

# Impact of a Patient-centered Program on Treatment Compliance Among Patients With Multiple Myeloma

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## INTRODUCTION

- Treatment noncompliance can have devastating consequences on the clinical prognosis of patients with multiple myeloma.
- Both environmental and psychological factors often cause noncompliance and can be addressed through psychosocial support, individualized condition and product education plans, and health coaching techniques; all of which are all known to positively influence patient behavior.
- Patients who receive social support are 3.6 times more likely to adhere to the therapy schedule compared to those who do not receive holistic support.<sup>1</sup>
- Oncology Certified Registered Nurses (OCNs) working in a Telehealth capacity, can be used to provide patients with emotional and educational support necessary to overcome noncompliance to treatment.
- Using OCN Telehealth nurses to deliver a patient-centered program can uncover patient needs at times when barriers may become overlooked by providers; financial impact, in particular, out-of-pocket costs and travel to a facility for care, affect adherence to a degree that is often overlooked by healthcare providers.<sup>2</sup>
- Quantifying the impact of a patient-centered program on patients' compliance with treatment may aid stakeholders in optimizing the treatment of multiple myeloma.

## OBJECTIVE

- To evaluate the impact of a patient-centered program on intravenous (IV) therapy compliance among patients with multiple myeloma.

## METHODS

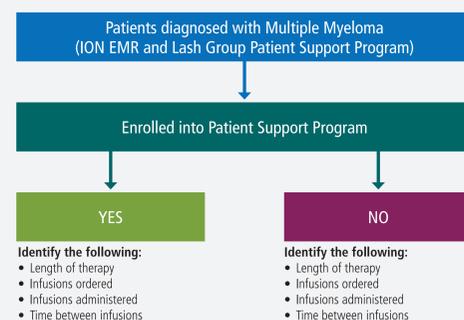
### Study Design

- This retrospective cohort study was designed using data from the International Oncology Network (ION) from January 1, 2012 through December 31, 2015.
  - ION's electronic medical record (EMR) database contains data from 175 unique providers, from over 20 large practices, encompassing 240,000 patients, representing a diversified physician services network whose membership represents about half of the private practice oncologists in the US.

### Patient Selection

- Inclusion
  - Patients with a diagnosis of multiple myeloma (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM]: 203.0) receiving IV therapy, between January 1, 2012 and December 31, 2015.
  - ≥12 months of follow-up after initiation of IV therapy.
- Patient Cohorts
  - As shown in **Figure 1**, patients were classified into 1 of 2 study cohorts: patients enrolled within Lash Group's patient-centered program and those who were not enrolled.

Figure 1. Patient Cohorts



Key: EMR – electronic medical record; ION – International Oncology Network.

### Patient-centered Program

- Patients enrolled in Lash Group's patient-centered program received individualized support during their time on therapy.
- OCN Telehealth nurses used a combination of techniques, including segmentation (to truly understand where patients are in their care), motivational interviewing (to create an empathic environment for which patients and nurses are able to uncover both educational and emotional needs), and educational resources to build condition and product knowledge for patient engagement.
- Individualized support was provided through the use of a patient-reported outcome (PRO) tool, Distress Screening.
- Patients received follow-up calls from the OCN Telehealth nurses, as directed by their treatment cycles and individual psychosocial needs.

### Study Outcomes

- Compliance measures were captured during a follow-up period of 12-months, including:
  - Length of therapy
  - Number of infusions
  - Time between administrations

### Statistical Analyses

- Compliance measures were compared between patients enrolled and those not enrolled in Lash Group's patient-centered program using standardized differences.
- Standardized differences greater than 0.10 were considered to demonstrate significant variance in measures between the cohorts.

## RESULTS

### Sample Characteristics

- Highlighted in **Table 1**, a total of 476 patients with multiple myeloma receiving IV therapy were included in the analysis, of which, 129 (27%) were enrolled in Lash Group's patient-centered program.
- The mean age ( $\pm$  standard deviation[SD]) of the final sample was 70.5 ( $\pm$ 10.4) years and 56.3% were male. Individuals enrolled in the patient-centered program were, on average, younger (68.8 vs 71.1; SD = -0.222), and a larger proportion were male (59.7% vs 55.0%, SD = 0.0941).

