Evaluation of Intervention Alert Frequency and Acceptance Rates by Medicare Insurance Type

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BACKGROUND

- The Centers for Medicare and Medicaid Services (CMS) require Medicare Part D plans, including Medicare Advantage Prescription Drug Plans (MAPDs) and Prescription Drug Plans (PDPs), to provide Medication Therapy Management (MTM) services.[1]

- MTM services utilize pharmacists (or other qualified providers) to evaluate individual medication profiles for optimization that include addressing: adherence problems, appropriate guideline care gaps, high-cost drug use and potential cost savings, and medication safety concerns.[1]

- Within the CMS payment structure, MAPDs receive significantly more incentives for improvement of medication utilization, as measured by star ratings, than PDPs. This may lead to variations in MTM outcomes between the two different plan types.[2]
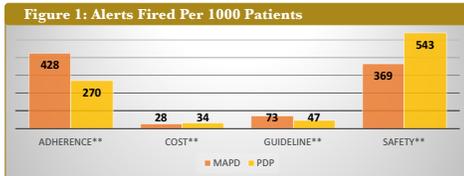
OBJECTIVES

- Primary Objective: To compare the rate of occurrence of interventions (adherence, guideline care gap, cost, and safety) between MAPDs and PDPs.

- Secondary Objective: To compare the intervention acceptance rates of the different types of alerts between MAPDs and PDPs.
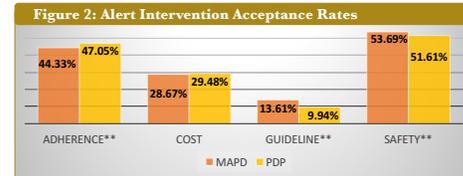
METHODS

- At the end of the 2015, SinfoniaRx, a national MTM provider, generated outcome summary reports for each individual contracted insurance plan. Plans were excluded:
  - From all analysis if no outcome summary was generated
  - From the intervention acceptance rate analysis if no measurable interventions were made

- Data was collected retrospectively for each contract including: plan type, total number of eligible patients, total number of intervention alerts fired, number of measureable interventions, and number of interventions accepted.
  - Interventions were categorized by type: adherence, cost, safety, or guideline gap
  - A measurable alert was defined as a safety, cost or guideline care gaps with claims information (120 days post-intervention) or an adherence alert with claims information (180 days post-intervention).

- Data on the prevalence and acceptance rates of the four types of alerts (cost, safety, guideline care gap, and adherence) was compared between MAPDs and PDPs.
  - The primary dependent variable, prevalence of alert, was computed based on the number of alerts fired divided by the total number of members within the plan
  - The secondary dependent variable, intervention acceptance rates, was computed based on number of measurable alerts accepted by plan members and/or providers of plan members divided by the number of alerts with measurable data

- The Chi Squared Test was used to analyze and compare alert frequencies and alert intervention acceptance rates between MAPDs and PDPs. Statistically significant differences in frequency were assessed at an alpha level < 0.05.

RESULTS

Table 1: Frequency of Alerts Fired

Year	Type of Alerts	MAPD			PDP			p-value
		N fired	N member	N/1000 members	N fired	N member	N/1000 members	
2015	Adherence	65,089	152,235	428	154,451	571,013	270	<.0001
	Cost	4,253	152,235	28	19,365	571,013	34	<.0001
	Guideline	11,174	152,235	73	26,916	571,013	47	<.0001
	Safety	56,131	152,235	369	309,883	571,013	543	<.0001

MAPD = Medicare Advantage Prescription Drug Plan PDP = Prescription Drug Plan

Table 2: Alert Intervention Acceptance Rates

Year	Type of Alerts	MAPD			PDP			p-value
		N accepted	N measurable	%	N accepted	N measurable	%	
2015	Adherence	17,907	40399[δ]	44.33	53,315	113,315	47.05	<.0001
	Cost	932	3251[ψ]	28.67	4,767	16,170	29.48	0.353
	Guideline	1,067	7839[ψ]	13.61	2,097	21,102	9.94	<.0001
	Safety	23,655	44060[ψ]	53.69	136,167	263,845	51.61	<.0001

