A Comparison of Employee Cost Share Among Anti-Tumor Necrosis Factor Users

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Abstract

Background: Little is known about employee cost share and its impact on compliance with anti-tumor necrosis factor (TNF) therapy.

Purpose: To examine anti-TNF cost share and measure the impact on compliance.

Methods: A retrospective analysis using the HCMS Research Reference Database (RRDb) containing claims from large US employers between January 1, 2001 and September 30, 2006 was conducted. Employees with immune-mediated inflammatory diseases (IMIDs) were identified using the following ICD-9 codes: 555.xx (Crohn's disease), 556.xx (ulcerative colitis), 696.0x (psoriatic arthritis), 696.1x (psoriasis), 714.xx (rheumatoid arthritis [RA]), or 720.0x (ankylosing spondylitis). Anti-TNF treatment was identified using medication J-Codes (J1745 infliximab; J1438 etanercept; J0135 adalimumab) or prescription pharmacy claims. Looking forward 1 year from first anti-TNF treatment, cost share (%) was calculated as the amount paid by the employee divided by the total amount paid by either the employee or the employer/insurer. Poisson regression models controlled for salary, age, gender, region, month and year of treatment start date, and comorbidities.

Results: There were 196 employees taking etanercept, 54 taking infliximab, and 39 taking adalimumab. Of those taking etanercept, 76% paid 0.5% to 5% of the medication price, while 82% taking adalimumab paid 1% to 10%. Infliximab users had a bimodal cost share distribution, with 33% paying nothing and 48% paying >5%. Furthermore, infliximab cost share percentages increased beginning in 2005. Results of the regression analyses indicated that impacts of cost share, relative cost share, and salary on the number of anti-TNF treatments were not significant, with 2 exceptions. First, higher salaries were associated with more infliximab treatments for employees with RA. Employees earning $20,000/year were more likely to receive 4 treatments, while employees earning $100,000/year were likely to receive 8. Second, as copay as a percentage of salary increased for employees taking etanercept with RA or IMIDs, fewer treatments were received.

Conclusions: Although the impact of employee cost share on persistence to anti-TNF treatment does not appear to be large, further studies are warranted, especially as the cost burden for medicines shifts to employees.

Background

- Inflammatory disorders (IDs) are a class of diseases characterized by an excessive or inappropriate immune response and can cause varying levels of inflammation to any organ in the body[1-2]
- Some of the diseases belonging to this category are rheumatoid arthritis (RA), Crohn's disease (CD), ulcerative colitis (UC), psoriasis, psoriatic arthritis, and ankylosing spondylitis[3]
- Prevalence rates of IDs in the United States (US) have been estimated between two and seven percent[1-3]
- Treatment options for IDs are as varied as the class of disease itself, but improvements in some of the diseases have been seen with use of anti-tumor necrosis factor (anti-TNF) therapy[1, 4]
- Effect of patient cost-share on adherence to medication regimens has not been studied for these treatments

Purpose

- To examine anti-TNF cost share and measure the impact on compliance

Methods

- A retrospective analysis using the Human Capital Management Services (HCMS) Research Reference Database (RRDb) containing claims from large US employers between January 1, 2001 and September 30, 2006 was conducted
- Employees with inflammatory diseases were identified using the following ICD-9 codes:
  - 555.xx (Crohn's disease)
  - 556.xx (ulcerative colitis)
  - 696.0x (psoriatic arthritis)
  - 696.1x (psoriasis)
  - 714.xx (rheumatoid arthritis)
  - 720.0x (ankylosing spondylitis)
- Anti-TNF treatment was identified using medication J-Codes (J1745 infliximab; J1438 etanercept; J0135 adalimumab) or prescription pharmacy claims
- Looking forward 1 year from first anti-TNF treatment, cost share (%) was calculated as the amount paid by the employee divided by the total amount paid by either the employee or the employer/insurer
- Poisson regression models controlled for salary, age, gender, region, month and year of treatment start date, and comorbidities

Results

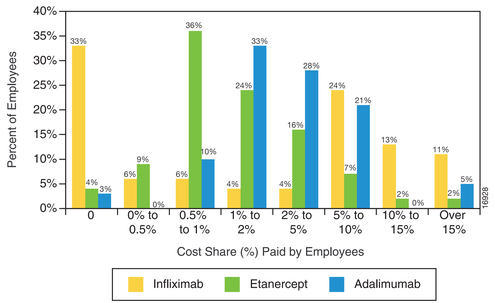
- 4,785 employees were included in the analysis. The mean age was 43.1 years, 49.0% were female, 93.5% were employed full time and were employed with the same employer for an average of 10.4 years.
- There were 196 employees taking etanercept, 54 taking infliximab, and 39 taking adalimumab (Table 1).

Table 1. Employee treatment allocation

Employees taking anti-TNF treatment (n)	289
Etanercept (n)	196
Infliximab (n)	54
Adalimumab (n)	39

- Of those taking etanercept, 76% paid 0.5% to 5% of the medication price, while 82% taking adalimumab paid 1% to 10% (Figure 1).
- Infliximab users had a bimodal cost share distribution, with 33% paying nothing and 48% paying >5% (Figure 2).
- Furthermore, infliximab cost share percentages increased beginning in 2005 (Figure 2).

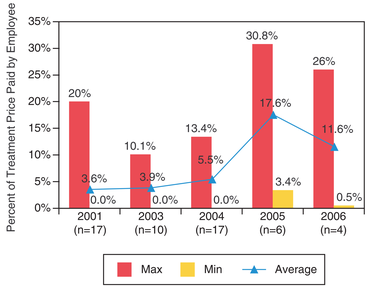
Figure 1. Employee cost share 1 year from first anti-TNF treatment*



*Cost share calculated as the amount paid by employee divided by the total amount paid by either the employee or the employer/insurer

†Infliximab cost share percentages increased beginning in 2005

Figure 2. Infliximab cost share percentage



- Results of the regression analyses indicated that impacts of cost share, relative cost share, and salary on the number of anti-TNF treatments were not significant, with 2 exceptions:
  - First, higher salaries were associated with more infliximab treatments for employees with RA. Employees earning $20,000/year were more likely to receive 4 treatments, while employees earning $100,000/year were likely to receive 8
  - Second, fewer treatments were received, in general, as the copay as percentage of salary increased for employees taking etanercept with RA or IDs

Conclusions

- Although the impact of employee cost share on persistence to anti-TNF treatment does not appear to be large, further studies are warranted, especially as the cost burden for medicines shifts to employees
- Employers should be aware of potential cost share on adherence to medication when designing health benefits for employees

References

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