

# 2010 FORECAST

EXPERTS PROVIDE PERSPECTIVE ON THE COMING YEAR IN ONCOLOGY

## The American Association for Cancer Research Perspective:

Forecasting with Tyler Jacks, PhD, President of the American Association for Cancer Research, Director, Koch Institute for Integrative Cancer Research at MIT, David H. Koch Professor of Biology, MIT, Investigator, Howard Hughes Medical Institute



Tyler Jacks, PhD

**ACR**

itors of the MAP kinase pathway in combination with inhibitors of the PI3 kinase pathway. These two pathways are likely involved in cancers with mutations in upstream regulators of those pathways including KRAS and it will be very interesting to see whether the combination of inhibitors to two distinct pathways is synergistic in terms of efficacy.

**OBR:** *As the President of AACR, you must view the area of cancer prevention as a promising way to cure cancer.*

**TJ:** Prevention is certainly in the purview of the AACR, and for me the greatest hope for prevention in the short-term relates to the use of genetic testing that's now available for some of the stronger-acting cancer predisposition

genes. More generally, genetic screening holds significant promise for prevention. Longer-term, I'm expecting that some of the therapies being developed for late-stage cancers will be applicable to early-stage disease in a preventative setting. That is, if we understand that pathway X or pathways X and Y can be inhibited in the context of established tumors, then it is possible that the use of those same inhibitors in a more chronic setting, especially in high-risk patients, could be very useful in a preventative setting.

**OBR:** *What do you think will get the most media attention regarding cancer research in 2010?*

**TJ:** With respect to cancer research in 2010, a major story will be the expansion of the Cancer Genome Project, both in the United States and elsewhere. I expect a torrent of information related to the vast array of mutations that occur in cancers. We're already seeing that in the small amount of papers that have been published; there will be even more papers on different cancers and expanded groups of cancers that's going to provide deeper insights into the complexity of the disease.

**OBR:** *So as we better understand the complexities of cancer, we'll become better at developing therapeutics?*

**TJ:** I think the complexities really can cut both ways. On one hand we appreciate that there are many targets to consider in cancer. On the other hand, the complexities show us that we really may need to tailor treatments to specific tumors in question, and that may require a much broader collection of targeted agents. That will bring up this issue of whether combination therapy will be needed in order to have a really strong inhibitory effect. But regardless of the implications the information is the information, if cancers indeed have multiple mutations and if indeed multiple mutations are contributing to the tumor phenotype we need to know that.

**OBR:** *How do we apply cancer genomics to therapy and outcomes?*

**TJ:** One example that falls into the area of cancer genomics is the use of RNAi screening to find synthetic lethal

interactions in cancer, for example using high throughput RNAi screens in cancer cells to find genes or pathways that are specifically wired in the cancer cell (or maybe even a cancer cell with a particular mutation or constellation of mutations) as opposed to normal cells. It's an area that is particularly exciting, and holds great promise for cutting through some of the complexities we talked about before. If you can find a gene which when inhibited will lead to the death of the cells it doesn't matter so much what else is going on in that cell. The RNAi synthetic lethal screening is just starting to emerge and we'll see a lot more of this in the near future.

**OBR:** *What worries you about the future of cancer research?*

**TJ:** Well I can't ignore the funding issue. I'm concerned about the state of cancer research funding having just lived through five years of declining funds through the NCI. That has multiple negative effects. The most obvious is that there is research not getting accomplished because there isn't enough funding to pay for it. Remember that a lot of the new technologies, cancer genomics being one of them, are powerful, but they're expensive. In order to take full advantage of these opportunities there has to be funding and we've had too little of it. The stimulus funding helped, and it needs to be acknowledged that the NCI and the NIH did allow for projects to get off the ground that previous funding couldn't afford, but that's just short-term support, only two years. There's much more to be done over a much longer period of time. I was hoping that with all the positive comments on the importance of cancer research from the White House and Congress that we would reverse this trend and begin to see more substantial investments in the national cancer programs.

