IN VIVO
CITELINE COMMERCIAL

21 Oct 2015 |

Scoring Value: New Tools Challenge Pharma's US Pricing Bonanza

by Melanie Senior

Tools that provide transparent, comparative information about the efficacy, drawbacks and costs of a range of treatment options are helping patients, clinicians and payers choose drugs wisely. They're also forcing pharma to link price more explicitly to value.

- New products are emerging in the US to help define drug "value" and to help payers, physicians and consumers to buy wisely.
- Similar in principle to European HTA assessments, these tools score drugs by measures of efficacy, tolerability, affordability and/or cost.
- Designed by different kinds of organizations, the tools vary in methodology, target audience and stage of development.
- All aim to provide transparent information about treatment efficacy and cost, forcing a shift towards pricing that's more tightly linked to value.

The National Institute of Health and Care Excellence (NICE), the cost-effectiveness watchdog for health systems in England and Wales, is renowned for rejecting drugs it deems as poor value for the money, based on a well-known cost-effectiveness threshold. Many disagree with its approach, and with its threshold. But by and large pharmaceutical manufacturers know what they're up against.

Most US payers have, for a variety of reasons, until recently resisted the health technology assessment (HTA) approach. Medicare can't, by law, negotiate drug prices, leaving manufacturers free rein to maximize them. Over the decades, that free pricing created a complex knot of intermediaries whose interests diverged increasingly from those of the end-users: patients. The late-2013 launch of *Gilead Sciences Inc.*'s *Sovaldi* (sofosbuvir) for Hepatitis C (HCV) initially priced at $1,000 per pill, marked a tipping point in the US system's willingness to accept

the status quo. It also brought discussions about "value" and "cost-effectiveness" – hitherto largely absent in the US – into the mainstream.

Granted, it was market forces, not some complex HTA formula, that eventually knocked down Sovaldi's price by almost 40%. Large pharmacy benefit managers like *Express Scripts Holding Co.* and Prime Therapeutics LLC played the HCV competition off against each other as firms vied for formulary positioning; they did something similar, though less aggressively, for an emerging class of cholesterol-lowering drugs, the proprotein convertase subtilisin/kexin type 9 (PCSK9) blockers.

But this laissez-faire approach isn't enough. Not all therapies face such tight and direct competition. Meanwhile, drug costs continue to rise, driven by a large increase in specialty products – including oncology drugs opening up expensive new combination therapy options. All this is forcing payers to manage their formularies more aggressively. It's forcing providers, many, under provisions of the 2010 Affordable Care Act, paid by results, to more carefully determine the most cost-effective treatment pathways. And it's forcing clinicians to fully engage their patients, many facing rising co-pays, in the most appropriate choice of therapy.

These decisions are tricky. They can mean patients don't get the best care. Calls for Medicare to negotiate drug prices are getting louder – presidential candidates Hillary Clinton and Sen. Bernie Sanders, D-VT, are both in favor, and are proposing a host of other measures to curb drug price hikes, including greater use of comparative-effectiveness research. (*See (Also see "Clinton's Drug Plan Embraces CER-Driven Pricing 'Accountability'* - Pink Sheet, 23 Sep, 2015.).) The public outrage resulting from opportunistic moves by the likes of Martin Shkreli, who as CEO of *Turing Pharmaceuticals AG* hiked the price of an old anti-infective drug by 5,000%, adds further momentum to calls for reform. (*See (Also see "Duck And Cover: PhRMA, BIO And GPhA Respond To Turing Pricing Debacle* - Pink Sheet, 28 Sep, 2015.).)

But laws won't change fast, if they change at all. (*See* (Also see "*The Campaign Against Drug Pricing: Candidates Can Only Hope Voters React As Strongly As Wall Street* - Pink Sheet, 25 Sep, 2015.).) Hence a handful of organizations are stepping in to try to make choice of therapy easier, by providing transparent, comparative information about the efficacy, drawbacks and costs of a range of treatment options. (Rather like the consumer product comparison tools used for, say, refrigerators or washing machines.)

