Using Longitudinal Data to Understand the Impact of Card Programs on Patient Persistence and Compliance in Ontario

QuintilesIMS™

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Abstract

Anonymized longitudinal patient prescription data (QuintilesIMS; LRx) were examined to better understand the relationship between patient cards and the persistence, utilization, and compliance for a second-line diabetes medication.

The use of card programs has been increasing over time in Canada by patients to minimize out of pocket expenses, and growing acceptance of cards by pharmacists and physicians. Detractors point to the overall increased cost to the health care system while patient advocates suggest that these programs improve patient adherence. Anonymized patient data for a second-line genericized diabetes molecule were examined for two cohorts (new start and ongoing patients) in Ontario in 2016.

Patients were split into three groups for comparison; those who made use of a card for the brand, those who used the brand without a card, and those who used a generic version. Patients who used cards had significantly higher persistence than those who used a brand or generic alternative, while there was no significant difference between brand and generic users. Preliminary analysis of ongoing patients shows that utilization in the period after card use was higher than in the period prior to card use, however a longer time horizon is required to assess the absolute impact.

This analysis reveals that patient cards do have value in improving patient persistence after initiation, and suggests that long run adherence also improves with card use. The generalizability, clinical value, and long-term outcome on patients of these findings are all areas for further investigation.

Introduction

Card programs are being used increasingly in Canada for a variety of purposes. The two main suppliers of such cards provide three main types of cards. Patient Assistance cards are typically used to support low-income patients by providing financial support to cover insurance co-pays that might otherwise be a burden on patients. Sampling cards are typically used to provide patients with an opportunity to use a medication in lieu of a real sample, or to provide bridging support until a product gets listed in a geography. Brand cards are typically used to support patients on a Brand medication once a Generic version is imminent or available. These programs are funded by the manufacturer, however the level of funding and its duration can vary.

Patient groups, patients, prescribers, and pharmacists have generally been neutral to supportive of such programs, arguing that the cards provide access through financial support, and by implication improve patient persistence and compliance. However some payers and generics manufacturers are concerned that Brand cards in particular are needlessly increasing health care system costs to employers by stifling generic substitution¹. This research examines whether or not an improvement in patient adherence is really achieved through the use of cards, and tries to quantify how adherence compares across brand and generic patients.

The ability to examine this issue in a way that allows for benchmarking and fair comparisons is challenging, as few sources of anonymized patient information allow analysis at this level. This work leverages the granular pharmacy data found in QuintilesIMS LRx to better answer these questions.

Methods

All active card programs in Ontario in 2016, in the oral diabetes class, were identified to control for formulary and treatment differences. A specific second-line therapy was identified for this analysis based on the availability of a large yet manageable patient volume.

All patients on the specific second line therapy were identified from a representative sample composed of over 25% of Ontario (Rxs and Dollars). All prescription activity for those patients from October 2015 through March 2017 was then extracted for further analysis. The CPhA standard pharmacy record layout provides access to virtually all payers contributing to a patient's script, regardless of public, private, or cash source, or the adjudicator involved. As a result, the use of a card and its contribution towards a prescription for an anonymized patient are accurately captured.

Patients were then split into three main groups: those that used the brand therapy without a card, those that used the brand therapy with a card, and those who used generic therapy. A smaller group of patients ($^{\sim}3.5\%$) that used both brand and generic medication was excluded from the analysis. Patients for the persistence analysis (n=4,246) were tagged as new to molecule, if they had no prescriptions in the last quarter of 2015. Patients for the utilization analysis were only included if they had prescriptions both before and after 2016. This analysis focused on brand users only (n=3,570).

Each anonymized patient was tagged as either a card user or a non-card user. Card users did not have to use a card for all their scripts, but as mentioned above all their prescriptions had to be for the brand. Non-card users were either exclusively on the brand or a generic medication, although the generic medication manufacturer may have varied within a patient. Payer share within anonymized patients was also calculated and split by Public, Third-Party Private, Third-Party Card, and Cash.

Results

Patients on this medication tend to be predominantly generic users, with only 8.2% using the brand. The age profile for each of the three groups (Figure 1) is very similar, with the median age ranging from 64 (brand w/o a card) to 67 (generic), suggesting that about half of patients are eligible for public coverage. The split between Public, Third-Party Private and Cash, shows that Third-Party Private payers have the biggest share in all three groups, and that the Cash portion is the lowest for card users (Table 1).