*“The stimulus funding helped, and it needs to be acknowledged that the NCI and the NIH did allow for projects to get off the ground that previous funding couldn't afford, but that's just short-term support, only two years.”*

**OBR:** *How does this trickle down and impact future cancer researchers?*

**TJ:** When students see their faculty members struggling to make ends meet, and they have to write grant after grant in order to receive funding, it's extremely discouraging to the trainee. You can see them thinking about and making

alternative career decisions. At a time when we want to encourage the best and the brightest to go into a field like this we're actually sending out the wrong message—that a career in cancer research may be a struggle. I'm worried what will happen when we project 10 or 20 years from now when the pipeline of candidates fails to improve. However, if the climate is right, we can attract excellent students and trainees to work in our laboratories and be the next generation of cancer researchers. I'm perfectly comfortable with the quality of our students, and our post-doctorate and medical trainees, but I want to ensure that they are motivated and stimulated to maintain

interest and excitement in pursuing cancer research.

**OBR:** *How are caBIG® and other digital technologies changing the future of cancer research?*

**TJ:** The digital technologies represent an area of tremendous opportunity, and it is becoming more important to cancer research by the day. Making sense of all the information we're seeing through these large initiatives like the Genome Project is quite labor intensive. There are layers and layers of information that we want to readily bring to bear on and understand, and we don't want to have to do that piecemeal. Ideally, we want to organize the information in such a way that it can be assessed, interrogated, and leveraged to enhance our progress. **OBR**

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## The American Cancer Society Perspective:

Forecasting with Otis W. Brawley, MD, Chief Medical Officer, American Cancer Society



Otis W. Brawley, MD



**OBR:** *What is the strategic direction for the ACS in the coming year as shown by funding efforts?*

**OB:** The ACS will continue to provide information and assistance to help people stay well, continue to provide information and support to help people get well, continue to invest in research to discover new knowledge and new cures, and will rally communities and leaders to fight back against the disease. Themes that we will stress include access to quality healthcare and decreasing disparities in health.

**OBR:** *Can you tell us what some of the major initiatives for the ACS in 2010 and beyond will be, including achieving goals for cancer prevention, research, and treatment?*

**OB:** We will continue to emphasize the need for access to care and the rational use of good preventive services and medical care. We have clear evidence that lack of access to good preventive services and medical care is an impediment to further decreases in incidence and mortality rates for a number of cancers.

In the area of cancer screening, there are many resources wasted as appropriate proven screening tests are not being done, and inappropriate, unproven, (sometimes even proven ineffective) screening is being done. The Society will continue to work to encourage the rational use of medicine.

The epidemic of overweight and obesity is a tremendous concern. Today, three times as many American adults are overweight or obese compared to 1975. Obesity and increased caloric intake are the second leading cause of cancer. Only tobacco use causes more cancer. The ACS plans to increase its efforts to encourage people to maintain an ideal body weight, have an active lifestyle, and eat five to nine servings of fruits and vegetables daily.

**OBR:** *In the latter half of '09, we saw a lot of press regarding screening recommendations for breast cancer. What is the ACS's official position concerning the age at which women should receive mammograms?*

**OB:** It is the opinion of the ACS, and many other experts, that women should obtain a high-quality mammogram and clinical breast exam on an annual basis beginning at the age of 40. It is also the opinion of the ACS that a woman should be familiar with her breasts and seek medical assessment when an abnormality is suspected. This latter point is very different from the monthly breast self examination advocated years ago and in clinical study found to be less effective than breast awareness.

The gold standard for showing that screening saves lives is the prospective, randomized trial. There are nine prospective randomized trials of breast cancer screening published in the literature from 1970 to today that consistently demonstrate that screening with high-quality mammography and high-quality clinical breast exams saves lives. Several of these studies have demonstrated that cancer screening of women in their 40s—while not as efficient as screening women in their 50s and 60s—still saves lives. Mammography is an imperfect test. It can miss some cancers that we wish it had found; it will find some nonthreatening disease and lead to unnecessary treatment. Work to improve mammography in all age groups and work to find a better test is absolutely essential.

