Potential cost savings from triple therapy use. An example from British Columbia, Canada

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BACKGROUND

- Recent randomized controlled trials in rheumatoid arthritis (RA) patients have determined that a strategy of first adding the two Disease Modifying Anti-Rheumatic Drugs (DMARDs) sulfasalazine and hydroxychloroquine to methotrexate (a combination known as Triple Therapy) is neither inferior nor less safe than first adding anti-TNF drugs in patients with active disease despite methotrexate.
- The implication is that inexpensive triple therapy should be initiated prior to expensive biologic therapy.
- In this study we examine historical biologic and Triple Therapy use in British Columbia (BC), Canada over the past 10 years.
- We sought to estimate the potential savings in expenditures if Triple Therapy use had been more prevalent, and project potential future cost-savings.

METHODS

We used data from:

- A population-based cohort of all BC patients with a rheumatologist diagnosis of RA identified from BC administrative data.
- British Columbia is a province in Canada with a total population of 4.6 M
- Some prescription drugs in BC are paid for by a provincial government program (depending on age and income), but costs for biologics are often shared with extended health insurers and out of pocket copays.

We selected:

- Prevalent RA cases
- Who used a biologic for the first time between 2001 and 2010

We examined:

- Their prior DMARD history from prescription billing data.
- Data available: January 1, 1996 to March 31, 2010

For each year, we calculated:

- The proportion of patients that had used Triple Therapy,
- The average drug prices, and
- The average duration patients remain on Triple Therapy.

Assumptions

- Since not all patients can use Triple Therapy, we conducted a series of scenarios which estimated the cost that would have been saved if a higher proportion of patients had used Triple Therapy.

RESULTS

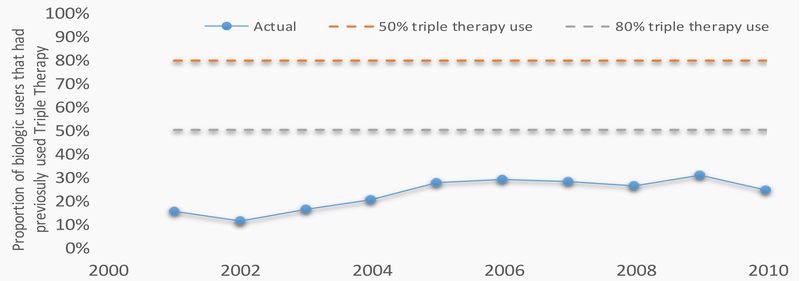
Cohort

- In total, we examined 2726 RA patients who started their first biologic over the time period.
- In their first year of biologic use, over the 10 years $62 million has been spent on biologics (much more has been spent on subsequent years).

Triple Therapy use

- Triple therapy use prior to biologic therapy has increased over time but remains low: 15% in 2001 to 25% in 2010

Figure 1: Actual vs. proposed scenarios for utilization of Triple Therapy over time



Triple Therapy persistence

- The mean duration patients remained on triple therapy has increased from 9 months to 14 months from 2001 to 2010.
- Median persistence in 2010 was 5.9 months, (IQR: 2.7 to 16.1, Range: 1 to 103)

Figure 2: Mean, median and IQR in months for persistence on Triple Therapy

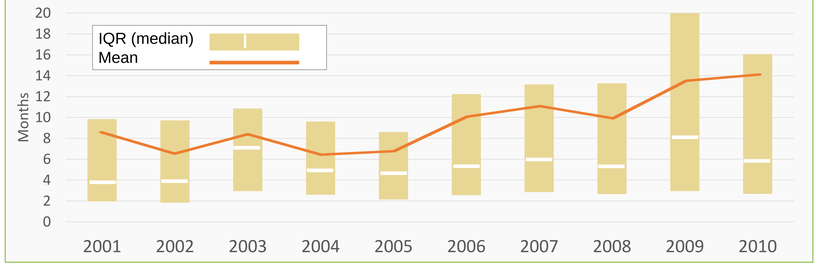
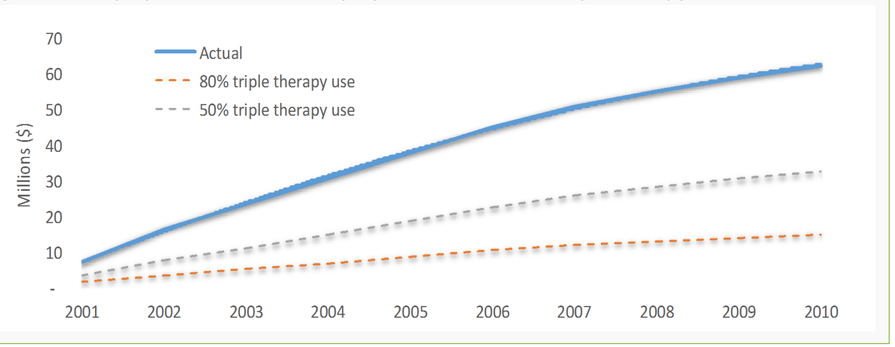


Figure 3: Cost projections for actual vs proposed scenarios for Triple Therapy use



Cost and budget implications

- Assuming patients persisted on Triple Therapy for 1 year, a scenario where 80% of patients would have received triple therapy instead would have resulted in cost savings to BC of $47.3 million over the 10 year period ($28 million for 50%).
- Projections suggest $3-6 million per year could be saved in the future in BC alone.

CONCLUSIONS

- With the benefit of hindsight, higher use of Triple Therapy prior to biologic initiation would have released a substantial amount of pharmaceutical spending to alternative treatments.
- Importantly, with less than 25% of patients currently receiving triple therapy prior to a biologic, there is still a considerable potential for future savings.
- Assuming similar patterns of triple therapy use across Canada, projections suggest future cost-savings of over $12-25 million per year if triple therapy is used in 80% of patients prior to biologic use.
- Higher utilization of Triple Therapy will require a willingness for rheumatologists to prescribe it, and a willingness for patients to use it.
- Strategies such as academic detailing and patient decision aids may be good investments if they can change treatment choices.

ACKNOWLEDGEMENTS

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