The Analysis of Etanercept Treatment Patterns and Reimbursement Gaps in Patients Transitioning From Private to Public Drug Plans

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Background

- Enbrel® (etanercept) is approved by Health Canada for several indications: rheumatoid arthritis, psoriasis, psoriatic arthritis, ankylosing spondylitis, and juvenile idiopathic arthritis
- Rheumatoid arthritis (RA) is an autoimmune disease affecting patients' tissue lining and joints (Bykerk, 2012)
- Psoriasis (PsO) is an immune-mediated disease affecting the skin (National Psoriasis Association, 2013)
- In Canada, most patients receive reimbursement for their prescription medications either through private drug plans, or provincially managed public drug plans
- In Ontario, patients 65 years of age or greater or on social assistance qualify for a public drug plan
- In Quebec, those without a private drug plan receive public drug plan coverage
- Amgen's patient assistance program for Enbrel® (Enliven®), suggests that some patients experience a delay in accessing Enbrel® when transitioning from private to public drug plans
- Currently, there is limited information on patient treatment patterns during their transition from private to public plans, with a prior study indicating that approximately two-thirds of senior patients show a reimbursement gap in Enbrel® when transitioning between payers (Millson et al, CAPT Nov. 2014)

Objective

Primary Objectives:

- To estimate the reimbursement gap duration (median and distribution) when an Enbrel® patient transitions from private to public plans
- Characterize the treatment patterns and lines of therapy within disease-modifying antirheumatic drugs (DMARDs) and biologics after an Enbrel® patient transitions from a private to public plan

Secondary Objective:

- To determine if therapy choice, prior therapy experience, demographics, indication, or prescribing physician specialty affect reimbursement gaps
- To estimate the proportion of Enbrel® patients that have a clinically meaningful gap in therapy (>21 days) when transitioning from private to public plans

Methods

Study Design

- A retrospective longitudinal cohort study using patient-level medication transaction (Rx) data
- Patient selection period ranged from January 1st 2010 to June 30th 2013
- Patients were indexed at the end of their day's supply of therapy for their last private plan reimbursed Enbrel® Rx
- A 6 month look-back period was used to ensure no public plan reimbursement prior to the index date
- To measure the reimbursement gap, the follow-up (analysis period) was the first 12 months following the index date
- To describe the treatment patterns post plan transition, the follow-up (analysis period) was 12 months following the first public plan reimbursed PsO/RA Rx
- For the lines of therapy analysis, the first line of therapy began at the first public plan reimbursed PsO/RA Rx
- Reimbursement gap is defined as the time (in days) between the last day's supply of the last private plan reimbursed Rx for Enbrel® and the first public plan reimbursed DMARD or biologic therapy
- A clinically meaningful gap in therapy is defined as a gap greater than 21 days

Data Sources

- The IMS Brogan LifeLink® database contains information on approximately 73% of all Canadian pharmacy prescription transactions across Canada
- Patient diagnosis was inferred using proprietary IMS Brogan indication inference algorithms due to lack of indication information

Patient Eligibility

Inclusion Criteria:

- Reported transactions are from Ontario or Quebec pharmacies
- Last private plan Enbrel® transaction within the index period
  - Cash only transactions prior to public plan coverage were categorized as private plan coverage
- The reporting pharmacy has met IMS Brogan's reporting data integrity standards for the entire study period
- First public plan transaction within one year of index date

Exclusion Criteria:

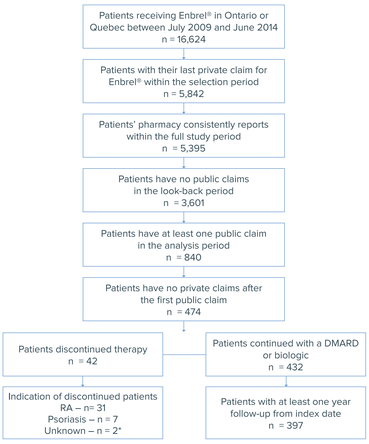
- Transaction for more than one type of biologic agent during the 6 months prior to the index date
- Concurrent private and public plan coverage

Statistical Analysis

- T-test, one-way ANOVA, Mann-Whitney U test, or Kruskal-Wallis one-way analysis of variance tests were used where appropriate
- Due to multiple statistical tests, an alpha level of 0.01 was used when comparing reimbursement gaps between groups
- SAS ver. 9.3 was used to conduct the analysis

Results

Figure 1. Patient Selection Results



*Patient counts ≤5 are masked as 2

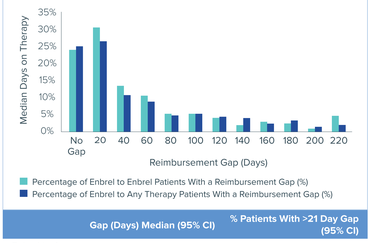
Study Cohort Analysis

- 474 patients were identified who met the inclusion/exclusion criteria (Figure 1)
- Of those patients, 51% were from Ontario, 60% were female, and 70% were younger than 65 years of age (Table 1)

Table 1. Baseline Study Cohort Description

	All Patients (N = 474) n(%)	
Age		
<65	333	(70%)
65 and above	141	(30%)
Gender		
Female	284	(60%)
Male	190	(40%)
Province		
Ontario	242	(51%)
Quebec	232	(49%)
Indication		
Psoriasis	72	(15%)
RA	347	(73%)
Unknown	55	(12%)
Specialty		
Rheumatologist	265	(56%)
Dermatologist	55	(12%)
General Practitioner / Family Medicine	36	(8%)
Other	44	(9%)
Unknown	75	(16%)
TOTAL	**474**	**(100%)**

