**BACKGROUND**

Medication Therapy Management (MTM)

- MTM is a term used to describe a broad range of services provided by pharmacists. These include, but are not limited to, general pharmacy counseling, more targeted person-to-person interventions, provider interventions, and other technology solutions such as refill reminders.1,2

Medication Management Center (MMC)

- MMC at the University of Arizona College of Pharmacy provides MTM services for over 120 health plans representing more than 6 million patient enrollees.

- Potential participants are identified through a comprehensive medication management process that evaluates prescription pharmacy claims every time a patient fills a prescription and every time they are supposed to fill a prescription for a chronic medication.

- The pharmacy interventions (DRPs) are identified by applying clinical algorithms (including predictive modeling) developed by the MMC staff to the data.

- DRPs are matched to patients according to person-to-person consultation, patient medication, doctor provider outcome or a combination of interventions.

**OBJECTIVE**

- To compare accepted interventions by category of MTM interventions initiated by the MMC for potential drug-related problems in 2012.

**METHODS**

Data Collection and Analysis

- Collected by employees of the MMC through software for the 2012 calendar year.

Data Analysis

- Comparison of frequencies and proportions of the drug-related problems described.

- Chi-square tests used to identify which drug-related problems were different.

**RESULTS**

Table 1: MTM Outcome Summary – Comparison of the 4 Drug-Related Problem Categories

| Drug-Related Problem | Number of Interventions YTD | Number of Interventions in the First Treatment Attempt | Number of Accepted Recommendations YTD | Percentage of Accepted Recommendations
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>378</td>
<td>151</td>
<td>75</td>
<td>20%</td>
</tr>
<tr>
<td>Adherence</td>
<td>257</td>
<td>210</td>
<td>114</td>
<td>51%</td>
</tr>
<tr>
<td>Therapeutic Duplication - Steal</td>
<td>549</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>992</td>
<td>365</td>
<td>189</td>
<td>51%</td>
</tr>
</tbody>
</table>

**DISCUSSION**

- Because the population size of older age and generally this population takes more medications, there was increased risk for medication errors.

- Increased number of acceptance for safety initiatives was the result for further complications as well as lower risk for morbidity and mortality.

- The other three DRPs (cost savings, adherence to medications, and adherence to clinical guidelines) were still important factors in providing medication management service to patients.

- Pharmacists at the MMC identified ways to help patients save money with the thought that better drug costs can result in increased adherence to the medications, which can reduce hospitalizations and severe, delayed adverse events.

- Adherence to clinical guidelines can enhance patient pharmacotherapy.

**CONCLUSION**

- Medication safety should be a primary component of all MTM programs given the large number and proportion of preventable DRPs identified and resolved.

- Higher number of acceptance for safety initiatives suggested that pharmacists were more likely to approve interventions related to safety of the patient, in hopes of reducing the risk of morbidity and mortality.

- Pharmacists providing MTM need to be proactive on drug alerts, particularly drug safety, as prevention is an essential safety intervention.

**REFERENCES**


**DISCLOSURES**

The authors do not have financial or other significant disclosures to make. For additional information on this project, please contact Brittany Tse (tse@pharmacy.arizona.edu) for additional information on the Medication Management Center, please contact Kevin Boesen (kpboesen@sinfoniarx.com).

**Table 2: Alert that Generated the Highest Number of Accepted Recommendations for Each Drug-Related Problem Category**

<table>
<thead>
<tr>
<th>Alert</th>
<th>Number of Interventions YTD</th>
<th>Number of Measurable Interventions</th>
<th># of Accepted Recommendations</th>
<th>Percentage of Accepted Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFETY</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>100%</td>
</tr>
<tr>
<td>Cost</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Adherence</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>Therapeutic Duplication - Steal</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Figure 1: Percent Breakdown of Total Number of Interventions by Category in 2012**

- Safety 53.0%
- Cost 18.9%
- Adherence 22.0%
- Therapeutic Duplication - Steal 15.9%