They're not all doing so in the same way, with the same level of depth, or indeed for precisely the same audience. *Memorial Sloan Kettering Cancer Center* (MSKCC)'s DrugAbacus is designed to get people (and, potentially, policymakers) thinking about what factors should influence the price of cancer drugs. Via an easy-to-use website, it demonstrates what the prices of certain well-known drugs would look like if those factors were appropriately reflected. (*See (Also see "'DrugAbacus' Pricing Tool Helps Payers Calculate Fair Value Of Cancer Drugs* - Pink Sheet, 19 Jun, 2015.).) The

American Society of Clinical Oncologists (ASCO)'s new Value Framework is designed to help clinicians and their patients determine the most appropriate treatments. It assigns a "net health benefit" to certain cancer drugs, based on clinical and side-effect data, with purchase cost and co-pay data presented clearly alongside. Clinical policy standard-setter the National Comprehensive Cancer Network (NCCN) will also from October 2015 introduce cost and affordability into its clinical practice guidelines. The effort is primarily to help direct physicians' and patients' choices, but was also driven by requests from payers seeking to contain cancer therapy costs. Payers are also currently the key customer for private Real Endpoints LLC's *RxScorecard*, which, unlike most of its competitors, value-scores multiple drugs, both marketed and pipeline, across multiple therapy areas. (*See Exhibit 1*.)

Exhibit 1

Summary Comparison Of Selected US Drug Valuation Tools

Tool	Scope	Core Output	Key Variables	Strengths	Limitations
RxScorecard (Real Endpoints)	Marketed and pipeline drugs across multiple therapy areas (TAs)	Weighted scores (out of 100 or 1,000) presented comparatively across key drugs in a TA	Efficacy; safety and use; economics (broken down further into sub-elements)	Breadth; includes marketed and forthcoming treatments; customizable	Scores not publicly accessible. Unclear how some of the inputs translate to score, e.g., potential for off-label use, non-drug costs.
DrugAbacus (MSKCC)	54 cancer drugs approved since 2001	An Abacus price	Efficacy ($ per life year); toxicity; novelty; R&D cost; rarity; pop. burden of disease	Accessibility; clarity; easy to use and very visual; delivers actual $ price	Only FDA-approved indications; only cancer. Currently no access to underlying data or to adjust assumptions. Excludes non-drug costs/savings.
ASCO Value Framework	Cancer drugs evaluated in same trial	Net health benefit score with drug acquisition cost and	Added efficacy benefit vs. standard of care; toxicity	Objective; transparent; evidence-based	Limited to comparing treatments assessed head-to-head in same

		patient co-pay data alongside			trial. Relatively complex and not yet user-friendly. Inflexible as regards actual clinical regimens and treatment scenarios.
NCCN Evidence Blocks	Chronic myelogenous leukemia and multiple myeloma treatments and regimens initially; NSCLC, breast and colorectal cancer to follow in 2015	Color-coded graphic scores on a 1–5 scale covering efficacy, safety and affordability	Efficacy; safety; quality and consistency of supporting evidence; affordability	Clearly presented information allowing individuals to determine which therapy meets their particular criteria; includes non-drug costs	Only available for certain cancer types initially.
Anthem Cancer Care Quality Program*	Most cancer regimens	Recommended treatment pathways	Key determinants of recommendation: clinical trial and cost data; consensus guidelines; external committee feedback	Ties oncologist payment to most cost-effective regimens, breaking incentives to use most expensive drugs	Doesn't determine value-based price but helps encourage value-focused pricing as part of pathway recommendations
American Heart Association (AHA)/American College of Cardiology (ACC)**	Cardiovascular disease treatments	Level of Value (LoV) score (High, Intermediate, Low, Uncertain) to complement	LoV defined by cost-per-QALY-gained thresholds (<$50,000=High; >$150,000=Low) based on results of published	n/a	n/a

existing benefit measures like level of evidence studies

*One of several examples of payer's value-driven reimbursement programs, which in promoting more widespread use of cost-effective treatments, may indirectly influence drug pricing.

**AHA/ACC *are proposing* whether and how to bring cost and value considerations into their practice guidelines and when developing performance measures.

