Antipsychotic Medication Review Documentation and Pimavanserin Treatment-continuity on Outcomes: Analysis of Minimum Data Set 3.0 linked with Part D claims

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Background

- To ensure appropriate antipsychotic use and psychiatric-care quality in nursing homes (NH), CMS added antipsychotic (AP) Medication Review (AP-MR) questionnaire to long-term care (LTC) Minimum Data Set 3.0 (MDS) mandatory surveys of NH residents in October 2017. [1,2]
- The AP-MR questionnaire included categorical (Yes/No) questions that clinicians are required to complete regarding whether patients have:
  - Clinical contraindication to Gradual Dose Reduction (GDR) for chronic and enduring conditions such as Parkinson's Disease Psychosis (PDP).
  - GDR attempts. [2,3]
- To date, pimavanserin is the only atypical antipsychotic indicated for the treatment of hallucinations and delusions associated with PDP. [4]
- Primary objective was to investigate role of AP-MR documentation quality and treatment-continuity on discharge-to-community. Secondary objective was to estimate the clinical outcomes (falls, hip fractures, pelvic/femur fractures) among LTC patients treated with pimavanserin.

Methods

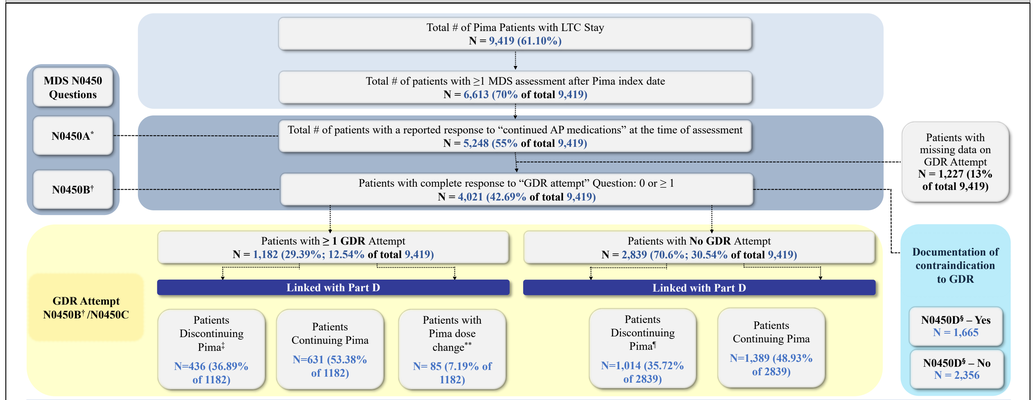
- A retrospective cohort analysis using Parts A, B, and D claims from Medicare 100% sample linked with MDS from June 2016-December 2018 was conducted.
- Patients with >100-day LTC-stay and ≥1 pimavanserin prescription with completed MDS question on AP use were selected.
- AP-MR documentation quality measures (i.e., GDR attempts, clinical contraindication to GDR), and clinical outcomes (e.g., falls, fractures) was assessed from MDS while pimavanserin treatment-continuity was assessed from Part D claims.
- Frequency, proportions, and chi-square tests reported categorical measures and means (SD) reported continuous measures.
- Logistic regression model, adjusted for demographics, hospitalizations, and LTC-admission, reported association between pimavanserin treatment-continuity and discharge-to-community using odds ratios with 95% confidence intervals (CI).

Results

- Overall, 9,419 pimavanserin patients with LTC stay were identified. MDS assessment after post-index pimavanserin were reported by 6,613 patients.
- Among 5,248 LTC patients that reported AP use, 4,021 eligible patients had a reported response about GDR attempts (**Figure 1**).
- The mean age of the patients (n = 4,021) was 76.57 years, 50% were male, 86% were white Americans, 44% were married, 79% came from an acute hospital, and only 40% experienced hallucinations.
- In the eligible patient sample (n=4,021), 66% (n=2,635) patients initiated pimavanserin during their LTC stay; about 90% (n=2,352) of those reported a LTC stay of ≥150 days **(Figure 2).**
- Among patients with a GDR attempt, the mean (SD) and median days to first GDR were 220.1 (184.4) days and 175 days, respectively among 1152 (of 1182) patients.
- About 73% (n=62) of 85 patients with dose change had dose reduction **(Figure 3).**
- For 59% (n=2,356) of the total number of patients, clinicians had documented that GDR is not clinically contraindicated; remaining 41% (n=1665) had documentation showing GDR was clinically contraindicated, yet 39% (n=645) still attempted GDR **(Figure 4)**.
- In our study population, a small proportion of LTC-stay patients had discharge-to-community overall. However, higher (14.94%) proportion of patients that continued pimavanserin had discharge-to-community compared to those who discontinued (11.84%) pimavanserin ($p<0.05$).
- Pre-index PD diagnosis status data was available in 74% (n=2,993) of eligible patients; of 2,993 patients, 83% (n=2,474) patients had pre-index PD diagnosis.