Table 1: Payer Splits across Groups

PATIENT GROUP	PUBLIC	PRIVATE	CASH	CARD
Brand w/o Card	16.3%	50.4%	33.3%	0.0%
Brand w Card	28.9%	30.7%	14.9%	25.5%
- excluding card	38.8%	41.2%	19.9%	
Generic	31.6%	45.1%	23.2%	0.0%

Patient persistence was evaluated based on being new to the molecule in January 2016 (using a 3-month lookback period). Figure 2 shows the outcome of the analysis with significant differences found between all three groups. Pairwise comparisons showed significant differences in adherence between card users and the other two groups. No significant difference was found between brand and generic users where no card was involved.

Patient utilization was challenging to compare across all three groups due to differences in dosage profiles between brand and generic users, and insufficient data for a pre/post analysis. As a result, the utilization analysis was limited to a cross-sectional comparison of Brand users with or without card use. The analysis shows that card users have higher medication utilization as the dollar share of the prescription cost covered by the card increases (Figure 3). Combined with Cash being the lowest payer for card users (Table 1), these insights align with previous work showing increased utilization as the cash portion decreases².

Conclusions

The use of card programs is increasing in Canada across provinces and therapeutic areas. Supporters point to improved adherence and affordability, while detractors point to increased costs. Support for either contention tends to be weak or vague, and a dearth of evidence is an impediment to effective policy development.

This study offers an approach to better understand some of the issues and knowledge gaps in this area. It shows that card programs do have a role to play in increasing patient adherence, and impact ongoing utilization as the level of financial support grows. While further work needs to be done, this technique can be expanded to broadly understand the impact of card programs across therapeutic classes, geographies, payers, and the level of reimbursement.

REFERENCES

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DISCLOSURE:

The author gratefully acknowledges QuintilesIMS for granting access to the relevant data, and the time and support required to make this research possible.

QuintilesIMS acquired STI Technologies Limited (a card provider) in February 2017. STI operates as an independent business unit within QuintilesIMS and had no role in the design or execution of this research.