NSCLC = non-small cell lung cancer; QALY = quality-adjusted life-year.

SOURCES: Real Endpoints; ASCO; NCCN; DrugAbacus; AHA/ACC

"We're all zeroing in on the same basic issues [drug prices that have become totally divorced from levels of effectiveness or value], and want to present these in a way that users can understand," sums up Peter Bach, MD, director of MSKCC's Center for Drug Policy and Outcomes, and the driving force behind DrugAbacus.

Payers, naturally enough, are delighted. "I like these tools," declares Michael Sherman, MD, SVP and chief medical officer at East Coast payer Harvard Pilgrim Health Care. "Cancer is emotional. These [tools] can help determine how to get to a rational price," he continues, when there aren't head-on competitors. Steven Miller, MD, SVP and chief medical officer at Express Scripts, also welcomes the efforts. "These new data will help us as we consider the long-term cost-effectiveness of these therapy classes," he says. Express Scripts collaborated with Bach prior to and during development of the DrugAbacus.

America's NICE, Getting n-ICER

The backdrop for these new efforts is the Institute for Clinical and Economic Review, a non-profit research organization that has been carrying out, since at least 2008, in-depth drug and technology evaluations encompassing comparative effectiveness, cost-effectiveness and budget impact. Headquartered in Boston, MA, with associated forums in California (the California Technology Assessment Forum) and New England (the New England Comparative Effectiveness Public Advisory Council), ICER has a similar overall objective to NICE, and uses some of the same metrics, including cost per quality-adjusted life-year (QALY). (Founder and President Steven Pearson, MD, spent a year at NICE in 2004–2005.) But ICER's Value Assessment Framework has evolved to include two broad components: Care Value, comprising comparative clinical effectiveness and incremental cost per clinical outcome achieved, and Health System Value, which assesses the short-term budget impact on health systems – a critical consideration for

many payers. NICE's remit excludes health system affordability. (*See Exhibit 2*.)

Exhibit 2

NICE Versus ICER

Tool	Scope	Core Output	Key Variables	Strengths	Limitations
Institute for Clinical and Effectiveness Research (ICER)	New treatments with high budgetary impact	Value-based price (assuming a budget impact threshold of $900m per year annualized over 5 years).	Care Value, comprising comparative cost-effectiveness, incremental cost for clinical outcomes achieved, other benefits (e.g., administration) and contextual considerations, e.g., unmet need. Health System Value, comprising 5-year impact on total health costs, assuming a given uptake pattern.	Gives actual value price, not only scores. Thorough, including multiple attributes. Transparent in terms of general categories. Multi-stakeholder input; independence.	Some areas remain opaque, e.g., assumptions within Care Value calculation. Relatively complex, not easily understood by broader public.
National Institute for Health and Care Excellence (NICE)	New high-impact drugs and technologies across TAs; also care guidelines	Reimbursement recommendation (or not) based on calculated cost per quality-adjusted life-year for product, and relation to £20,000 to £30,000 cost per QALY threshold.	Incremental cost-effectiveness ratio per QALY gained; change in health-related quality of life. Societal benefit and burden of disease	Well- known threshold, with some flexibility. Methods and processes increasingly transparent. High influence globally.	Does not consider health system impact/affordability. Considerable discretion as to weighting of various modifiers.

modifiers added
in 2014.

SOURCES: NICE; ICER

Unlike NICE, whose guidance on single drugs or technologies local payers are obliged to follow, ICER has no mandate over payers' decisions to cover particular treatments. That in turn means ICER hasn't mattered much to pharma, either.

But with a $5.2 million funding boost from the Laura and John Arnold Foundation (LJAF), a not-for-profit that supports evidence-based approaches to societal challenges including in health care, ICER is now able to shout a little louder. (*See (Also see "ICER Expands Drug Value Comparison Program*" - Pink Sheet, 21 Jul, 2015.).) And budget-strapped payers, many struggling to justify inevitable coverage restrictions, are all ears.

