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## Dermatology

### Title

How Do FDA approved Biologics Compare to Narrow-Band Ultra-Violet B Light for the treatment of moderate to severe Psoriasis and Atopic Dermatitis?

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# How Do FDA approved Biologics Compare to Narrow-Band Ultra-Violet B Light for the treatment of moderate to severe Psoriasis and Atopic Dermatitis?

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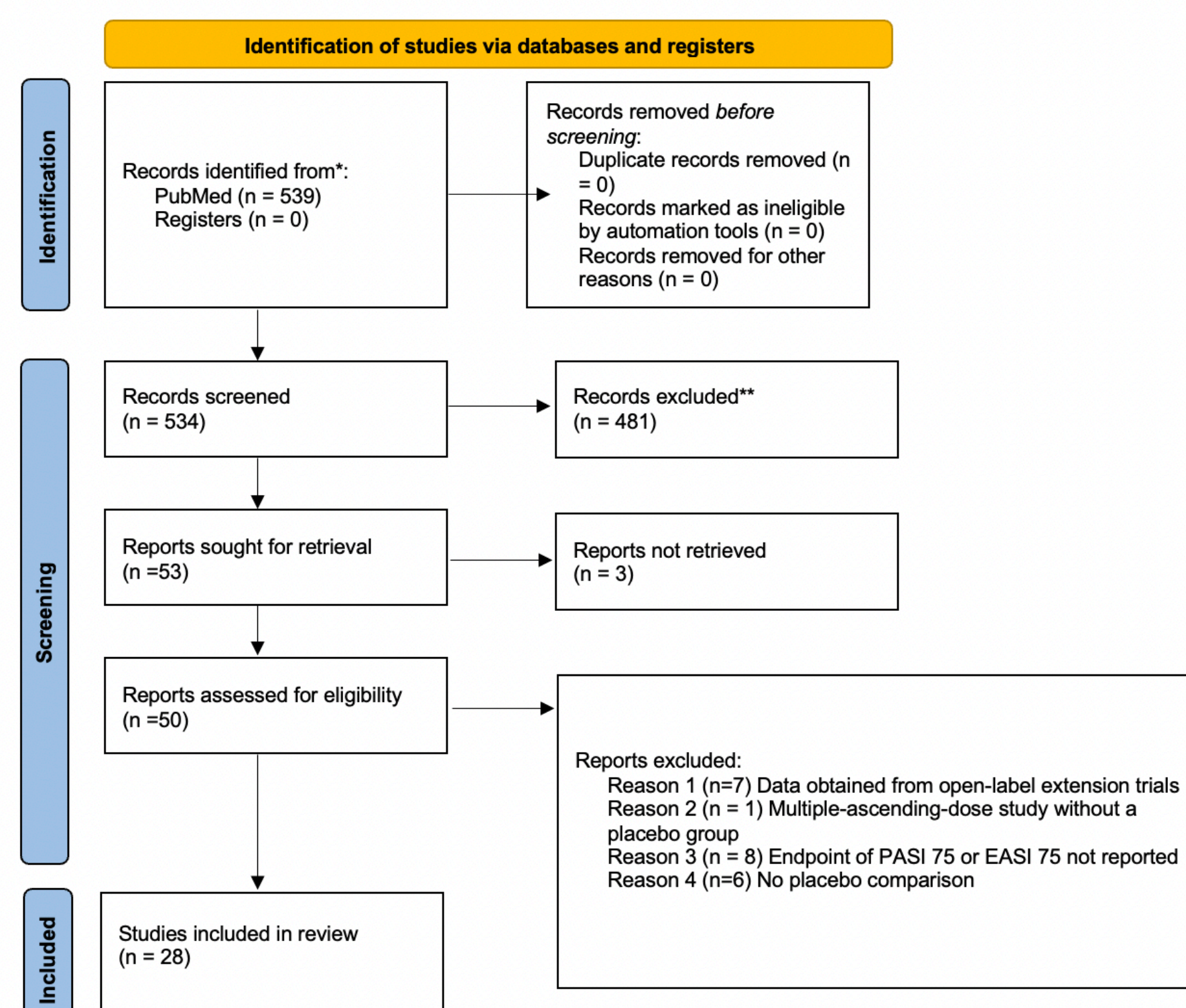
## INTRODUCTION

- 1% to 3% of adults worldwide, are impacted by psoriasis [1]
- 2% of US adults are impacted by atopic dermatitis [2]
- Psoriasis and atopic dermatitis are chronic illnesses with compounding costs of treatment
- Biologics are desirable treatments for moderate to severe psoriasis and atopic dermatitis
- **Purpose:** Provide a cost benefit analysis of all biologics compared to narrow band ultraviolet B (NB-UVB) light therapy for the management of atopic dermatitis and psoriasis

