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Bluebird, Vertex Gene Therapies May Answer $1m Question: Can Competition Reduce Rx Prices?

by Cathy Kelly

Medicaid is expected to be the primary payer for the sickle cell treatments. Bluebird bio maintains outcomes-based arrangements are a key part of its access strategy and will overcome what appears to be a significant competitive disadvantage on price compared to the Vertex product.

The US Food and Drug Administration's simultaneous approval of two gene therapies for sickle cell disease from *Vertex Pharmaceuticals Incorporated*/*CRISPR Therapeutics AG* and *bluebird bio* on 8 December provides the competitors an equal start out of the gate, and offers another test for the Rx policy concept that intra-class competition can drive down prices.

Based on the initial list prices, though, it seems like perhaps competition cannot do that, at least not in this case, or at least not yet. Bluebird bio's Lyfgenia has a wholesale acquisition cost of $3.1m, while the WAC for Vertex and CRISPR's Casgevy is $2.2m, which might be a significant handicap for bluebird in securing reimbursement.

The two are the first gene therapies for sickle cell disease to be approved in the US and are positioned as one-time treatments for patients with recurrent vaso-occlusive events, a hallmark of serious disease. Their indications are very similar but slightly different. (*See sidebar for details on the label and post-market commitments.*)

Bluebird's Lyfgenia (lovotibeglogene autotemcel) is a lentiviral vector-based gene therapy, while Vertex's Casgevy (exagamglogene autotemcel) is a CRISPR/Cas9 gene-edited therapy

Gene Therapy: US FDA Labeling For

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developed using CRISPR Therapeutics's gene editing technology. Vertex said it is launching Casgevy immediately and bluebird plans to introduce Lyfgenia in early 2024.

The nearly $1m price differential between the two treatments, which have comparable efficacy, hands payers substantial leverage in contracting negotiations with bluebird. As a result, the company may need to concede big discounts in order to secure coverage for Lyfgenia. In the pivotal clinical trial on Casgevy, 93.5% of patients had no severe vaso-occlusive crises (VOCs) for at least 12 consecutive months after treatment and research on Lyfgenia found 88% of treated patients had complete resolution of VOCs after six to 18 months.

Vertex's Casgevy, Bluebird's Lyfgenia Reflect Different Risks

By Sue Sutter

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Agency grants same-day approval to the first two gene therapies for sickle cell disease; bluebird's lentiviral-based lovo-cel carries a boxed label warning on hematologic malignancies, while Vertex's CRISPR-Cas9 exa-cel carries a warning and precaution about potential off-target effects. Only the Vertex product qualified for a rare pediatric disease priority review voucher.

Read the full article here

Increasing pharmaceutical competition as a way to reduce prices has been a hallmark of policy rhetoric in Republican and Democratic administrations alike for some time. Indeed, the Biden administration's most recent Rx pricing push, unveiled the day before the gene therapy approvals, emphasizes the need for competition – albeit through increased enforcement rather an unfettering of the market that a conservative policy approach might favor. (Also see "*Lack Of Competition Equals Higher Drug Prices: HHS Analysis Is Slogan In Search Of Solutions*" - Pink Sheet, 7 Dec, 2023.)

If the competition theory is correct, having two very similar products entering the market at the same time should theoretically keep prices in check. But what the sickle cell gene therapies may end of demonstrating – just as the launch of Humira biosimilars showed in a different way earlier this year – is that US pharmaceutical reimbursement is full of opaque systems and perverse incentives that in no way resemble the tidy supply and demand curves found in introductory economics textbooks.

So policymakers may find themselves fielding more calls for change instead of congratulating themselves on concepts well executed.

Vertex, bluebird Hit Different Pricing Benchmarks

Vertex chose a price that is roughly in line with the Institute for Clinical and Economic Review's

estimate of a fair price for the two sickle cell treatments in a report issued in July. (Also see "*As Sickle Cell Gene Therapies Move To Market, Health Inequities Could Help Pricing Debate*" - Pink Sheet, 11 Aug, 2023.)

It is close to the upper bound estimate in the report, ICER chief medical officer David Rind told the *Pink Sheet*. Nevertheless, "we note … the special obligation on all stakeholders, including public and private payers, health systems, and manufacturers to make these new therapies accessible to patients who need them. With that in mind, it would have been preferable to see a lower price for this therapy," he said.

On the other hand, "the bluebird bio price is substantially higher than what ICER feels would be a fair price."

It is unclear whether payer response to Lyfgenia relative to Casgevy may also be influenced by the fact that bluebird's therapy has a black box warning for the possible development of blood cancer and Casgevy does not. Bluebird explained in a release on the approval that "two patients treated with an earlier version of Lygenia using a different manufacturing process and transplant procedure … developed acute myeloid leukemia."

ICER's Rind believes the warning will not be a reason for payers to prefer Casgevy over bluebird's treatment. "There are necessarily uncertainties about the long-term safety of both therapies. There is not, currently, sufficient reason to prefer one therapy to the other based either on safety or efficacy, so it would be easy to imagine some payers preferring the less expensive therapy from Vertex," he said.

Bluebird's Thinking On The Price

Bluebird bio emphasized the unmet need in sickle cell disease and the heavy lifetime medical costs involved with serious illness in a release announcing its price. "Despite a median age of death of 45 years, it is estimated that US patients with frequent VOCs average $4m -$6m in direct lifetime medical costs, not including patient-incurred out-of-pocket costs or the impact on caregivers," the company said.

In addition, "patients also forgo approximately $1.3m in lifetime earnings compared to their peers based on how their disease can limit academic and professional opportunities," according to the company.

The price for Lyfgenia is also in line with the US pricing for Bluebird bio's two marketed gene therapies, Zynteglo for beta thalassemia ($2.8m) and Skysona for cerebral adrenoleukodystrophy ($3m), the company pointed out.

Chief commercial and operating officer Tom Klima indicated that US acceptance of the prices for

the existing treatments contributed to the thinking on Lyfgenia's price.

"We feel very confident in our value-based approach for how we price all three of our gene therapies now," he said during an 8 December call on the approval. "We ran a very similar process for Lyfgenia that we ran for both Zyntelgo and Skysona and obviously, looking at a potentially curative therapy for such a devastating disease like sickle cell disease becomes very important."

He suggested the company's proposed outcomes-based agreement with payers for the new treatment "will be a key part of the strategy to ensure rapid access." The outcomes-based agreement is a risk sharing arrangement tied to measuring hospitalizations after treatment and involves a three-year patient follow-up.

Talks With Payers Already Underway; Medicaid Is Key

Bluebird also said it is in "advanced discussions" about the arrangement with the largest commercial payers and is also talking with more than 15% of Medicaid agencies representing 80% of US patients with sickle cell disease. Medicaid will be the primary payer for the two treatments, covering 45% to 50% of patients, while commercial insurance plans are expected to cover 35% to 40%.

Another 10%-5% is expected to be covered by Medicare. The total number of patients eligible for treatments is 16,000 to 20,000, according to the companies.

Bluebird bio also said it is engaging with the Center for Medicare and Medicaid Innovation regarding a proposed demonstration project in which the Centers for Medicare and Medicaid Services could negotiate contracts for cell and gene therapies, likely including treatments for sickle cell disease, on behalf of a group of state Medicaid programs. The project is scheduled to begin in 2025. (Also see "*Medicaid Outcomes-Based Payment Model For Cell, Gene Therapy to Launch In 2025*" - Pink Sheet, 12 Oct, 2023.)