[δ] = Claims information 180 days post-intervention   [ψ] = Claims information 120 days post-intervention

Figure 1: Alerts Fired Per 1000 Patients

** = p<0.0001

Figure 2: Alert Intervention Acceptance Rates

Alert Frequency Per 1000 Patients

- Data were collected from the outcome summary reports for 354 plans:
  - The 77 MAPD plans, contained 152,235 members with a total of 136,647 alerts fired
  - The 275 PDP plans contained 571,013 members with a total of 510,615 alerts fired
  - **Table 1** shows the data for alert frequency

- Differences in alert frequency per 1000 patients between MAPDs and PDPs were statistically significant:
  - Per 1000 patients, MAPDs fired an average of 898 alerts while PDPs fired an average of 894 alerts.
  - MAPDs were more likely to fire adherence alerts (p<0.0001) and guideline care gap alerts (p<0.0001) than PDPs.
  - MAPDs were less likely to fire cost alerts (p<0.0001) and safety alerts (p<0.0001) than PDPs
  - **Figure 1** illustrates differences in alerts fired per 1000 patients between MAPDs and PDPs by type

Alert Intervention Acceptance Rates

- Data was collected from the outcome summary reports of 354 plans; plans lacking data for measurable alerts excluded from the analysis.
  - 307 plans had adherence alerts fired; 70 MAPDs and 237 PDPs
  - 177 plans had cost alerts fired; 61 MAPDs and 177 PDPs
  - 276 plans had guideline care gap alerts fired; 67 MAPDs and 209 PDPs
  - 344 plans had safety alerts fired; 76 MAPDs and 268 PDPs
  - Table 2 shows the data gathered for alert acceptance rates including number of measurable alert interventions and number of accepted alert interventions.

- Statistically significant differences in alert intervention acceptance rates were observed between MAPDs and PDPs for adherence, guideline care gap, and safety interventions.
  - Plan members and/or providers of members in MAPDs were more likely to accept guideline care gap interventions (p<0.0001) and safety interventions (p<0.0001) than PDPs
  - Members and providers of members in MAPDs were less likely to accept adherence interventions than PDPs (p<0.0001)

- Differences in alert intervention acceptance rates between MAPDs and PDPs were not statistically significant for cost-saving interventions.
  - Plan members and/or providers of members in MAPDs were less likely to accept cost-saving interventions compared to PDPs (p=0.3533)

- **Figure 2** illustrates the differences alert intervention acceptance rates between MAPDs and PDPs by alert type.

DISCUSSION

- Members in MAPDs appear to be less adherent and more likely to experience guideline care gaps. Yet, MAPDs are more likely to have programs in place to decrease non-adherence and guideline care gaps as they are considerations used in star ratings and payment for MADPs.

- It was not surprising that PDPs had more safety alerts since we did not expect these plans to have as many programs in place to proactively assess medication-related problems.

- Further information regarding member demographics and socioeconomic status as well as plan deductibles, copays, and formularies could provide further insight in to these observed differences in alert frequencies and alert intervention acceptance rates between MADPs and PDPs.

- *Limitations*
  - This evaluation included data for one year only. It is unclear whether these results are limited to this dataset or if similar results would be observed across multiple years.
  - Data regarding member characteristics such as income, proximity to medical care, and other environmental factors that could affect intervention acceptance rates were not collected.
  - There were significantly more PDPs than MAPDs evaluated for this project; the larger sample size could feasibly increase the sensitivity of the statistical analysis and overestimate the results.

CONCLUSIONS

- This retrospective evaluation showed some statistically significant differences in the number of alerts fired and interventions accepted between MAPDs and PDPs.

- Given the reimbursement incentive models and star rating programs for MADPs, it was surprising to see that these members were less adherent and more likely to experience guideline care gaps.

- Future investigations are warranted to identify reasons for these observed differences and to determine whether these trends hold across longer-term investigations.

ACKNOWLEDGEMENTS

REFERENCES

1. https://www.cms.gov/medicare/prescription-drug-coverage/prescriptiondrugcovcontra/mtm.html
2. https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2016-Fact-sheets-items/2016-10-12.html