behind in achieving what should be a “no brainer” for patient safety.

Some of our other columns on including indication for medication orders:

March 23, 2010 “[ISMP Guidelines for Standard Order Sets](#)”
December 18, 2018 “[Great Recommendations for e-Prescribing](#)”
August 2019 “[Including Indications for Medications: We Are Failing](#)”
March 1, 2022 “[Including the Indication on Prescriptions](#)”
May 24, 2022 “[Requiring Indication for Antibiotic Prescribing](#)”

Some of our other columns on failed discontinuation of medications:

May 27, 2014 “[A Gap in ePrescribing: Stopping Medications](#)”
March 2017 “[Yes! Another Voice for Medication e-Discontinuation!](#)”
February 2018 “[10 Years on the Wrong Medication](#)”
August 28, 2018 “[Thought You Discontinued That Medication? Think Again](#)”
December 18, 2018 “[Great Recommendations for e-Prescribing](#)”
August 2019 “[Including Indications for Medications: We Are Failing](#)”
August 6, 2019 “[Repeat Adverse Drug Events](#)”
October 2021 “[Tool to Prevent Discontinued Medications from Being Dispensed](#)”
October 11, 2022 “[Good Intentions, Unintended Consequences](#)”

References:

CDC (Centers for Disease Control and Prevention). Core Elements of Hospital Antibiotic Stewardship Programs. CDC 2019
<https://www.cdc.gov/antibiotic-use/core-elements/hospital.html>

Feather C, Appelbaum N, Darzi A, et al. Indication documentation and indication-based prescribing within electronic prescribing systems: a systematic review and narrative synthesis. *BMJ Quality & Safety* 2023; Published Online First: 14 February 2023
<https://qualitysafety.bmj.com/content/early/2023/02/13/bmjqs-2022-015452?rss=1>

Saini S, Leung V, Si E, et al. Documenting the indication for antimicrobial prescribing: a scoping review. *BMJ Quality & Safety* 2022; Published Online First: 12 May 2022
<https://qualitysafety.bmj.com/content/early/2022/05/12/bmjqs-2021-014582>

Salazar A, Karmiy SJ, Forsythe KJ, et al. How often do prescribers include indications in drug orders? Analysis of 4 million outpatient prescriptions. *American Journal of Health-System Pharmacy* 2019; 76(13): 970-979
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