## METHODS

- A systematic literature review of FDA approved biologics for the treatment of psoriasis and atopic dermatitis was conducted
- Medication cost was referenced by wholesale acquisition cost (WAC)
- Primary end point was a 75% reduction in the Psoriasis Area and Severity Index Score (PASI 75) or the Eczema Area and Severity Index score (EASI 75)
- Cost efficacy was calculated using cost per month of treatment to achieve PASI 75 or EASI 75

Figure 1



## RESULTS

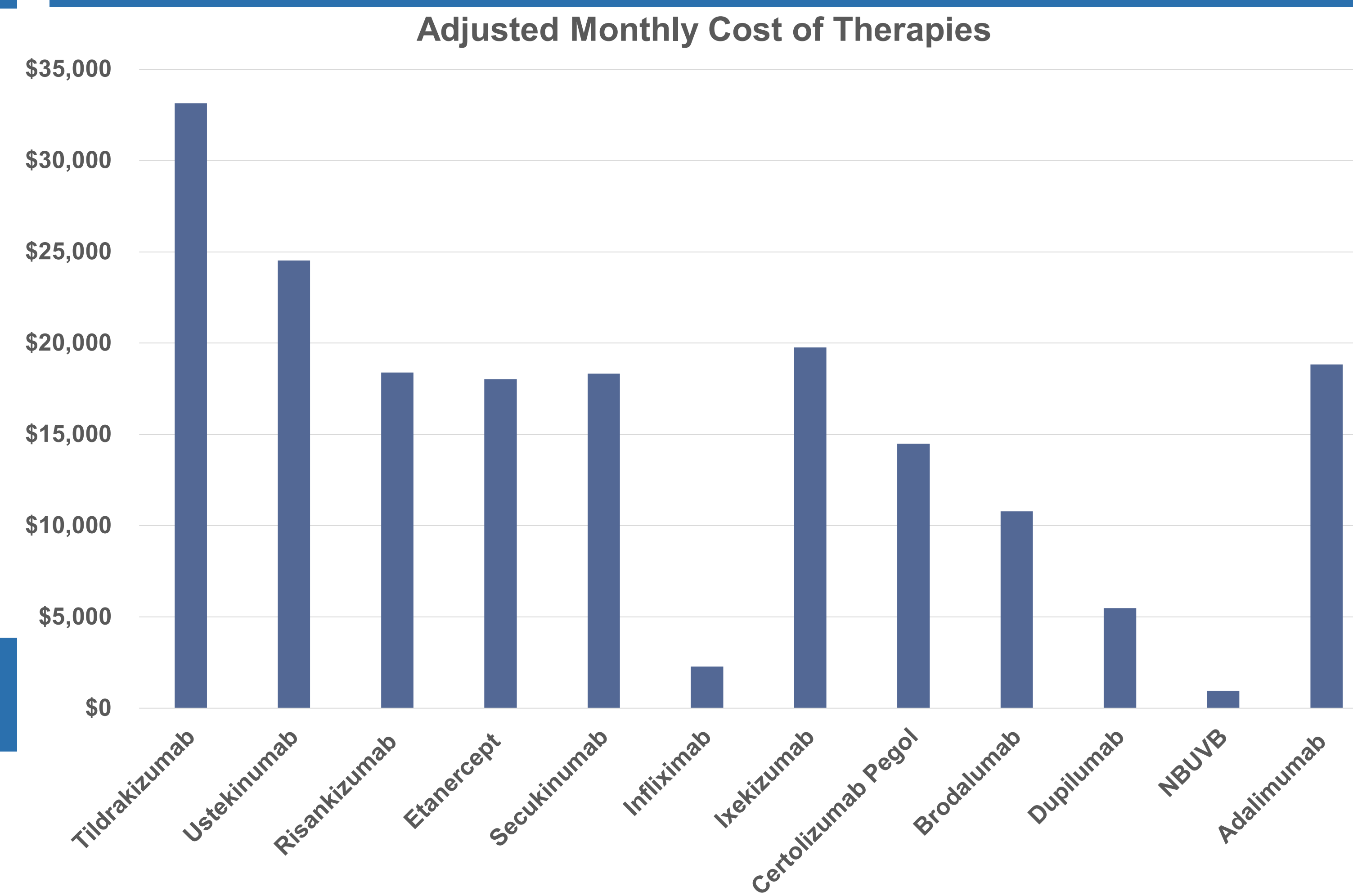


Figure 2: Average monthly cost to achieve PASI 75 or EASI 75. Total cost per biologic was standardized to a single month, to allow for comparison of cost over each study's different duration of treatment.

