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Effects of Medication Therapy Management on Health Care Utilization in Medicare and Commercial Patients with Neurological Conditions at LVHN

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Introduction

- Medical therapy management (MTM) is a program that manages drug therapy by addressing medication-related problems, gaps in medication use, use of costly medications when cheaper alternatives are present. MTM aims to enhance appropriate medication use, patient knowledge and self-management, and health outcomes.
- Patients with neurologic conditions such as epilepsy, Parkinson's disease, and stroke have been reported to have high prevalence of non-adherence to treatment.
- As many neurological disorders are chronic and require long-term pharmacological therapy, medication adherence is critical to maximizing the full benefits of treatment.
- Nonadherence and growing out-of-pocket costs for chronic conditions put a huge financial burden on patients and the health system. MTM is an intervention that has been developed to address these concerns with the overall goal of maximizing quality of care while reducing costs.

Problem Statement

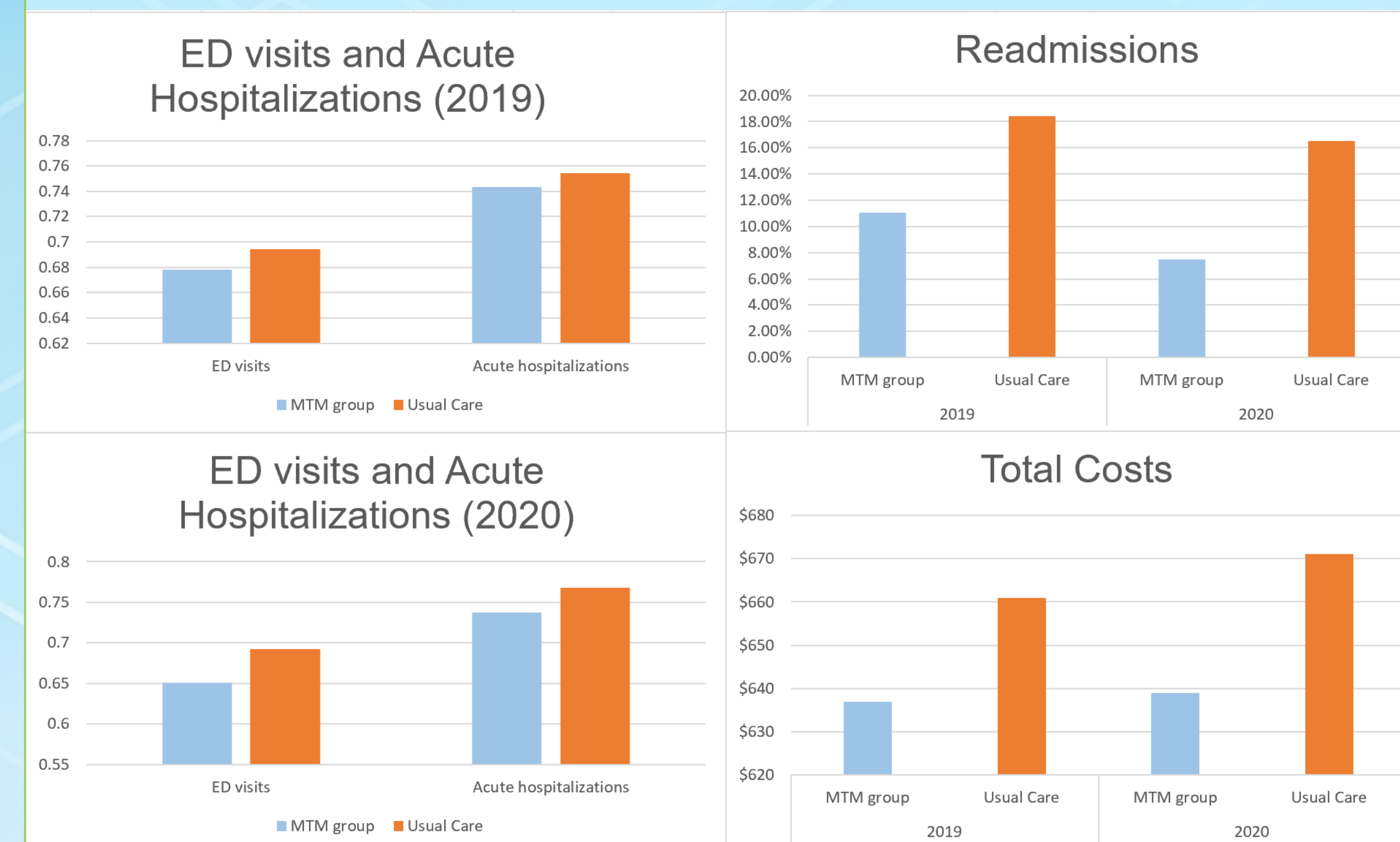
We investigated the effects of medication therapy management (MTM) on health care utilization in regards to hospital readmissions, emergency department (ED) visits, acute hospitalizations, average total cost of care, and medication adherence in patients that participated in MTM in comparison to those that participated in usual care.

- **Design:** retrospective cohort study comparing patients at Lehigh Valley Health Network (LVHN) who utilized MTM with those did not (usual care)
- **Participants:** patients enrolled in LVHN values-based programs with coverage under either Medicare Advantage or commercial insurance and with a diagnosis of one the following: migraine, Parkinson's disease, and multiple sclerosis
- **Data collection:** provided by LVHN Populytics into a spreadsheet using medical claims and clinical data in 2018-2020 and deidentified
- **Analysis:** descriptive analyses looking at readmissions, emergency department (ED) visits, acute hospitalizations, and total cost of care in claims. Adherence to medication addressing neurological conditions was measured separately by subgroups based on their neurological condition.