Results (Cont.)

Figure 1. Patient Disposition, GDR and Documentation Status



* This section determines if the patients have received AAP medication since the admission; † This section determines whether the GDR was attempted or not; § This section determines if the physician documented GDR as clinically contradicted or not; ** Immediately following first GDR attempt; ‡ Defined as ≥ 45 days between last Rx end date and last discharge date (30 or 2.54% of patients, who were censored/remained in the database and had < 45 days, were not included); ¶ Defined as ≥ 45 days between last Rx end date and last discharge date (436 or 15.36% patients, who were censored/remained in the database and had < 45 days, were not included).

Figure 2. Patient Disposition: Distribution of Patients According to LTC Stay (N=4,021)

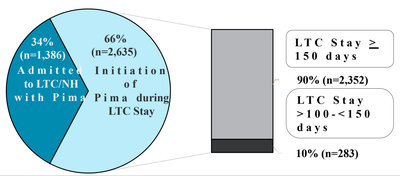


Figure 3. Patient Disposition: Patients who Underwent ≥1 GDR Attempt (N=1,182)

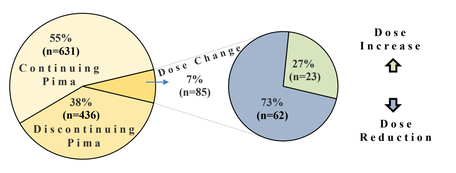


Figure 4. Patient Disposition: Accuracy of Clinical Contraindication Documentation Status by GDR (N=4,021)

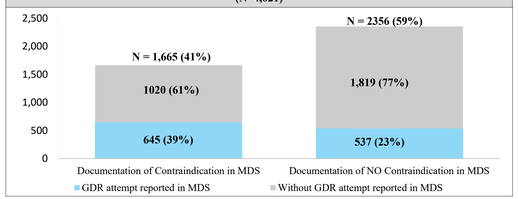
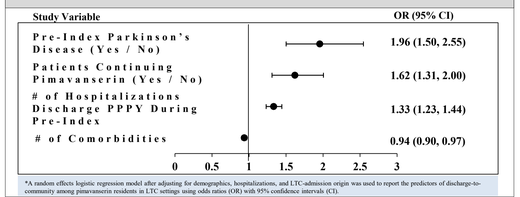


Figure 5. Logistic Regression: Factors Associated with Discharge to Community*



*A random effects logistic regression model after adjusting for demographics, hospitalizations, and LTC-admission origin was used to report the predictors of discharge-to-community among pimavanserin residents in LTC settings using odds ratios (OR) with 95% confidence intervals (CI).

- Odds ratio for treatment-continuity, pre-index Parkinson's disease diagnosis, and comorbidities were 1.96 (95% CI: 1.50-2.55), 1.62 (95% CI: 1.31-2.00), and 0.94 (95% CI: 0.90-0.97), respectively **(Figure 5)**.
- Patients continuing pimavanserin had lower incidence of falls (2.8% vs 9.4%), hip fractures (0.29% vs 0.69%) and pelvic/femur fractures (0% vs 0.92%) vs. those who discontinued pimavanserin.

Limitations

- As with any retrospective database analysis that involves claims and surveys linked analysis, this research too may be limited by coding errors, transcription errors, & other documentation errors.
- Claims information were obtained from recorded information at the time of event occurrence (e.g., prescription fill, discontinuations, hospitalization, pre-index PD diagnosis, etc.), clinical contraindication documentation, and rates of discharge to the community are collected at quarterly intervals or at time of discharge/readmission. Thus, potential biases in temporal associations demonstrated in this analysis is plausible, although unlikely due to appropriately assessing outcomes during follow-up.
- Notwithstanding the limitations, this analysis is the first-of-its-kind real-world study of Medicare patients to evaluate pimavanserin prescribing patterns, GDR and dose change patterns as well documentation patterns of clinical contraindication of GDR.

Conclusions

- Of the total number of LTC patients with > 100 day stay, 41% had a reported documentation that GDR is clinically contraindicated.
- Among these patients, 61% had no GDR attempts and approximately 40% had GDR attempt despite documentation of clinical contraindication.
- Results from this analysis suggest that GDR-attempts among pimavanserin treated patients was relatively low despite higher inaccurate documentation rates regarding clinical contraindication to GDR.
- Interestingly, pimavanserin treatment-continuity, and PD diagnosis prior to initiation in LTC setting had 96%, and 62% greater likelihood of discharge-to-community, respectively.
- Patients continuing pimavanserin showed improved outcomes in terms of discharge-to-community, falls and fractures compared to those who discontinued the treatment.
- These results suggest a significant need for continued GDR-policy education and mandatory documentation training as it relates to treatment-continuity to ensure appropriate AP use in LTC/NH settings.

References

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