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Cost-effectiveness analysis of rimegepant versus standard of care for preventive treatment of episodic migraine in Norway: The impact of productivity gains.

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KEY FINDINGS

Excluding productivity effects from healthcare priority setting may undervalue interventions for diseases affecting the working-age population. There is a need for continued discussion on their role in health technology assessment.

BACKGROUND

Norway, like many industrialized countries, faces increasing pressure to maintain workforce participation as the population ages [1]. Norway is also facing rising levels of disability-benefit receipt and health personnel shortages. Nevertheless, productivity effects are currently excluded from healthcare priority setting, potentially underestimating the societal value of interventions that improve work ability.

Migraine affects 15–20% of the Norwegian population [2], with prevalence peaking during the prime working years (25–55 years) [3, 4]. Migraine thus provides a relevant case for examining how inclusion of productivity gains influences cost-effectiveness decisions from a societal perspective. There is, however, the question of how big these gains will indeed be, so multiple scenarios are warranted to shed light on this uncertainty.

This study focuses on adults with episodic migraine (EM), defined as at least 4 and up to 15 headache days per month, who have experienced inadequate response, intolerance, or contra-indications to previous preventive therapies. These patients often have limited preventive treatment options despite a substantial burden on health-related quality of life, daily functioning, and work productivity [5-7].

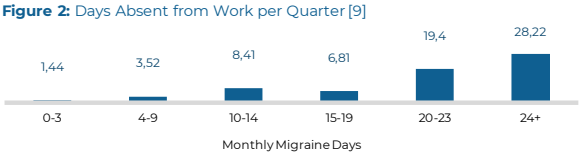
METHODS

A decision tree followed by a Markov model was used to evaluate the cost-effectiveness of rimegepant versus standard of care in adults with episodic migraine and prior preventive treatment failure (Figure 1). Clinical efficacy inputs, including monthly migraine days, responder rates (≥50% reduction in monthly migraine days), and health-related quality of life, were informed by the BHV3000-407 trial [8]. Costs and QALYs were estimated over a 20-year time horizon from a Norwegian societal perspective.

Productivity losses were estimated using published evidence on migraine-related work absence (Figure 2) [9]. Hourly costs of lost work and unpaid work were based on Norwegian guideline recommendations [10], with employment rates informed by Norwegian population statistics [11].

Scenario analyses assessed the impact of assuming that only 75%, 50%, or 25% of estimated productivity gains were realized, both including productivity gains from paid and unpaid work and including productivity gains from paid work only. Threshold analyses were performed to determine the minimum proportion of productivity gains at which the conclusion of dominance changed.

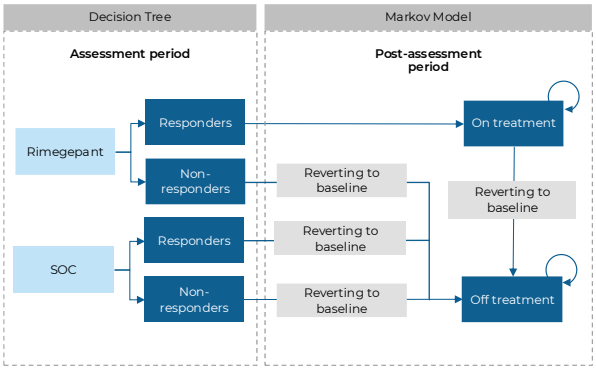
Figure 2: Days Absent from Work per Quarter [9]



OBJECTIVES

To evaluate the cost-effectiveness of rimegepant versus standard of care (SoC) for the preventive treatment of EM from a societal perspective, assuming different degrees of realization of the expected productivity gains.

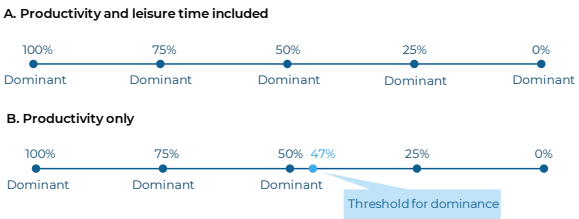
Figure 1: Model structure



RESULTS

Rimegepant was the **dominant treatment option**, being associated with both cost savings and health gains when compared with SoC (Figure 3). Rimegepant **remained dominant** when **75%**, **50%**, and **25%** of **estimated productivity gains** were assumed to be realized. Excluding gains from unpaid work, rimegepant remained associated with **lower costs** and **greater health gains** when only **47%** **of the predicted productivity gains** were realized.

Figure 3: Cost-effectiveness results by productivity gain realization scenario



CONCLUSION

Rimegepant was a dominant treatment option for episodic migraine even under conservative assumptions about productivity-gain realization, remaining cost-saving even after assigning no monetary value to unpaid workdays gained and allowing for only 50% of expected paid work gains.

Excluding productivity effects from economic evaluations risks underestimating the societal value of effective migraine treatment specifically, and highlights the need for an updated discussion on the role of productivity effects in healthcare priority setting more broadly – particularly in ageing societies facing workforce shortages

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