ICER hopes to produce 15 to 20 assessments of drugs with significant care and/or budget impact over the next two years – report cards for the cholesterol-lowering PCSK9 blockers and *Novartis AG*'s heart failure drug *Entresto* (valsartan-sacubitril) have already appeared. "With the new funding, payers are starting to learn that they can expect an ICER report on every significant new FDA-approved drug," says ICER's Pearson.

ICER doesn't pull its punches: it sets out explicitly what a value-based price should look like. Even NICE doesn't do that – it declares whether the current price offered to the UK National Health Service is or isn't acceptable based on the given cost per QALY threshold. "Our approach is to put our cards on the table," says Pearson, "and decide what the value-based [price] benchmark will be." For the PCSK9 blockers, that benchmark is over 80% lower than the list prices. That's a helpful tool in payers' pockets when negotiating, though Express Scripts' has since said it didn't get as low as the ICER benchmark. Pearson claims that discussions with payers are "heating up" around how to link such a benchmark directly to tier placement.

Drug manufacturers are less thrilled. PCSK9 sponsors *Sanofi*/*Regeneron Pharmaceuticals Inc.* and *Amgen Inc.* "are obviously concerned and have submitted public comments that we are digesting now," says Pearson. "We are building an understanding with them that we want their input, and we'll continue to learn and evolve," he says. "But we have an objective, transparent approach that may sting."

In fact, the framework is designed to pull both sides – payers and pharma – out of their respective comfort zones: to get payers thinking about long-term cost-effectiveness, not just short-term budget impact, and to get pharma to consider short-term affordability issues facing payers. "We're not out to strangle the industry," Pearson insists. Instead, he says, "we're out to create a framework, ... a value-focused language ... for having a dialog around price and value

and other things."

Adding Up The Price

MSKCC's Bach, similarly, conceived the DrugAbacus to trigger a debate around drug pricing. "I wanted to move the discussion away from the purely hypothetical to something much more practical," he explains. Instead of debating in the abstract what should or shouldn't be reflected in a drug's price, the Abacus provides a tangible demonstration of what happens to price if certain elements are (or aren't) taken into account.

DrugAbacus users may adjust six variables: the value, in dollar terms, placed on each extra year of life, the discount they'd place on toxicity (in other words, the importance of quality of life or fewer side effects), a novelty multiplier, the cost of development, a rarity multiplier (linked to availability of other treatments) and the population burden of the disease (its prevalence). The Abacus includes clinical data for 54 cancer treatments approved since 2001; outcomes data aren't included (similar to most HTA bodies).

Some may disagree with the relevance of certain variables, such as the "novelty multiplier" – should a treatment's novelty per se influence its price? NICE doesn't include this, or R&D costs. But the point of this exploratory tool is that users can choose to include a premium for these variables, or not. Bach wanted to provide the option to include these elements of the drug innovation cycle.

It's trickier if one feels that a relevant variable is missing, though – such as therapy-area cost savings (though these are, admittedly, less relevant in cancer than other areas and less relevant to patients than to health systems). The population burden variable increases the price the higher the prevalence of the disease, which some may feel should be in reverse (high-volume drugs should be priced more affordably) – though there is a handle for "rarity."

Unlike ICER, DrugAbacus "doesn't have preferences," says Bach. Instead it turns each individual's set of preferences into a hypothetical price. Still, actual launch prices for three drugs stand out as significantly higher than Abacus prices – even assuming a generous effectiveness setting of $120,000 per life-year (significantly more than NICE's cost per QALY threshold), no toxicity discount and a generous "cost of development" multiple. These are Amgen's leukemia drug *Blincyto* (blinatumomab), *Valeant Pharmaceuticals International Inc.*'s *Provenge* (sipuleucel-T) (acquired from bankrupt Dendreon) *[See Deal]* and *Bristol-Myers Squibb Co.*'s *Yervoy* (ipilimumab). Other drugs' Abacus prices emerge lower than actual launch prices, though. Under similar settings, *Teva Pharmaceutical Industries Ltd.*'s *Treanda* (bendamustine), *Roche*'s *Gazyva* (obinutuzumab) and *Spectrum Pharmaceuticals Inc.*'s *Zevalin* (ibritumomab tiuxetan) look to have good value.