## RESULTS

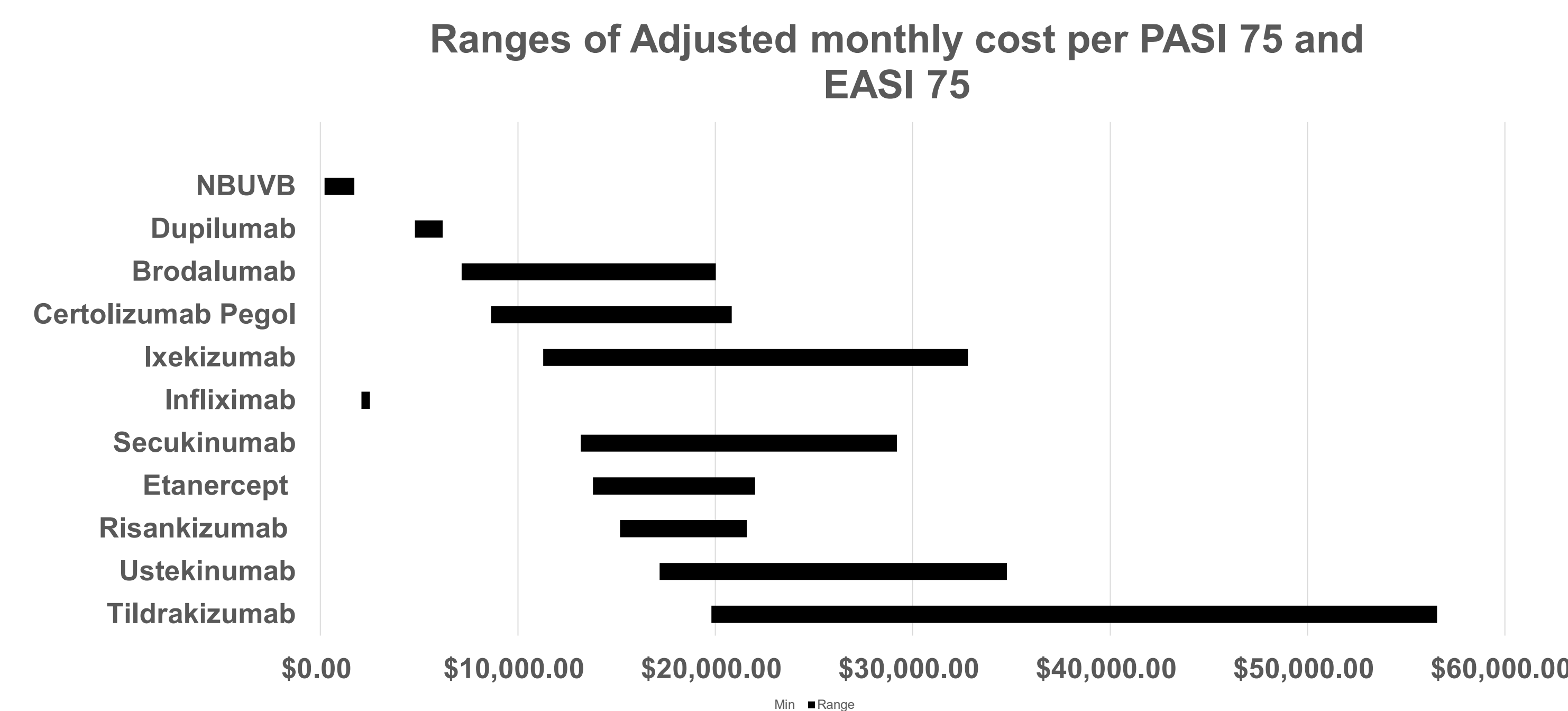


Figure 3: Range of monthly cost to achieve PASI 75 or EASI 75, to illustrate variability in cost across different studies of the same medications.

