# Efficacy of targeted drugs for the treatment of adults with moderate-to-severe plaque psoriasis in the Russian Federation: number needed to treat and costs per responder

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## BACKGROUND

The metric indicator number needed to treat (NNT) has both clinical and economic significance to assess the number of patients who need to be treated to achieve one additional favorable outcome. Cost of achieving one response to therapy (cost per responder, CpR) allows to evaluate the effect of introducing a new medical technology compared to the current standard of treatment

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## OBJECTIVES

To reassess the number of adults with moderate-to-severe plaque psoriasis needed to treat (NNT) to achieve one Psoriasis Area and Severity Index (PASI) 75/90 response and costs per responder (CpR) after 12 weeks for adalimumab (ADA), infliximab (INF), etanercept (ETN), ixekizumab (IXE), netakimab (NTK), secukinumab (SEC), ustekinumab (UST), tofacitinib (TOFA), and apremilast (APR) and after 16 weeks for certolizumab pegol (CZP), risankizumab (RIS) and guselkumab (GUS) and 1 year of therapy for each drug analyzed.

## METHODS

We updated our previously published results of NNTs and CpRs comparing the efficacy and efficiency of targeted drugs ADA, INF, ETN, CZP, IXE, NTK, SEC, RIS, GUS, UST, TOFA, and APR to treat adults with moderate-to-severe plaque psoriasis in the Russian Federation. NNTs were calculated based on risk differences (RD) between targeted therapies and placebo. Corresponding CpR values were assessed for 12 or 16 weeks and 1-year periods using current prices from Russian Pricing Registry.

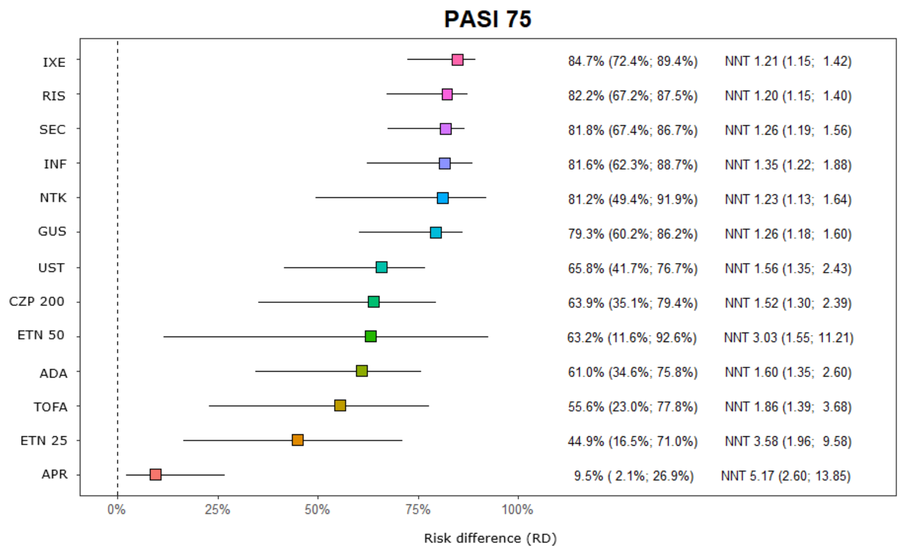
## RESULTS

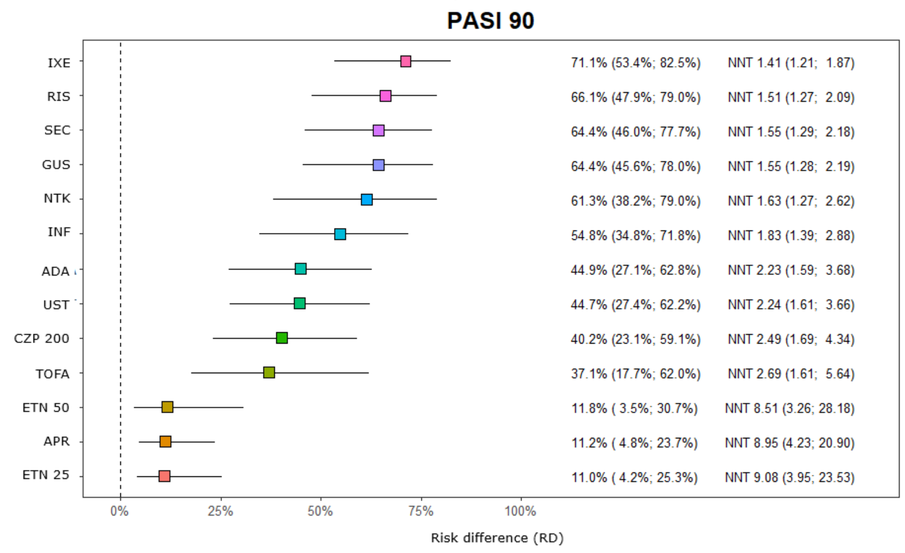
For PASI 75 the lowest NNT values were obtained for IL-17 inhibitors: IXE, NTK, and SEC, IL-23 inhibitors: GUS, RIS, as well as tumor necrosis factor-alpha (TNF-α) inhibitor INF. It requires to treat no more than 2 patients to achieve one PASI 75 response and no more than 3 patients for one PASI 90 response for the drugs listed above. NTK showed the lowest costs per responder for both 12- week and 1-year periods. ETN and small molecules: APR and TOFA, showed the highest CpRs among all targeted drugs and were the least efficient treatment options.
Update results of NNT and CpR values proved the statistically significant superiority of all biologics over placebo. Despite high NNT rates for ADA, ETN, INF launch of biosimilars reduces therapy cost and increases its availability for patients.

## CONCLUSION

This study complements the systematic review and meta-analysis of the efficacy of targeted drugs to treat adults with moderate-to-severe plaque psoriasis in the Russian Federation. An individual approach in choosing treatment strategy based on patient profile and features of certain biologics and targeted synthetic drugs is required. The results may become a useful tool for treatment decision-making.

## NUMBER NEEDED TO TREAT




## COSTS PER RESPONDER