FDA BREAKTHROUGH MEDICINES; HAVE THEY CAUSED BREAKTHROUGHHEADACHES FOR HTA AGENCIES?

INTRODUCTION

The regulation of medicines by governments is central to ensuring that marketed products meet standards of quality, safety and efficacy in order to protect and enhance population health. A balanced policy framework requires agencies to adequately assess medicines against prescribed standards and at the same time facilitate market entry of innovative products to patients in most clinical need.

An example of the latter objective is the introduction of the Food and Drug Administration Safety and Innovation Act (FDASIA) in the US that provides for a new designation for breakthrough therapies.

A breakthrough therapy is a drug (or vaccine):

• intended alone or in combination with one or more other drugs to treat a serious or life threatening disease or condition and
• Preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapy on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development.

Breakthrough therapy designation conveys all of the fast track program features, more intensive FDA guidance on an efficient drug development program, an organizational commitment involving senior managers, and eligibility for rolling review and priority review [1].

The objective of this study is to compare the funding decisions of FDA designated breakthrough drugs in countries that operate under a health technology assessment (HTA) framework (Australia, Canada, England, France & Germany) and a US health plan known to use HTA.

METHODS

The FDA website was examined to identify breakthrough designated therapies. We confined our study sample to medicines that had been approved on or before 31 December 2014 [1]. For each approved breakthrough therapy, we extracted the following information from the FDA website:

• Date of approval
• Number of patients in the development program
• The websites of the EMA (European Union), Health Canada and TGA (Australia) were then examined at regular intervals to determine the registration status of the medicines in the sample study [2, 3, 4]. We chose Premera Blue Cross as an example of a US payer since it is known to use HTA; Premera has 1.9 million customers in Washington and Alaska. Information on the coverage of the medicines in the study sample was obtained directly from Premera.

The websites of the PBAC (Australia), CADTH (Canada), NICE (England), HAS (France) and the IQWiG/G-BA (Germany) were examined at regular intervals to determine if and when the medicines in the study sample had been considered for reimbursement/coverage [5, 6, 7, 8, 9].

The results from the international comparison on the four study metrics are provided in Table 3.

DISCUSSION

While FDA breakthrough therapy designation is first and foremost an US domestic issue, it does have international interest and impact. FDA reforms that seek to improve patient access encourage stakeholders in other countries to press their local regulatory agencies to create (or revise) current expected pathways for certain new medicines to improve their timely access for patients with high unmet need. This creates heightened expectation of actual benefit and increased pressure for their early access, which may or may not be warranted.

Summary points:

• At least two thirds of the medicines/indication pairings have been registered in the EU, Canada, France and Germany.
• Most of the assessed medicine/indication pairings have been deemed to be acceptable for reimbursement/coverage by the HTA agency in Australia.
• At least two thirds of the medicine/indication pairings have been assessed by the HTA agency in England.
• Most of the registered medicine/indication pairings have been assessed by the HTA agency in France.
• Most of the assessed medicine/indication pairings have been deemed to be acceptable for reimbursement/coverage.
• The results from France and Germany would be lower with the use of a higher threshold. The TC has given 2 medicine/indication pairings an SMR rating of moderate.

Some medicines in the study sample are yet to be assessed by some HTA agencies; the results presented below are current as at 31 October 2015.

RESULTS

The FDA had approved 17 breakthrough therapy medicines/patient population (indication) pairings as at 31 December 2014. The medicines in the study sample are summarised in Table 2 below.

Eight (47%) of the 17 medicine/patient population pairings are for cancer.

The results from the international comparison on the four study metrics are provided in Table 3.