PUBLIC HEALTH POLICY

1556O Potential for value-based prescribing of oral oncology drugs

M.J. Ratain1, A.S. Lichter2
1Medicine, The University of Chicago, Chicago, IL, USA. 2Value in Cancer Care Consortium, Ann Arbor, MI, USA

Background: As exemplified by a recent study of abiraterone, we hypothesized that many oral oncology agents are given in doses far in excess of what is needed, thus enabling the development of value-based dosing strategies incorporating lower doses, less frequent dosing, or even therapeutic substitution. We aimed to identify products for which cost-savings could be > 33%.

Methods: We reviewed publicly available documents for all patent-protected oral oncology drugs approved in the US, including official prescribing information, FDA Clinical Pharmacology reviews, and peer-reviewed publications that analyzed the relationship of dose or drug exposure to efficacy. For each drug, we assessed potential cost-savings based on publicly available US pricing data, as well as the potential impact on global sales. For those drugs with flat pricing (i.e., where dose reductions would not impact costs), we only considered opportunities to reduce frequency.

Results: For 33/53 (62%) oral oncology products, prescribing costs can potentially be reduced by > 33%, with >50% reductions possible for 26 (49%). Strategies include dose reduction (19 drugs, 7 with positive food effect), frequency reduction (13 drugs), and therapeutic substitution (sirolimus for everolimus). Even with current US flat pricing schemes, the potential savings are $91,300–$33,000 (range $35,700–$186,400) per patient-year for these 33 drugs. Based on recent sales, the potential global savings opportunity is >$12 billion per year, with ≈75% of the potential savings encompassed by the top six opportunities: ibrutinib ($2.6B), abiraterone ($1.9B), enzalutamide ($1.6B), everolimus ($1.4B), nilotinib ($0.9B), and erlotinib ($0.7B).

Conclusions: Development of value-based prescribing strategies has the potential to significantly impact prescribing costs of many oral oncology drugs. Our estimates are likely conservative, given the expanding indications and prolonged treatment courses for many drugs (e.g., ibrutinib and abiraterone). Similar opportunities exist for parenteral monoclonal antibodies with long half-lives.

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