A vocal proponent of drug price reform, Bach made news in 2012 when he refused to give

Sanofi's *Zaltrap* (aflibercept) to patients with colorectal cancer because of its cost, leading to the first wave of drug pricing headlines in the US, and to Sanofi's cutting the effective price of the drug in half. He describes the current DrugAbacus as "a first draft of how to create a value-driven system for cancer treatment spending." The next version will have more granularity, include more drugs, and will allow users to peer into the database underlying the tool, and to adjust the assumptions and variables within it. (For instance, the ranking of clinical data and endpoints.) He also wants to include more than just the first FDA-approved indication for each drug, as is currently the case – opening the way for indication-specific pricing, the subject of a 2014 article in the *Journal of the American Medical Association*. (*See (Also see "Approaches To Indication-Based Pricing For Cancer Drugs Offered In JAMA Article*" - Pink Sheet, 20 Oct, 2014.).)

ASCO Serves Net Health Benefit – With Cost On The Side

ASCO, the professional association of cancer physicians, in June 2015 published the first version of its Value Framework, described as "assessing new cancer treatment options based on efficacy, toxicities and cost."

Developed with input from oncologists, patients, payers and manufacturers, the Framework, like Abacus, weights different levels of clinical evidence, such as response rate, progression-free survival and overall survival. It includes discounts for toxicity, and bonuses for efficacy, resulting in the "net health benefit" score. But this score doesn't include costs or affordability. Drug acquisition costs (rather than overall treatment costs) and expected patient co-pays are instead clearly presented alongside.

The Framework can for now only compare therapies that have been evaluated in the same trial. Most cancer therapies are multidrug cocktails without specific head-to-head comparative data to back up their efficacy. There will be further iterations, though, including, for instance, a user-friendly application that can be used at the point of care, and methods to allow cross-trial comparisons.

The vision is a tool that can help doctors determine the most appropriate treatment for each individual patient, based on their circumstances and preferences. "The framework would not provide generalizable scores or rankings," ASCO explains in a June 2015 press release announcing publication of the framework in the *Journal of Clinical Oncology*.

Indeed, ASCO is quick to emphasize that the tool is not designed for payers – a position that's understandable, given that most of its largest donors are big pharmas and big biotechs with an interest in cancer. "ASCO's tool is intended to help physicians and their patients answer the 'value question' in the clinic, in a way that is personalized for each individual being treated," the organization insisted in an emailed statement. "Not all efforts to improve value are being done with the same end user in mind," it added, in reference to other drug valuation tools.

Separately, ASCO's Institute for Quality is spearheading development of a health IT platform, CancerLinQ, that will eventually collect real-world cancer data from millions of patients to further help improve the value and quality of cancer care. The first version of this database, with data from 500,000 patients, will be released later in 2015.

Helping Payers Seek Value

ASCO's influence and name gives it significant clout in the clinical community, though reliance on biopharma funding means the rhetoric will necessarily focus on patients, not payers.

Privately-funded Real Endpoints LLC doesn't face the same restrictions as ASCO in directing its value-assessment tool squarely at payers – indeed, "our main customers are payers," affirms Real Endpoints' CEO and founder Roger Longman. (Editor's note: Longman previously founded Windhover Information, *IN VIVO*'s original publisher.) The *RxScorecard* assesses drugs' value according to clinical efficacy, safety and use, and drug economics. Its scope, covering a wide range of marketed *and* pipeline products across multiple indications, including high-budget areas outside cancer, such as COPD or hepatitis C, makes it particularly well-suited to payers. It also sets it apart from the cancer-focused tools.

Within each therapy area, RxScorecard scores across multiple drug classes, reflecting the reality of usage and decision-making in these diseases. In the cholesterol-lowering sphere, for instance, it compares *Merck & Co. Inc.*'s *Zetia* (ezetimibe) with the PCSK9s, the CETP inhibitors and *Esperion Therapeutics Inc.*'s Phase III oral candidate ETC-1002. Some therapy areas include more detail than others in certain areas, reflecting the factors most likely to influence actual clinical decision-making: more side-effects are broken out in cancer than in lipid disorders or COPD, for instance.