**OBR:** Can you give us examples of other cancer types where screening guidelines are clear and effective and that the ACS is recommending for the American population to follow?

**OB:** Colon cancer screening with annual stool blood testing, sigmoidoscopy every five years, and colonoscopy exams have all been shown to save lives. The ACS and a number of other groups recommend that people over age 50 get up to date on one of these tests. We know that 50 percent of Americans over 50 are not up to date, and we know that the potential number of lives that could be saved is tremendous.

Cervical cancer screening is not at all controversial. The American College of Obstetrics and Gynecology recently published guidelines which are very similar to the 2002 ACS guidelines.

With prostate cancer screening, the Society has advocated since 1997, that men be aware of the prostate screening controversy, as well as the potential risks and potential benefits of prostate cancer screening, and make an informed decision regarding screening. Prostate cancer screening is a challenge because there has been so much press suggesting that it saves lives even though there had not been an adequate scientific assessment of the question until early this year when two prospective, randomized clinical trials finally reported results. One trial, conducted in Europe, suggested that prostate cancer screening reduced risk of death by 20 percent with about 10 years of follow-up. The confidence interval on that estimate was weak. The second trial of similar design, done in the United States, failed to confirm the findings of the first. It should be noted that the trial found that 48 men had to be treated to save one life. We believe men should be made aware of these trials as they make a decision regarding screening.

*“If those women not getting screened got screened, the number of lives that could be saved just among women age 50 to 70—where there is no controversy—is considerable.”*

**OBR:** Please tell us how you feel we’re making solid progress in cancer prevention. Provide example(s). Is there an area where can we do better?

**OB:** We must also focus on the fact that breast cancer screening rates have been declining and nearly one-third of all women who should be getting breast cancer screening are not. If those women not getting screened got screened, the number of lives that could be saved just among women age 50 to 70—where there is no controversy—is considerable.

As I mentioned earlier, adults over age 50 should get current on one of the recommended tests for colon cancer. We can be saving more lives.

There are nearly 5,000 deaths from cervical cancer each year. The overwhelming majority of these women have not had a pap smear ever. We desperately need to get screening to those underserved, who need it.

**OBR:** In the debate over healthcare reform, we hear a lot about the cost of cancer care. Studies show that the cost of cancer care (as well as the recession) is preventing patients from seeking treatment or completing treatment. How is the ACS helping patients manage these costs?

**OB:** The American Cancer Society was one of the first organizations to point out the need to improve access to care. We have shown that a large proportion of patients are financially ruined by the treatment costs of cancer. We have shown that insurance status is a prognostic factor in cancer treatment. We have partnered with the Patient Advocate Foundation to provide help to patients who are struggling with their insurers and with Medicare coverage. Most important we are working for healthcare reform that is *adequate, affordable, available, and administratively simple.* **OBR**

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## The Community Practice Perspective:

Forecasting with Michael Neuss, MD,  
Oncology Hematology Care, Inc., Cincinnati, OH,  
ASCO Clinical Practice Committee Chair



Michael Neuss, MD

When we spoke with Dr. Michael Neuss it was the end of the day. He had already seen 7 patients in the local hospital before going to his office where he saw 30 more. About half of the patients seen were hematologic, and the most common diagnoses were myelodysplasia, chronic lymphocytic leukemia (CLL) and myeloma; in solid tumors the majority were either receiving or had completed

adjuvant therapy, though advanced lung, breast, and colorectal patients rounded out the schedule. After speaking with us, he was headed back to the hospital to see a few more patients. We caught up with him in the midst of his busy schedule and asked him about the coming year.

**OBR:** *For practices as a whole, what do you anticipate for 2010?*

**MN:** On the whole, I would say that practices around the country are struggling financially and people are concerned that the trend is worsening. I think the decline is largely happening for one of three reasons: 1) huge compression in drug profitability; 2) patients finding themselves without insurance or are underinsured; and 3) for some practices, volume has not increased but more doctors have been added with attendant increase in overhead.