Table 1. Population Characteristics

Sample Characteristics	All Patients	Enrolled Patients	Patients Not Enrolled
	(N=476)	(N=129)	(N=347)
Mean Age (SD = -0.0941)	70.5	68.8	71.1
Gender			
Female	43.7%	40.3%	45%
Male	56.3%	59.7%	55%

### Study Outcomes

- As shown in **Figure 2**, patients enrolled in the patient-centered program had a higher number of IV infusions, on average (27.6 vs 22.9; SD = 0.1662). In addition to the increased number of infusions, **Figure 3** presents a longer mean length of therapy (154.1 vs 144.9; SD = 0.0478), although not one that is statistically significant.

Figure 2. Average Number of Infusions Completed

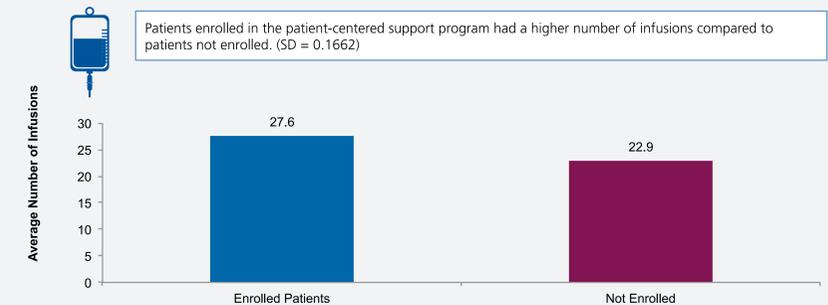
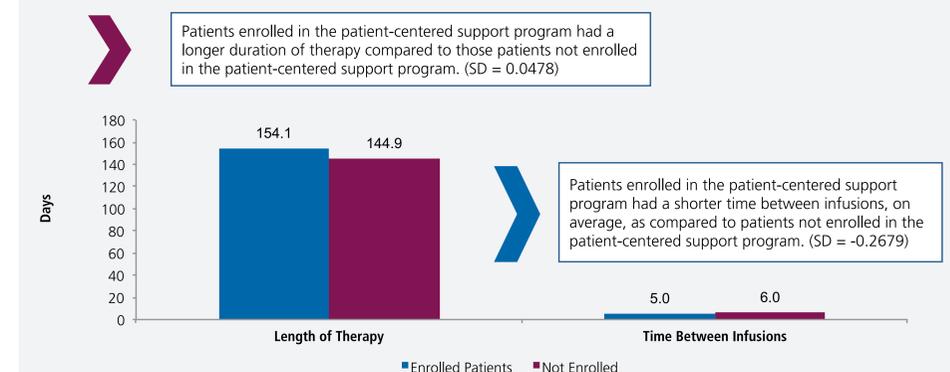


Figure 3. Length of Therapy & Time Between Infusions



## LIMITATIONS

- ION represents more than half of community oncologists in the US; therefore, the results may not be representative of patients who receive care in an academic setting.
- Reasons for non-compliance are not known, and may be due to patient tolerance to product, side effects, cost, and ability to adhere to infusion schedule (eg, transportation barriers).
- Shorter time between infusions may be related to scheduling availability and may not be a result of patient non-compliance.

## CONCLUSIONS

- Using a patient-centered approach for supporting enrolled patients receiving IV therapy for multiple myeloma resulted in better compliance outcomes, as quantified by a higher number of IV infusions and a longer mean length of therapy.
- By providing holistic, patient-centered support, these study results highlight the effectiveness of patient-centered support programs as a means to improve treatment compliance through emotional and educational support during patients' therapeutic journey.
- Future research will include analyzing the barriers and social support provided to these patients. Quantitative analysis will focus on assessing improved therapy compliance through usage of patient segmentation tools and OCN compliance to motivational interviewing techniques.

## REFERENCES

1. DiMatteo MR. Social support and patient adherence to medical treatment: a meta-analysis. *Health Psychol.* 2004;23(2):207-218.
2. Schneider SM, Hess K, Gosselin T. Interventions to promote adherence with oral agents. *Semin Oncol Nurs.* 2011;27(2):133-141. doi:10.1016/j.soncn.2011.02.005.