Figure 2. Distribution of Reimbursement Gap for Enbrel to Enbrel and Enbrel to Any Therapy Patients

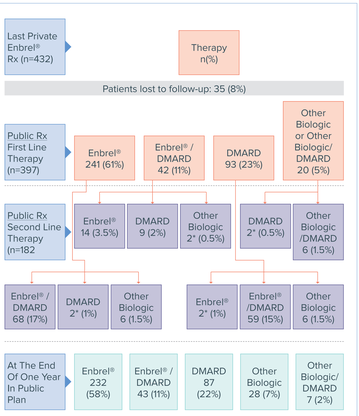


	Gap (Days) Median (95% CI)	% Patients With >21 Day Gap (95% CI)
Enbrel to Any Therapy	19 (13, 27)	48% (43%, 53%)
Enbrel to Enbrel Therapy	15 (11, 23)	45% (40%, 50%)

Lines of Therapy Progression

- Of the 397 patients with one year follow-up, 54% remained on their first public plan line, 15% progressed to a second-line, 26% progressed to a third-line, and 5% progressed to a fourth-line or greater
- Most patients continued with Enbrel® (61%) after transitioning to a public plan, followed by DMARDs (23%), Enbrel® with DMARDs (11%), and other biologics or other biologics with DMARDs (5%) (Figure 3)
- Of the patients whose first public Rx was a DMARD, 69% switched to Enbrel® or added Enbrel® to their DMARD
- Median time on first public Rx was longer for Enbrel (345 days) and Enbrel with DMARD (352 days) than other first public Rx's: DMARDs (56 days), other biologics (227 days), or other biologics with DMARDs (309 days)

Figure 3. First and Second – Line Therapy Pathway After Transitioning to Public Plan



Note: *Patient counts ≤5 are masked as 2
Percentages represent the proportion of patients of each line of the total 397 Enbrel patients with at least one year follow-up time

Length of Reimbursement Gap

- Of the 474 transitioning Enbrel® patients, 42 (9%) discontinued biologic and DMARD therapy
- The median reimbursement gap was 19 days (95% CI [13, 27]), with more than 75% of patients showing evidence of a reimbursement gap (Figure 2)
- For patients who continued Enbrel® within the analysis period, the median reimbursement gap decreased to 15 days (95% CI [11, 23]), with 76% of patients showing evidence of a reimbursement gap
- No statistical differences were found in reimbursement gap between gender, age group, province, indication, or naive vs. experienced Enbrel® patients (p>0.01)
  - Younger patients had a longer median reimbursement gap compared to older patients, 21 and 8 days respectively
- Of all patients, 48% (95% CI [43%, 53%]) of patients transitioning to public plans had a reimbursement gap greater than 21 days (clinically meaningful)
- Of the patients whose first prescription on a public plan was Enbrel, 45% (95% CI [40%, 50%]) had a clinically meaningful reimbursement gap
- Patients who continued with Enbrel® in the public plan showed the shortest median reimbursement gap compared to those who started public plans on a DMARD or other biologic (10 days vs. 47 days [DMARDs] vs. 179 days [other biologics])

Limitations

- Measurement of Reimbursement Gap: Days of therapy information in the IMS Brogan LifeLink® database for biologic therapy can be unreliable. Therefore, improbable values were replaced by standardized doses.
- Misclassified Indication: Diagnosis codes are not available in the IMS Brogan LifeLink® database. Therefore, indications were inferred using an algorithm based on prescription history and prescribing physician specialties. There is potential for misclassification, but this should not affect the primary objective.
- Enliven® Participants: We are unable to determine whether a patient was part of the EnLiven® patient support program which provides assistance to patients as they navigate the reimbursement process. Since >80% of patients receiving Enbrel® are enrolled in the program, bias comparing patients receiving Enliven® support to other Enbrel® patients would be limited.
- Geographic: This study is restricted to Ontario and Quebec. Therefore, these results may not be generalizable to the entire Canadian population.
- Missing Data: Irregularly reporting pharmacies were excluded as to not misclassify an unreported prescription as a reimbursement gap. Similarly, we excluded patients with missing demographic variables.

Conclusions

- The majority of patients showed evidence of a reimbursement gap when transitioning from private to public plans
- A significant number of patients experienced a clinically meaningful (>21 days) reimbursement gap in Enbrel® coverage which may result in suboptimal clinical outcomes
- No statistical difference in reimbursement gap was found based on gender, age, province, indication, or prior Enbrel® experience indicating equal access to care, although signals of higher gaps for younger patients was shown
- Patients transitioning to non-Enbrel® therapy following the transition to a public plan showed longer reimbursement gaps than those who continued on Enbrel® therapy
- 23% of Enbrel® patients revert back to DMARD therapy on a public plan even after previously requiring a biologic therapy, which has the potential to impact patient outcomes
- It is unknown if physicians are aware that a gap can occur with their patients, but assistance from the Enliven® program may help minimize the gap in reimbursement and potential breaks in therapy

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Privacy – IMS Health Canada does not hold any personally identifiable patient information. All patient-level data is de-identified prior to availability within the organization as part of significant risk management programs implemented to ensure the protection of patient privacy.