**OBR:** *How are practices faring these days in this economy? Who will survive?*

**MN:** ASCO is establishing a task force to look at this exact question. There are lots of people with some very strong impressions, but there is an incredible lack of data to sup-

port any of these impressions. Nobody knows who is surviving or who will survive. Everybody says, very glibly I might add, that independent practices with five and less physicians are going to affiliate or already have joined up with larger organizations, particularly hospitals, and that practices of 10 and less are doing the same thing, but I'm thinking the larger practices, i.e., 50 or more physicians, may also have trouble remaining independent in certain markets. These larger oncology groups have certain advantages, but they don't have an ER or a surgeon on contract so, for me, the really hard question for big and small groups is whether they'll have to contract for bundled episodes of care and whether that can be done if it requires services across organizations.

**OBR:** *Typically, drugs make up 60 percent to 65 percent of office revenue. That percentage seems to be decreasing. Do you expect that decrease to continue in 2010?*

**MN:** I can say that drug revenue as a proportion of cash flow has been flat or increasing while profitability is decreasing. I don't think there will be decreased drug revenue per se because I don't think we'll be treating fewer patients or treating patients with less expensive drugs. The margin on that revenue has gone down, and I also think that the margin is maximally compressed in terms of sustainability unless alternative payment methods are created. However, I don't think the total revenue stream in the pharma area will go down.

**OBR:** *What about healthcare reform? How is the discussion going to shape the future of cancer care?*

**MN:** The very short answer to that question is that the costs of cancer care are just way too high. Everything seems to cost too much and the things that should be valued are forgotten about or placed on hold. The whole payment system is flawed, but it's not only because the incentives are misaligned; things just cost too much money. That's the fundamental problem. There is a model for how one might fix the entire adult medical oncology system: examine how children with cancer are cared for. Not that everyone doesn't try with adults, but with younger

patients there's a certain integration and alignment that feels lacking with adults. The great majority of patients are included in registries and clinical research. Survivorship care is routine both because many patients are cured and the consequences of treatment are recognized. And in the unfortunate instance when patients are dying of their malignancies, you don't have the restrictions on hospice care, for example prohibitions on transfusions and chemotherapy that are seen with adults. Finally, multidisciplinary care including psychological support of the patient and their families is included from day one.

**OBR:** *Is it possible to control the cost of cancer care and not sacrifice quality of care?*

**MN:** If you had a pill and the pill cured any cancer patient with just one dose, it might still be hard to justify its cost. In other words, what would that pill be worth to the consumer and healthcare system? Clearly not \$1 billion dollars and yet \$1 would be ridiculously inexpensive. There are three variables at work here: 1) the cost of the treatment; 2) the likelihood of its being effective; and 3) its toxicity. Say the pill cures 90 percent of patients, but doesn't do anything for 10 percent—that's probably acceptable, but suppose the pill cures just 10% and does nothing for the rest. This brings to question the value of human life and it's almost impossible to have a rational discussion on that value. It also brings up the concept of rationing and to me that is not a good thing. You see, there is a hierarchy of benefits, effectiveness and value, and with cancer care, we may be approaching a tipping point where treatments with marginal benefit and high expense simply cannot be justified. Pricing seems to be nearing the limit, and it's easy to understand why pharmaceutical companies would do this in a completely free market economy. But there is in fact, a tipping point and I think we're approaching it—otherwise we wouldn't be having this discussion. And it's not like competition always makes things better—hospital markets with multiple players are less efficient in some instances around the country than those with a single integrated system.

And though I'm not sure why, it could be that when there's only one player, the hospital often does what's right for the community. They don't need to buy a new MRI because the facility across the street just bought a new MRI—they can relax and focus on building systems with the tools needed to care for patients.

**OBR:** *What are your concerns about where we're heading? When you're not seeing patients what are you thinking about?*

**MN:** Nothing financial keeps me awake at night if that's what you're asking. The most important thing that keeps me awake is the care of my patients, what's wrong with them, and how can I help them. That's the most important thing. But I'm bothered by the slow drifting away from how we as a community care for patients to more of a focus on practice economics. Listen, being a doctor is such a great job. I love what I do and the intimacy I get to share with my patients puts me in an extraordinary position. The reach of one physician is tremendous, and you can't practice without a sound economic base, but practice economics is not what being a doctor is about.