## RESULTS

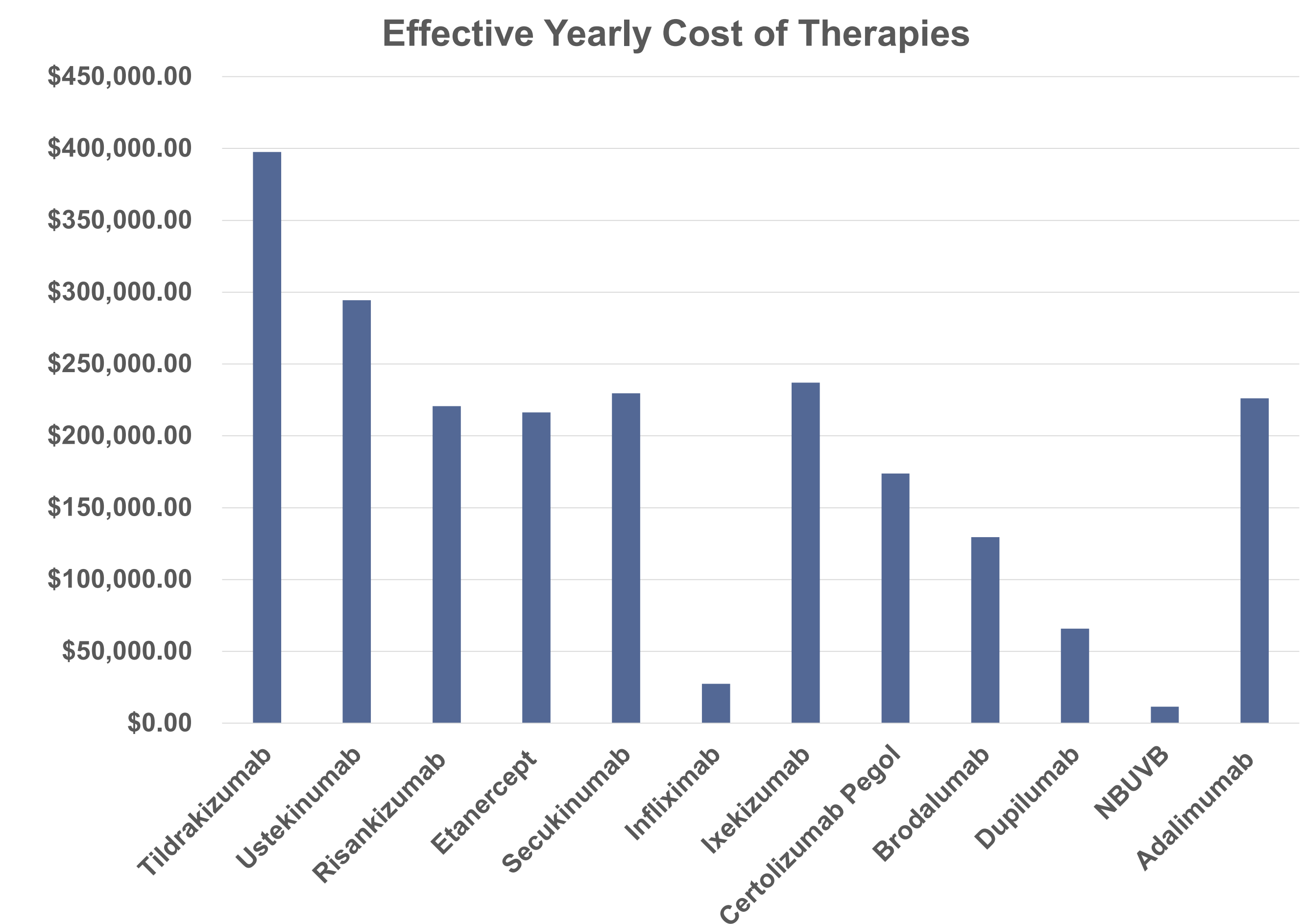


Figure 4: Summary of adjusted monthly cost of all biologics approved by the US Food and Drug Administration for the treatment of psoriasis and atopic dermatitis, extrapolated to a year, to permit a longitudinal cost comparison of therapies.

## CONCLUSION

- Infliximab was the least costly therapy to achieve PASI 75 (\$2,076.00 to \$2,502.00)
- Tildrakizumab was the costliest therapy to achieve PASI 75 (\$19,796.89 to \$56,558.74)
- The adjusted monthly cost of NB-UVB ranged from \$217.00 to \$1,714.00
- Dupilumab is the only FDA approved biologic for the treatment of atopic dermatitis, with an adjusted monthly cost ranging from \$4,781.09 to \$6,200.00 per EASI 75.
- The results of this analysis should help providers and patients in choosing therapies for the treatment of chronic illnesses based on both cost and efficacy of therapy

## REFERENCES

- [1] C. Avena-Woods, "Overview of atopic dermatitis," *Am J Manag Care*, vol. 23, no. 8 Suppl, pp. S115–S123, Jun. 2017.  
 [2] N. Weigle and S. McBane, "Psoriasis," *Am Fam Physician*, vol. 87, no. 9, pp. 626–633, May 2013.