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A Modest Proposal Regarding Automation of Medication Reconciliation
By James L. Holly, MD

This is an appeal for the members of the ePCS Work Group, who hold the "keys" to one or other elements of the following "Modest Proposal" for redesigning medication reconciliation to share their knowledge, insights and/or capabilities with us. Quality care and patient safety would be immeasurable advanced if the proposal discussed below could be accomplished in the next two years. Thank you for your thoughts about this "modest proposal."

In a small violation of "David's Dictum" – words chosen only for their alliterative value – I am sending this to our ePCS's distribution list. It has to do with one of the two most complicated and difficult problems in medical record keeping, i.e., consistently and relentlessly maintaining as accurate, complete and current medication list. The other is maintaining a similar list for chronic problems for which a patient is being followed. (see Problem List Reconciliation Tutorial: EPM Tools - Problem List Reconciliation: The Tools Required to Facilitate the Maintenance of a Current, Valid and Complete Chronic Problem List in an EMR)

The following is a quote from the Problem List Reconciliation Tutorial:

> "This presentation describes a method for maintaining excellent medical records with Chronic Problem List reconciliation. The process of Chronic Problem List Reconciliation involves the following six steps:
>
> 1. The ability to select precise and accurate diagnoses from a robust electronic list.
> 2. The ability to re-order the Chronic Problem List with the most important diagnoses at the top.
> 3. The ability to highlight diagnoses in the Chronic Problem List which have not been assessed in a pre-determined period of time.
> 4. The ability to archive resolved or invalid diagnoses in a retrievable fashion electronically with the date on which the diagnosis was archived.
> 5. The ability to copy Chronic Problem List diagnoses into the Acute Assessment.
> 6. Following clear principles of Chronic Problem List creation and reconciliation.
>
> "Following these steps will enable complex care to be completed in an electronic medical record system maintaining an effective record for continuity and excellence of care.

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“Introduction

“Medical Records are not an end in themselves, neither are they an exercise for the aggravation of healthcare providers. Medical Records are a method of communication between healthcare providers and patients for continuity, quality and consistency of care. In the outset, medical records were at best a silhouette of the patient’s care. They showed the broad outlines of the patient but with very little granularity. In the 19th Century, health records, when they existed, were brief acknowledgements of treatment or prescriptions, often kept on 3” by 5” index cards. In the 20th Century medical records increased in granularity reaching their pinnacle with dictation and transcription of healthcare delivery records which had a great deal of content. Yet, those records had the same flaws as 19th Century records. They were geographically bound, i.e., they could only be in one place at a time and one part of the record could not interact with another. Each episode of care was a separate record and the only continuity was when previous health information was included in the record of the current episode.

“As the 21st Century approached with the explosion of medical information, all previous health record methods proved inadequate. After 1970, and more so in the first decade of the 21st Century health records became increasingly electronic. Electronic Medical Record (EMR) had the benefit of being accessible at many locations simultaneously. They were cumulative and documented patient care longitudinally. Increasingly, portraits of patient’s health care began to emerge, replacing the outlines of care or silhouettes.

“EMR offered solutions to some of the most difficult problems associated with medical records. However, EMR created as many problems as they solved. On page 24 below, there are links to thirty-five articles about EMR which SETMA has produced over the past fourteen years. Issues of security, confidentiality, content, interoperability, access, analytics and many more are addressed in these articles.

“Perhaps the two most difficult issues in medical record keeping are the maintaining of:

1. Valid and complete medication records and
2. Valid and complete chronic problem lists.

“Unfortunately, these two functions just happen to be the two most important parts of the record. Both issues are foundational to the fulfillment of the Triple Aim and to the achievement of patient safety.”

Medication Reconciliation -- Medical Home - A Modest Proposal: A Systems Solution to Medication Reconciliation

The **intent** of this communication is to address the issue of medication reconciliation. In the above link, four years ago, SETMA began thinking about and designing a tool for an efficient, effective and excellent method of systematizing and automating this complicated task. The major impediment was that we did not have access to the medication-clearing-house data base which would allow us access to every medication filled by a patient no matter what pharmacy they use. The following is quoted from the above linked article.

Steps and Principles of Medication Reconciliation

Steps:

1. Assembling the lists of medications - notice the word is "lists," not list. In a recent meeting about a regional health information exchange (HIE) an alarm was raised by the potential need to reconcile medication lists from five to ten locations. The response was that the good news was that for the first time, all providers would know that patients were getting medication from multiple sources and providers would have access to the "real" lists for medication reconciliation.
2. Ascertaining accuracy (review and compare prior and new lists)
3. Reconciling medications and resolving discrepancies
4. Formulating a decision, i.e., making a medical judgment, with respect to the patient's condition and medications.
5. Optimizing care to best meet the patient's needs with this information.
6. Checking the patient's (and/or caretaker's) understanding of their medications
7. Documenting changes and providing the patient with a copy of his or her current medication list.

Principles

1. Medication reconciliation is a necessary component of safe medication management. The process is ongoing and dynamic
2. The medication reconciliation process should be patient-centered.
3. Shared accountability between healthcare professionals and patients is essential to successful medication reconciliation outcomes.
4. All patients should have an accurate medication list for use across sites of care and over time.
5. The medication list should not be limited to prescription drugs.
6. Within all settings, the medication reconciliation process should happen at every medication encounter, regardless of the care location.
7. Across all setting, the medication reconciliation process must happen at every transition in the patient's care, regardless of the care transition.
8. The process of medication reconciliation is interdisciplinary and interdependent - and reliant on a team approach.
9. Physicians are ultimately responsible both ethically and legally for the medication reconciliations process.

10. Some medication information may be emotionally or legally charged, but nevertheless significant. It may be added at the discretion of the patient or prescribing health care professional by mutual consent.

We think that forming a coalition with pharmacies, clinicians, patients and IT technology could result in a solution to medication reconciliations which could:

1. Reduce the time involved in medication reconciliation to less than two minutes
2. Advance a practice closer to perfect medication lists
3. Make it easy to reconcile medications at every contact and even when the patient is not schedule for a visit.
4. Increase patient safety

If a D. Pharm consultant is involved in the process, it would even be stronger. I look forward to hearing from you.

Thank you for reviewing this and for any ideas you have about how to proceed. This is not a part of the ePCS project although it is certainly an aspect of medication safety. Again, I apologize to David for co-opting his excellent work for this appeal but I promise not to bring this up again to this group.

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