Results

| | 2019 | 2020 |
|--------------------------------|------|------|
| | N | N |
| Usual care group | 6266 | 6115 |
| Usual care CMS only | 1046 | 943 |
| MTM group | 719 | 765 |
| MTM completed | 69 | 64 |
| MTM CMS only | 120 | 118 |
| MTM completed CMS* only | 61 | 48 |

Table 1. Number of Study Participants by Group and Year. CMS is Medicare Advantage.



Figures 1-4. Health Care Utilization outcomes in MTM vs Usual Care

Medication Adherence in MTM vs Usual Care

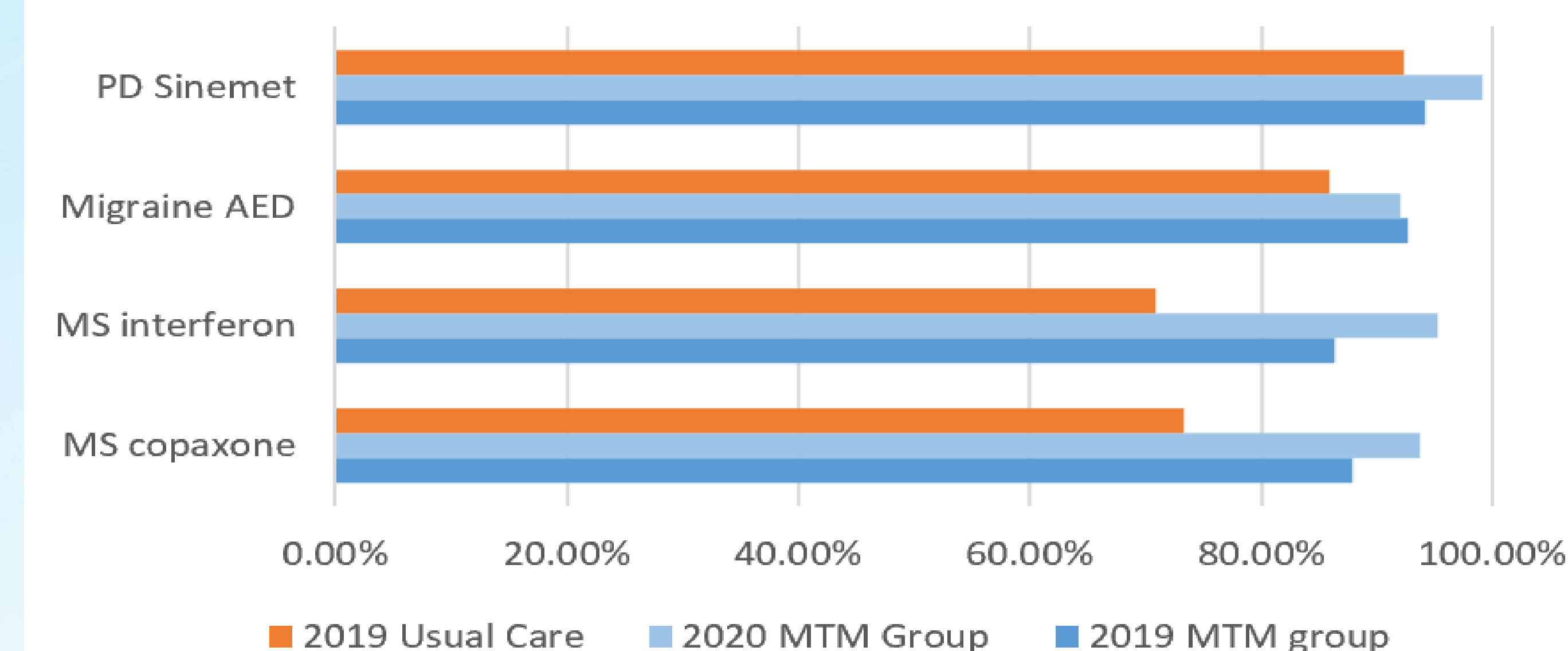


Figure 5. Medication Adherence among patients with a chronic neurological condition in MTM vs Usual Care

- In 2019 and 2020, the MTM group was observed to have less readmissions, ED visits, and acute hospitalizations compared to the usual care group. In addition, the MTM had a lower average total cost of care per member per month compared to that of the usual care group.
- In regards to adherence to prescribed medications for multiple sclerosis, migraine, and Parkinson's disease, the MTM group reported higher percentages of adherence in comparison with usual care.
- Despite having only 69 out of 719 patients completing MTM, the MTM group overall reported reduction in total cost and health care utilization. The introduction of MTM as a service appears to benefit patient care and could potentially further reduce avoidable costs if completed.
- There was an increased percentage of patients who completed MTM in those with Medicare Advantage compared to those with commercial insurance. While insurance type appears to encourage MTM completion, whether it affects health care utilization remains undetermined.
- Providing the opportunity to encourage optimal medication use and minimize costs, MTM shows promise as an intervention in reducing health expenditures and acute resource usage in the long run.

- Patients who received MTM had lower rates of health utilization and high percentages of medication adherence.
- Given the landscape of increasing out-of-pocket costs and importance of appropriate medication use for chronic neurological conditions, MTM is an important service to consider expanding in improving efficiency and quality of care.
- Further implementation of MTM could potentially relieve the cost burden to LVHN in a significant degree while producing better patient outcomes.
- Focusing on health systems and values-based patient care, this project assessed how MTM affected various elements of health care associated with rising costs and demonstrated how MTM can promote patient education and self-management of their outcomes.

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