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## Considering value in precision medicine pricing

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*This is the third in a series of articles from [Precision Medicine Group](#) on advances in clinical trials and new strategies for market access and reimbursement.*

Precision medicines are making a seismic impact on healthcare delivery. More effective than standard of care therapies, they are designed to address specific genetic mutations driving disease in targeted subgroups of patients. Since the first precision medicine approval in 1998 for Herceptin<sup>®</sup> (trastuzumab), the FDA has approved over 150 drugs with pharmacogenomic information in their labeling<sup>1</sup>.

Pricing precision medicines to reflect the value they create is a complex challenge faced by drug developers. Amitabh Chandra, PhD, scientific advisor to Precision Health Economics, shares his perspectives on the importance of value when determining drug prices.

### **Q: Why are precision medicines priced higher than standard therapies?**

**A:** “There are two reasons: (1) the presence of a biomarker that defines an indication means that manufacturers can charge more to patients with that biomarker; and (2), patients are willing to pay more for drugs that have higher value,” says Chandra.

**Q: How should we define the value of precision medicines?**

**A:** “Value is defined as total benefits to patients divided by total spending on these medicines,” Chandra says. “Benefits may include better outcomes, higher quality of life, reduced harm to healthy tissue, or fewer side effects and adverse reactions. Patients, payers and insurers should pay higher prices when the improvement in benefits outweighs the increase in spending, where spending really means net-spending; where we count savings elsewhere in the system. This is different than saying that we want those treatments that reduce spending—very few will.”

**Q: Shouldn't drug prices also reflect the cost of R&D?**

**A:** “It is true that manufacturers will only pursue R&D where they know that the future price will allow them to recoup these costs. But that does not mean that we set prices to reflect these costs, and we need to disavow people of the sunk-cost R&D fallacy. We don't want a world where we reimburse drug developers for R&D without regard to the value that these drugs create for patients,” Chandra says.

**Q: Why can't drug developers make precision medicines more affordable?**

**A:** “To the extent that there is competition between drug manufacturers, prices will be disciplined. Even for new drugs where all the drugs are under patent, we see a lot of competition that has lowered prices—I'm thinking here of new immunotherapy treatments and novel cures for Hepatitis-C. But lower prices may still not mean that these drugs are affordable for everyone. The solution for that is to have generous social-insurance programs that help those who can't afford these drugs. And there is no need to worry about the affordability of drugs that aren't worth their price. We shouldn't cover these—that will lower some prices for sure” says Chandra.

**Q: What innovations are emerging to help drug developer and payers address complex pricing challenges?**

**A:** “First, I'm seeing a rising awareness that physicians should not be paid more when they prescribe high-cost drugs. That practice is not generating the best care for a patient. It's a terrible business model and developers should not have to rely on it,” says Chandra. Second, I'm a big believer in drug-mortgages that allow us to finance high-cost innovations over time rather than all-at-once. Similar to a home mortgage, the basic concept of the drug-mortgage is to convert a large upfront medical expense into a series of smaller payments that are spread out over the course of many years to make treatments more accessible to patients. If we think that home-loans are a good idea, then it's hard to be opposed to drug-mortgages.

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