Introduction

Oncolytics reimbursed in France have one fixed price whereas the benefits vary across patient groups. More and more, voices raise the need to price per indication according with the value brought by a product.

The Personalized Reimbursement Models (PRM) project, active since 2015, is an infrastructure validated by the French National Data Privacy Committee collecting real-life data of HER2+ breast cancer (BC) patients receiving Roche targeted therapies.

The PRM project is positioned as an innovative drug financing model based on the real benefit for patients in terms of indication, patients profile, disease stages, combination therapies and treatment duration. It aims to routinely collect existing data to construct new pricing models. HER2 positive breast cancer patients (HER2+BC) data were collected and analyzed to confirm the collection’s robustness and representativeness of the French patients care.

Objectives

This study aimed:

1. first, to model theoretical personalized reimbursement agreements for Herceptin® using PRM database;
2. secondly, to assess the impact of Herceptin® market shares following adjuvant indication reimbursement.

Materials & methods

PRM breast cancer database

- All breast cancer women from 105 health centers recorded in the Electronic Pharmacy Record (EPR) system with at least one HER2 targeted Roche therapy administration between January 2011 to December 2016 were selected.
- Data related to demographics, disease description, drug usage and clinical outcomes were collected in the EPR. For each intravenous or subcutaneous HER2 blocking agents, doses and duration were automatically recorded.
- These data were cleaned, controlled and centralized in an anonymous and secure way through a hosting provider.
- Data management has been reviewed and validated by the scientific committee.

Theoretical reimbursement agreements

- Herceptin® antiHER2 targeted therapy, obtained reimbursement successively for metastatic breast cancer (2002), adjuvant setting (2006) and neoadjuvant setting (2012). Consequently, its price decreased with the reimbursement of local extensions in adjuvant setting on a volume based agreement, mainly ignoring the scaling of patients clinical benefit as adjuvant indication was recognized of better value (ASMR I) than the metastatic indication (ASMR II).

Results

Table 1: HER2+ breast cancer patients characteristics (2016)

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>HER2+ Metastatic breast cancer (ind1)</td>
<td>HER2+ Metastatic breast cancer (ind2)</td>
</tr>
<tr>
<td>Improvement in medical benefit (ASMR)</td>
<td>0</td>
<td>4.5</td>
</tr>
<tr>
<td>Manufacturing price</td>
<td>652.4 €</td>
<td>654.4 €</td>
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Perspectives

With a rapidly increasing healthcare costs, governments face a important challenge giving access to innovative medicine. Meanwhile, scientific progress in medicine is leading to new immunotherapies used in multiple indications and in combination with other medicines. PRM is particularly suited for these treatments. In fact, with the data collected by PRM it is possible to propose models where price is differentiated by indication, by combination or even by treatment duration reflecting the actual patient benefit.

Conclusion

PRM database provides a reliable reference basis for substantial and relevant price agreements in HER2+ breast cancer drugs opening innovative pricing solutions based on in real life care care that could be extended to new therapies in breast cancer.

The following results are a theoretical price decrease negotiation for Herceptin® indications in 2006. Assuming ASMR is a reliable proxy for the added value delivered to the patients by the therapy, her’s considered that the benefit delivered by the adjuvant indication is superior than the one delivered by the metastatic indication. Herceptin® indications could have been priced accordingly.

According to price decrease over time and assuming that Herceptin turnover was maintained as the initial price for the adjuvant indication, PRM agreements could have resulted in a potential 14% price flexibility for metastatic price setting.

The acceptability of such flexibility could be addressed by the French payer and could be completed by a proper and comprehensive cost-effectiveness assessment.

References

Internal document. PRM January 2017 extraction.