To capture each drug's advantages and drawbacks as fairly and comprehensively as possible, the three broad assessment categories are broken down further. The "drug economics" inputs, for instance, include not just price per average course of treatment, but also cost-offsets, potential for off-label use, performance-based pricing, class price leverage opportunity (e.g., if there's tight competition) and non-drug costs. The relative weightings of these various elements can be tweaked to account for individual payer's circumstances: for instance, if a payer has a proprietary price it has negotiated or is seeking, this can be fed into the algorithm. "We provide a base scenario for standard of care or baseline regimen," explains Longman.

So far, payers are using the RxScorecard in slightly different ways, Longman claims, in part as a function of their size and structure. Some use it to make formulary decisions and set coverage policy; those large enough to have their own pharmacy and therapeutics committees use it to supplement what they already do. Several simply want a tool with which to push back on, or at least double check, the coverage policy that a PBM might be pushing them to adopt.

The closer payers look at any such tool, however the closer pharmaceutical firms and other service-providers will, too. Longman claims one pharmaceutical client is using the RxScorecard to design a clinical trial that will allow its candidate to hit the payer-relevant endpoints, and thus differentiate itself from the competition. "This system can be used by a variety of players as an objective assessment" of a drug's value, he asserts. "And it's transparent. So anyone who disagrees with it can go in, take a look and make sure we're right. And if we're not, we can change things."

NCCN: National Cost-Effectiveness Guidelines?

Transparency – as well as escalating drug costs – is also behind the National Comprehensive Cancer Network's foray into drug valuation. Its clinical guidelines are widely referred to throughout US clinical practice, and internationally. The next set will include cost and affordability measures, alongside traditional assessments of efficacy, safety, quality and consistency of evidence. The NCCN's Evidence Blocks, launched in mid-October 2015, are presented graphically, and color-shaded according to the score allocated (1–5) for each measure.

The idea is to provide an easy-to-read assessment of how well a particular treatment fulfills the various criteria. "Physicians want more information about the reasons our panel makes specific [treatment] recommendations," and how the various necessary trade-offs are made, reports Robert Carlson, MD, the NCCN's CEO. Patients, too, want clearly presented information about what particular treatments offer, and how much they'll cost. "Our system presents the data in a way that allows patients to generate their own value equation" depending on their priorities, notes Carlson. So for instance, cost and toxicity may be much less important than efficacy to a younger woman suffering an aggressive form of breast cancer; an older person suffering from the same condition will likely want to talk more about quality of life.

Affordability is scored on the basis of not only the drug's acquisition cost, but also the multiple additional costs associated with the treatment in clinical practice: the cost of administration, of supportive therapy, of toxicity monitoring or hospitalization where appropriate. "It's the global cost of a specific intervention," clarifies Carlson, rather than, as in ASCO's Framework, what a drug will cost the physician or the patient via co-pay.

Besides providing clear and accessible information, the hope is that the new guidelines will also help lower costs. "Payers are interested in being able to demonstrate to physicians and patients the relative efficacy, costs and safety of different treatments," says Carlson. If patients and their doctors see that two regimens offer similar effectiveness and safety but at different costs, "most would go with the less expensive option," he predicts. That's particularly the case if providers are part of accountable care organizations (ACOs) or similar payment set-ups that reward outcomes rather than procedures.

Indeed, large health insurers such as *Anthem Inc.* have already developed their own value-based

payment systems. Anthem's Cancer Care Quality Program evaluates efficacy, toxicity and cost for particular treatment pathways. Oncologists who select the most cost-effective pathway enjoy enhanced reimbursement. Yet Anthem is integrating these new tools into its pathway assessment process, too. "We would consider ASCO's Conceptual Framework as another data point in our overall pathways evaluation that also includes NCCN guidelines," says Jennifer Malin, MD, PhD, staff vice president for clinical strategy at Anthem.

