Magellan Rx MANAGEMENT

Impact of Pharmacist Outreach and Intervention on Tyrosine Kinase Inhibitor (TKI) Adherence and Compliance to Response Testing in Patients with Chronic Myeloid Leukemia (CML)

Chronic Myeloid Leukemia

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Purpose

- To measure the impact of a pharmacist-led outreach program that aims to improve TKI adherence and Polymerase Chain Reaction (PCR) testing compliance in CML patients.

Background

- Chronic TKI therapy is the first line treatment option for CML patients, and when taken appropriately, these patients can live to normal life expectancy.
- Adherence to TKI medication is key to reduce the risk of disease relapse and progression.
- Current guidelines also recommend routine PCR testing every three months for the first two years after BCR-ABL1 0.1% - <1% has been achieved, then every three to six months thereafter.
- Past studies have demonstrated that patients who receive at least three to four PCR tests a year have a lower risk of progression and incur fewer inpatient admissions compared to patients who do not.
- Despite recommendations, testing and monitoring are significantly underutilized in the CML space, which may lead to worsened clinical outcomes.

Disclosures

- This research was conducted by Magellan Rx Management, Newport, RI, without external funding.

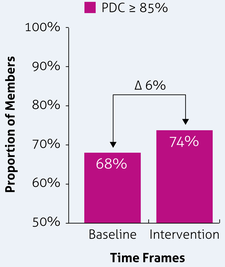
Methods

- The program was executed in a regional health plan with approximately 700,000 covered lives.
- Patients with a diagnosis code for CML who utilized dasatinib, imatinib, nilotinib, ponatinib, or bosutinib were identified using pharmacy and medical claims.
- Adherence is determined by proportion of days covered (PDC), which is calculated from the date of the first TKI fill to the end of the specified evaluation period. The adherence goal is PDC ≥85%.
- Pharmacists conducted telephonic outreaches to patients monthly and to providers every three months to discuss and resolve adherence barriers for both TKI therapy and PCR testing.
- Providers were also sent quarterly reports summarizing their patients' adherence to TKI therapy and PCR testing trends.
- Pharmacy and medical claims data were analyzed one year before and after the initiation date to assess impact on adherence and PCR testing utilization.
  - Baseline Period: 4/1/2014-3/31/2015
  - Intervention Period: 4/1/2015-3/31/2016

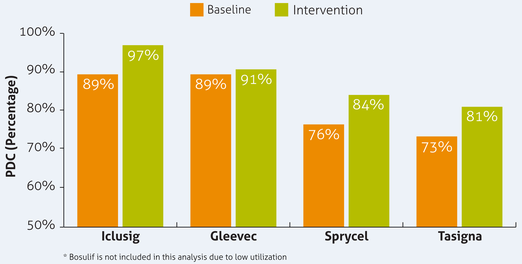
Results - TKI Adherence

- Adherence barriers to TKI therapy were identified during patient outreaches. Approximately 72% of patients reported having at least one barrier.
- Adherence barriers to TKI therapy in the order from most to least frequent:
  - Side effects (including nausea/ vomiting, GI discomfort, muscle soreness, fatigue, etc.)
  - Forgetfulness
  - Pharmacy-related issues (i.e. delay in shipment)
  - Cost
  - Prior authorization approval delays

Proportion of Members with PDC ≥ 85%

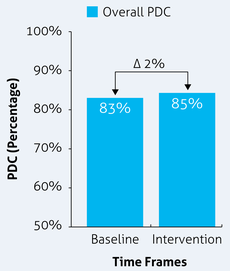


Average PDC Per TKI*



* Bosulif is not included in this analysis due to low utilization

Average PDC for All Members



*N=109

Results - PCR Testing

- Adherence barriers to PCR testing were identified during patient outreaches. Approximately 26% of patients reported having at least one barrier.
- Adherence barriers to PCR testing in the order from most to least frequent:
  - Cost of testing
  - Prescriber is unaware of testing recommendations or did not think testing would be covered
  - Transportation issues

Proportion of Members Utilizing NCCN Recommended Number of PCR Tests

	Baseline	Intervention	Relative Increase
Patients Received ≥2 PCR Tests	67%	69%	3%
Patients Received ≥4 PCR Tests	18%	22%	22%

Five out of seven top providers (treating at least three CML patients at any time) had a 16% increase in mean number of PCR tests prescribed during the intervention period compared to the baseline period.

References

- Jabbour EJ, et al. Patient adherence to tyrosine kinase inhibitor therapy in chronic myeloid leukemia. Am J Hematol. 2012;87:687-691.
- Kolibaba KS, et al. Treatment response monitoring in chronic phase CML patients receiving tyrosine kinase inhibitor therapy in The US Oncology Network. ASCO poster abstract #7065. May 28th, 2013.
- Chen L, Guérin A, Wu EQ, Dea K, Goldberg SL. Economic benefits of adequate molecular monitoring in patients with chronic myelogenous leukemia. J Clin Oncol 31, 2013.
- The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Chronic Myelogenous Leukemia V.4.2016. © National Comprehensive Cancer Network, Inc. 2016. All rights reserved. Accessed November 1st, 2016.

Discussion

- The CML Adherence and Assessment Program led to a 8.5% relative increase in proportion of patients who were able to achieve a PDC of ≥85%.
- Based on provider reported information, 71% of patients should have received PCR testing every three months. However, based on claims analysis, only 56% of providers and 22% of patients are ordering and receiving every three months testing, respectively.
- Limitations of this study include:
  - Data was insufficient to analyze long-term impact that increased adherence and PCR testing had on clinical outcomes of CML patients.
  - This study did not adjust for short term (less than 30 days) discontinuation of therapies due to physician orders.

Conclusion

- Following the initiation of the CML Adherence and Assessment Program on 4/1/2015, an increase in average adherence, proportion of patients reaching adherence goal, and utilization of PCR testing have been observed.
- Although the proportion of patients receiving at least four annual PCR tests increased, many patients were still not being tested as frequently as recommended by guidelines. Additional provider and patient education is warranted to improve awareness and compliance to monitoring testing.
- Continued outreach and intervention to resolve cited barriers will be necessary to further improve quality of care in this population. Long-term follow-up will be needed to assess impact on clinical and financial outcomes.