

PURPOSE

- To determine the rate and type of medication discrepancies between the electronic medical record (EMR), pharmacy records, and patient's home medications
- To assess whether or not there is an association between a patient's demographic information and comorbidities and the number of medication discrepancies pre-medication reconciliation (med-rec) and post-med-rec

BACKGROUND^{1,2,3}

- In a primary care setting, lack of time has been the number one contributing factor to not performing a medication reconciliation
- Medication inconsistencies between the EMR, patient, and pharmacy can lead to errors in patient's medication therapy and decrease medication adherence.
- 6-7% of all hospital admissions are medication-related with two-thirds of the errors are considered avoidable
- Increased adverse drug event-related visits to primary care in patients taking ≥ 5 medications.
- Pharmacists and pharmacy students working in a primary care setting can play a major role in reconciling medication lists through direct patient interviews, examining pill bottles, and/or calling dispensing pharmacies for verification.
- Prior studies have shown that the interventions made by pharmacists and pharmacy students minimized the incidence of drug-related problems by reducing side-effects, controlling symptoms, and increasing adherence.

METHODS

Design Single-center, prospective cohort study.

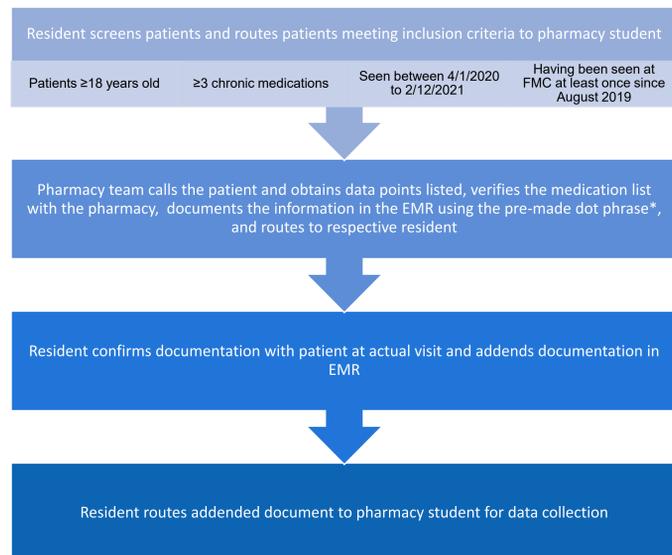
Location Loyola Medicine MacNeal Family Medicine Clinic (FMC), Berwyn, IL

- Medication list for selected patients in the EMR
- Gender, age, ethnicity, and language for each patient
- Comorbidities (Asthma/COPD, hypertension, heart disease, diabetes mellitus, kidney disease, anxiety/depression)

- Data**
- Number of medication reconciliations done
 - Number of medication discrepancies
 - Type of medication discrepancy

Analysis Descriptive statistics utilizing IBM SPSS (SPSS Inc., Chicago, IL)

Figure 1. Workflow



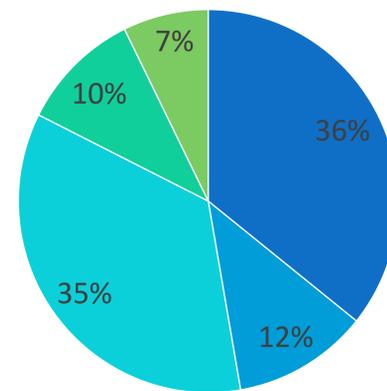
EMR Documentation

DEMOGRAPHICS (N = 65)

| Characteristics | N (%) |
|---------------------|-------------|
| Age ± SD, years | 55.5 ± 12.1 |
| Gender | |
| Male | 21 (32) |
| Female | 44 (68) |
| Ethnicity | |
| Caucasian | 14 (22) |
| Hispanic | 35 (54) |
| African American | 12 (18) |
| Other | 4 (6) |
| Education Level | |
| No/some high school | 13 (20) |
| High school | 35 (54) |
| Beyond high school | 17 (24) |
| Language | |
| English | 46 (71) |
| Spanish | 19 (29) |
| Chronic Conditions | |
| Asthma/COPD | 9 (14) |
| Hypertension | 39 (60) |
| Heart Disease | 6 (9) |
| Anxiety/Depression | 23 (35) |
| Kidney Disease | 8 (12) |
| Diabetes Mellitus | 30 (46) |

MEDICATION DISCREPANCIES (N = 165)

Medication Discrepancies by Type

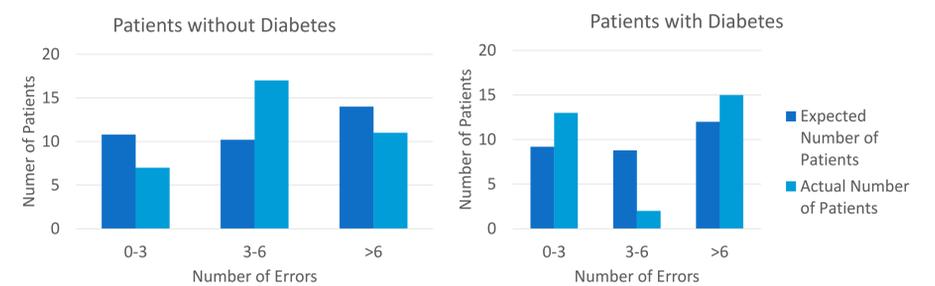


- Patient Not Taking
- No EMR Record
- Drug/Strength/Frequency
- No Pharmacy Record
- Pharmacy Reported Non-Compliance

RESULTS

| Variables | Statistical Findings |
|------------------------------------------------------------------------------------|-----------------------------------------|
| Pre med-rec medication number versus post med-rec medication number | 6.74 versus 6.29, p < 0.05 |
| Pre med-rec medication number versus number of medications correctly taken | r = .719, strong positive correlation |
| Pre med-rec medication number versus number of discrepancies | r = .522, moderate positive correlation |
| Number of discrepancies in patients with diabetes versus patients without diabetes | See Figure 2 |

Figure 2. Discrepancy Trends in Patients with and without Diabetes



Pearson Chi-Square Significance: 0.001

DISCUSSION

- The average amount of discrepancies per patient was 2.54 with 55.4% of patients having at least one discrepancy
- Our study agrees with current literature that the most common type of discrepancy was that the patient is no longer taking a medication
- Our study has some limitations: small sample size, some comorbidities not having a large sample size, and potential lack of consistency between pharmacy students and residents

CONCLUSION

- The project is ongoing to evaluate resources and sustainability of this service in a primary care clinic
- Our findings concur with the findings presented in the published literature
- This was the first study conducted at our center, which will help us screen and manage patients going forward
- Future studies can have a longer time frame and incorporate more residents to increase our sample size

REFERENCES

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