

Pharmacist Interventions from Comprehensive Medication Reviews

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BACKGROUND

The role of pharmacists in identifying and addressing drug-related problems, defined by the Pharmaceutical Care Network Europe as “an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes,” has been demonstrated in multiple settings.

A pilot study integrating pharmacists into patient-centered medical homes one day per week showed a reduction in adverse drug events (ADEs) and avoidance of costs, and a study of aged care facilities showed that pharmacists identified drug related problems in over 98% of patients.^{1,2} This is further evidenced by a study evaluating the effect of a pharmacy clinic visit focused on medication reconciliation and patient education after hospital discharge. Patients randomized to the pharmacist intervention arm were found to have statistically lower rates of 30-day rehospitalization as well as ED visits.³

A valuable tool deployed by pharmacists to carry out this medication reconciliation and medication optimization is termed the comprehensive medication review, or CMR. Evidence for the usefulness of the CMR is growing, particularly in the community setting. A large scale study of “clinical medication reviews” utilizing an online tool by community pharmacists in the Netherlands showed that an average of 2.9 drug related problems (DRPs) were identified by review, ultimately leading to medication changes in 31% of the DRPs.⁴ Other international examples include medication use reviews in Qatar resulting in an average of 3.3 DRPs identified.⁵

Moreover, few studies have been published detailing the specifics of the interventions pharmacists make on patients’ medication regimens during CMRs. To evaluate the impact of the UCSF MedList Clinic CMR service on patient care, we conducted a prospective observational study to report the frequency and type of interventions pharmacists made during CMRs.

OBJECTIVE

To evaluate the impact of the comprehensive medication review (CMR) service on patient care by analyzing data from the new UCSF MedList Clinic to report the frequency and type of interventions pharmacists made during CMRs.

METHODS

- Data was collected from the UCSF MedList Clinic database, mHealthCoach™, from February 25, 2014 to February 24, 2015.
- mHealthCoach™ is a web-based database tool used to collect patient information, perform medication reconciliation, print patient and provider communication sheets including a complete medication list, as well as record interventions.
- Patient data was obtained through in-person or phone interviews by UCSF student pharmacists, pharmacy residents, and pharmacists on high-risk patients recently discharged from the UCSF Medical Center internal medicine service, patients referred by physicians, and residents of the Mission Creek Senior Community attending the UCSF MedList Community Outreach Clinic.
- From mHealthCoach™, the following data was gathered: CMR completion status, patient demographic information, and intervention recommendations communicated to patients and their providers in the following categories: drug-drug interactions (DDIs), adherence, adverse drug events (ADE), and appropriateness and effectiveness (A/E) of medication use.

RESULTS

- CMR completion:** A total of 173 patients accepted the CMR service offer. 113 (65.3%) of the patients completed a CMR with the UCSF MedList Clinic and 60 (34.7%) either cancelled or did not show up for their appointment.
- Age:** The patients who completed a CMR ranged between the ages of 21 and 103, with an average age of 64 and a median of 67.
- Gender:** Out of 113 patients who completed a CMR, 58 (51.3%) of them were female and 55 (48.7%) of them were male.
- CMR service:** 24 (21.2%) of the patients receiving CMR attended the UCSF MedList Community Outreach Clinic at the Mission Creek Senior Community. The rest of the patients were transitions of care patients from the UCSF Medical Center internal medicine service or referred by a provider.