Figure 1: Patient Age Profile across Groups

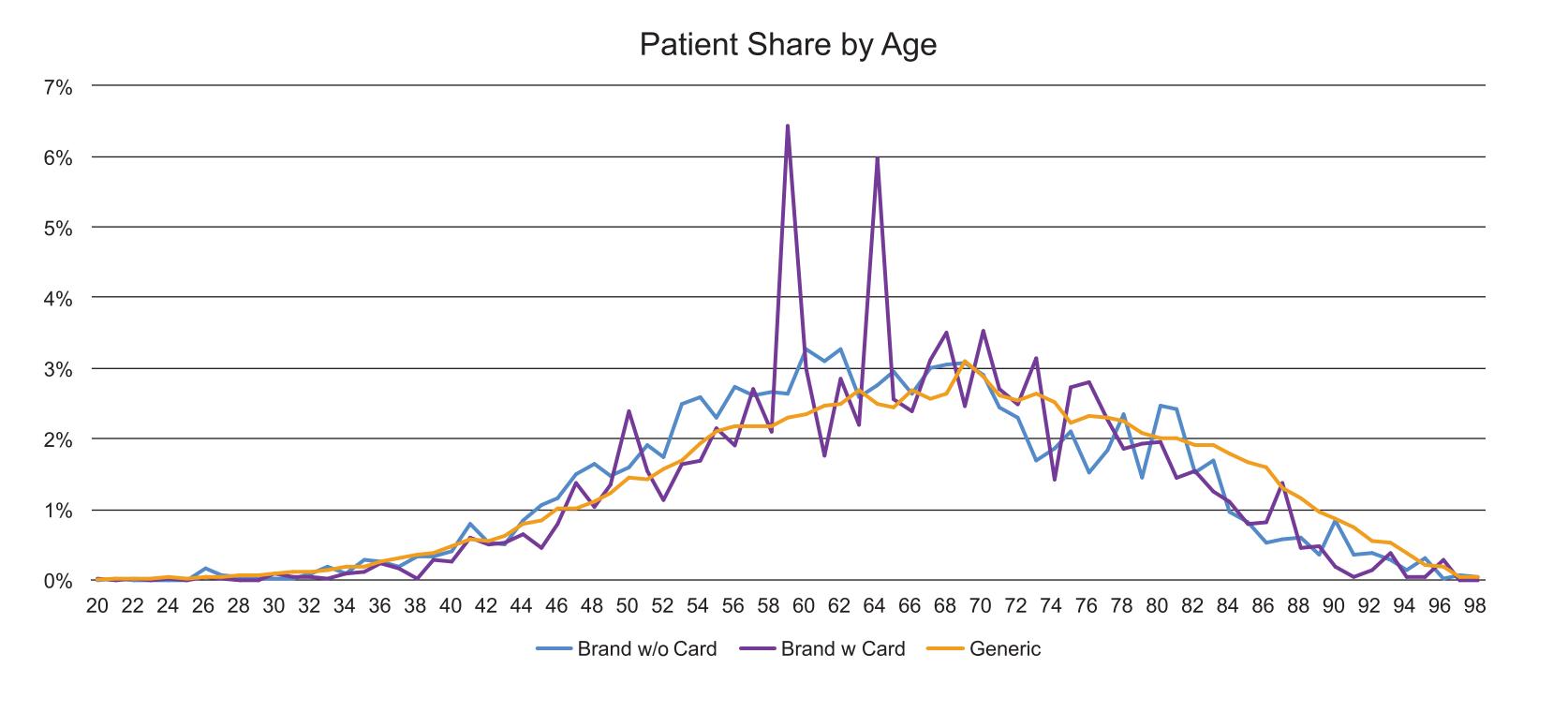


Figure 2: New to Molecule Patient Persistence

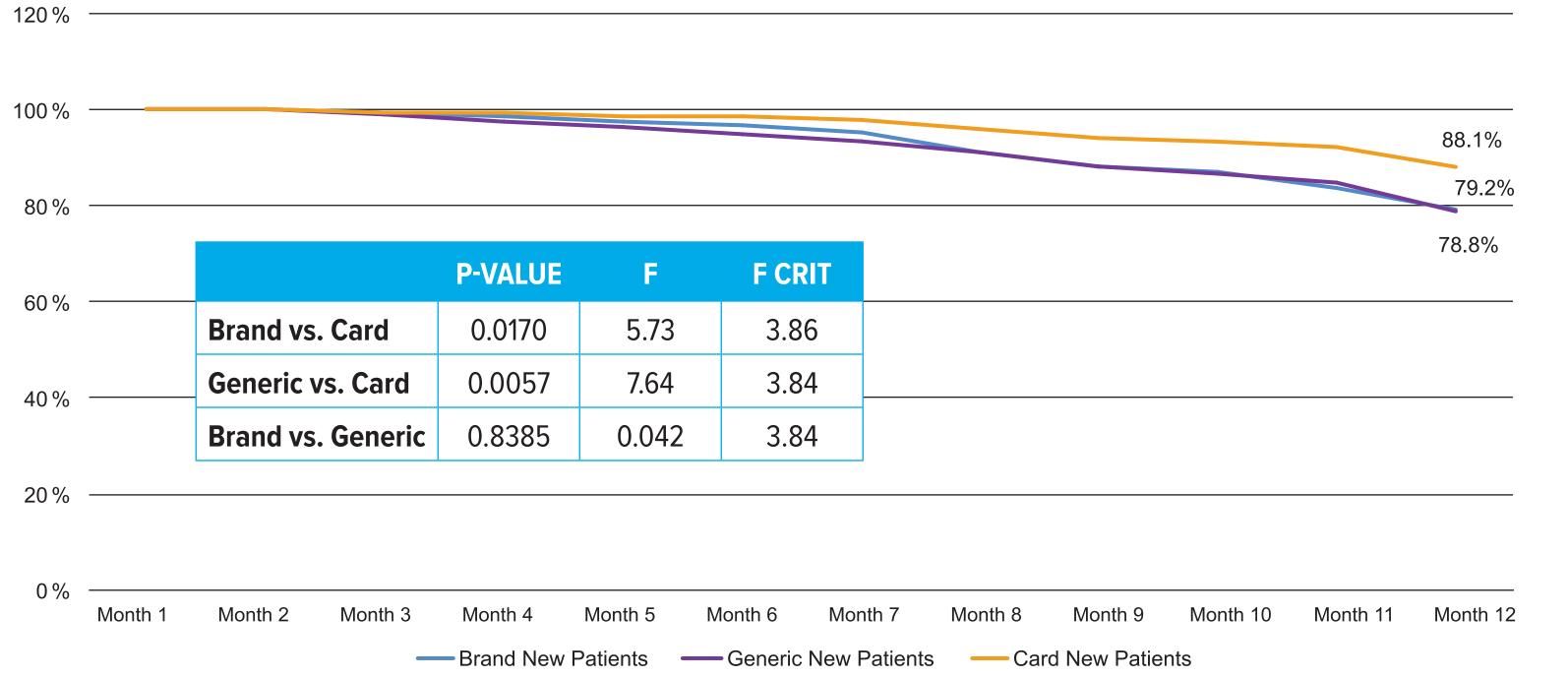


Figure 3: Medication Utilization with Increasing Card Share