NCCN's first set of Evidence Blocks cover chronic myelogenous leukemia and multiple myeloma. By the end of 2015, Carlson expects guidelines for non small-cell lung cancer and colorectal and breast cancers, with a further 15 to 20 guidelines during the course of 2016.

What Score Is The Right Score?

For all NCCN's emphasis on transparency, there's no algorithm for determining the affordability score. NCCN's panels of clinical and medical experts (including a patient representative) are asked to estimate affordability based on the various cost components, without specific thresholds as to what's highly expensive (score: 1) or what is very inexpensive (score: 5). "It's a test of reasonableness," asserts Carlson. "How reasonable is the global cost of an agent?" For the most part, independent panels come to very similar conclusions, he claims.

Scoring value is always partly subjective; so is the interpretation of such scores. However quantitative and transparent such tools appear, there is always, necessarily, room for maneuver. As ICER's Pearson points out, "The elements within the Care Value score can be made somewhat explicit, but the weighting of them isn't a formal multi-criteria decisional analysis. It's a judgment." In Real Endpoints' RxScorecard, because the tool considers a wide variety of parameters, overall scores for two competing treatments may sometimes finish up close. It's up to users to then decide what action to take. "Three points [between two scores] may not be all that important, but perhaps 10 points will be," illustrates Longman. "The system becomes a way of quantifying what elements make a difference," he continues.

There's no absolute score for any drug; different payers will value some criteria more or less than others, as a function of their covered populations, their policies, and their priorities. Individual patients, too, will score drugs differently as a function of their circumstances. And new data – and treatments – are emerging that may change comparative scores. As NCCN's Carlson acknowledges, "We're not looking for specific answers. It's more to start a conversation."

But the point is that these frameworks are as transparent as possible in the assumptions they make about a drug's value, and in what they're trying to achieve. That in itself marks a huge change in the US landscape. "Transparent assessment of drugs' value is crucial," says Longman. Payers are going to be limiting access, there's no question about that. The question is how they do it. Do they do it within a black box, or objectively and transparently? I hope the answer is that they'll do it objectively and transparently – though there's a lot of antagonism to that

transparency."

New Value-based Benchmarks For Drug Prices

Payers do want help determining – and justifying – which patient groups should use certain pricey therapies first. "We often find that is where our reports are most actionable," says ICER's Pearson. It may take longer for ICER's work and other tools to directly influence drug prices across the US market. Meanwhile, manufacturers are watching and waiting. "If they know there's a value-based benchmark out there, that tilts the discussion internally on how price is determined," asserts Pearson. It will also, ultimately, influence decisions taken much earlier, in R&D and strategy more broadly. (*See* (Also see "*The Shrinking Value Of Best-In-Class And First-In-Class Drugs*" - In Vivo, 20 Jul, 2015.).)

Sherman predicts that value-scoring tools will be used initially mainly within outcomes-focused payer-provider frameworks such as ACOs, to help make decisions as to what treatments the system will allow. But soon enough, the value vocabulary will trickle through to pricing negotiations. Then, payers will turn around to pharma and say, "We're not going to include your drug [on our formulary] because based on this tool, it's priced at a level that's not defensible," forecasts Sherman. More than that, some of the tools may help payers determine what price is defensible, and cite that as a condition for coverage, he continues.

For now, there aren't any public examples of that. But the continued public debate around drug pricing, fueled by political campaigners, means all these flavors of value-based assessment tools are pushing on an open door. And for now they're doing so mostly collaboratively, rather than in competition. "Ultimately, it is going to take a variety of efforts to address the question of value at all levels of the health care system," says ASCO.

These tools don't provide definitive answers to the thorny question of what treatments are worth paying for. Indeed, in attempting to identify and quantify the factors that might reasonably influence drug pricing, they highlight the challenge of placing a fixed dollar value on treatment. But they also expose the limitations and arbitrariness of the current system of "free" pricing, based largely around what the market can bear.

These tools aren't perfect, and will be further refined. Yet even in their rawest form, they're forcing pharmaceutical firms to tie price to measurable forms of value. And the wider debate they've triggered is, according to ICER's Pearson, "an incredibly healthy, overdue process in the US. America is ready for this."