RESULTS

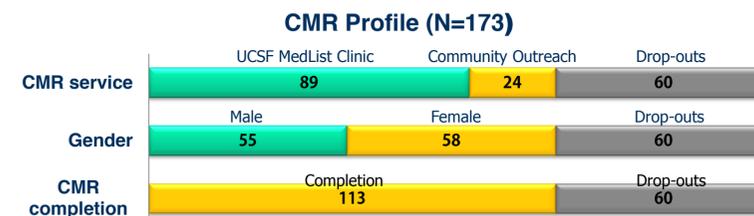


Figure 1. CMR completion profile: gender and service type

Numbers of Patients Who Received Interventions and Communications

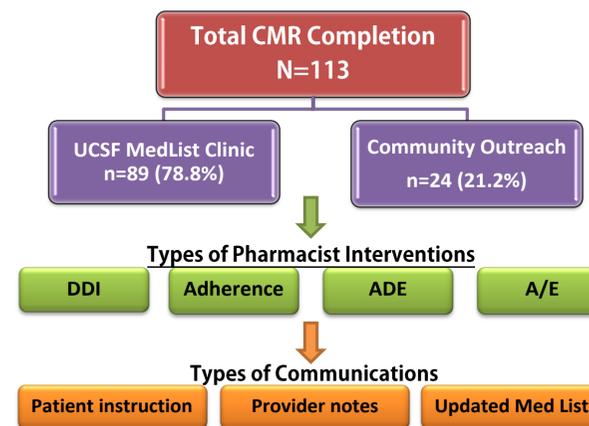


Figure 2. Types of CMR intervention and communications

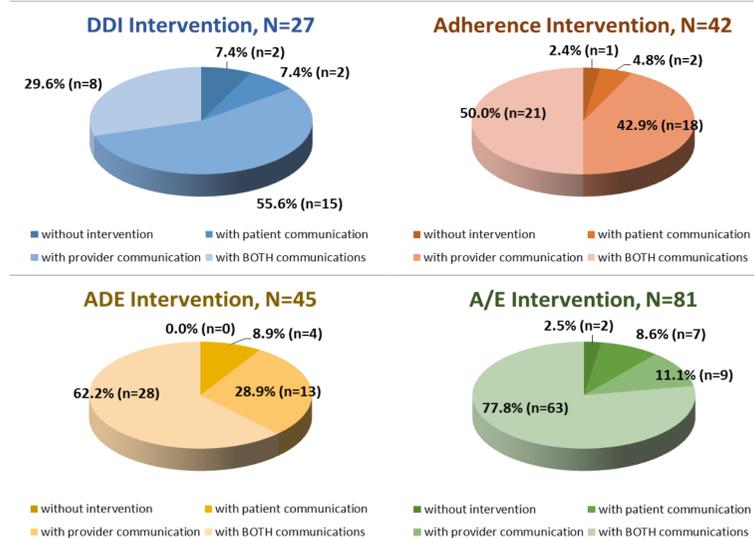


Figure 3. Numbers of Patients Who Received Interventions and Communications

The UCSF MedList Clinic identified a total of 228 drug-related problems and made communications on 223 (98%) of these problems for 113 patients who completed a CMR.

- On average, 1.97 communication interventions per patient were provided.
- Pharmacists found 25 DDIs, 41 adherence issues, 49 ADEs, and 108 A/E issues requiring intervention.
- Out of the 113 patients, a total of 102 patients (90%) were given patient communication related to a medication problem and 86 patients (76%) were given provider communication related to a medication problem.

RESULTS

Numbers of Communications Made in All CMRs, N=223

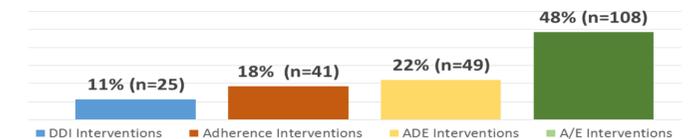


Figure 4. Numbers of Communications Made amongst Different Types of Intervention in all CMRs

CONCLUSION

Comprehensive medication reviews performed by pharmacists provides a meaningful patient care service by identifying and making communication interventions upon an average of approximately 2 drug-related problems per patient. Future studies are needed to evaluate the impact of pharmacist communications on patient health, acceptance of these interventions by the provider, and economic outcomes.

LIMITATIONS

- Incomplete and incorrect documentation:** The capability of the student-pharmacists performing the CMRs and recording the data was inconsistent as the clinic rotated students every 6 weeks and data collection training was not standardized. There were multiple issues with using a new documentation system i.e., missing data, unable to update patient information, unable to label test patients from real patients.
- Insufficient to determine health outcomes and long-term impact of CMR service:** The clinic has not looked at the acceptance of the recommendations by the patients and providers over time.

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DISCLOSURE

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.