**OBR:** *Anything else you'd like to tell our readers?*

**MN:** I think it's inescapable that we're going to be asked to demonstrate quality and value in the care we deliver, and it would be much better if the systems and endpoints for these measurements were designed by patients and their doctors and not payers. I think that single doctors won't be able to design these measures though national organizations should. I can't stress enough how getting involved with national organizations like ASCO, the AMA, or the ASIM broadens your horizons and knowledge base while also teaching certain organizational skills. In my ASCO volunteer position, I've learned how to approach problems in a different manner, and it has helped me to keep what I hope is a healthy perspective on my chosen profession. Hopefully, I'll be able to make some difference. **OBR**

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## The National Cancer Institute Perspective:

Forecasting with John E. Niederhuber, MD, Director,  
National Cancer Institute



John E. Niederhuber, MD

**OBR:** *In forecasting for the upcoming year, in terms of early diagnosis and prevention, what will be the NCI's top priority?*

**JN:** Biomedical research tends to be an iterative process that makes its best strides over time, and not according to goals established with a calendar in mind. In this or any year, the singular priority of the NCI is to make progress on behalf of cancer

patients. That progress is directed in many ways: at decreasing risk; finding new methods and technologies to find cancer at the very earliest stage of development; determining, through genomics, the risks to the individual when early disease is found through screening; to find new therapies; and, when we cannot eliminate disease, to make cancer, wherever possible, a chronic illness that no longer takes so many lives.

**OBR:** *In terms of research, what innovative initiatives can we expect from the NCI?*

**JN:** In our mission, there are a number of exciting frontiers of research. First is the ongoing—and accelerating—work characterizing the genomes of cancer patients and their tumors. Through carefully constructed and adequately replicated genome-wide association studies, we are continually discovering more and more genetic alterations that appear to determine cancer risk. The Cancer Genome Atlas (TCGA), a collaboration of the NCI and the National Human Genome Research Institute, is working to sequence and then characterize the genetic alterations of many tumor types, beginning with brain,

lung, and ovarian cancers. We are putting in place a number of coordinated initiatives that will take this important genomic and genetic data and develop the essential new knowledge concerning how these genomic alterations change biologic function, which can then be used to develop therapies to affect specific targets within these cancer signaling pathways.

Many of these intracellular communication pathways are part of the complex epigenomic regulation of gene transcription and were once considered “undruggable.” Among those new initiatives are a Functional Biology Consortium and a Chemical Biology Consortium (CBC), which develop the needed assays that are then used to screen large libraries of chemicals and biologic compounds to identify small molecules or biologics with the potential to effectively target the altered pathway. The CBC provides the expert chemists to refine those small molecules selected in the screening process and maximize their effectiveness and reactivity against a target, and formulate drugs suitable for study in humans.

**OBR:** *It seems we are on the dawn of a new era in treating cancer and coming even closer to realizing personalization.*

**JN:** We know that this new era in medicine will require highly characterized patients, and NCI is working at present to develop a characterization center to take patient samples and conduct the complex genomic and genetic studies that must become part of the future. Our goal is to be able to detect cancer at its earliest possible stage and to tailor prevention in an era of molecular medicine to reduce risk for the individual. In this new era of cancer medicine, patient tumor samples will become evermore important, and NCI is in the process of developing the Cancer Human Biobank for just that purpose.

Because cancer is such a heterogeneous disease, NCI will maintain many other lines of inquiry, always striving to adequately support the individual and hypothesis-driven investigators that are the lifeblood of our innovative science. Some of the important areas we will fund include studies of the tumor microenvironment; “stem-like” cells

that may be involved in tumor development, metastasis, and resistance to therapy; and new studies of chromosomal positioning as an early indicator of impending tumor development, and subcellular imaging.

**OBR:** *How are bioinformatics and all things digital changing the landscape of cancer research and what are some of the applications?*

**JN:** In an era of genomic studies, huge volumes of data are becoming commonplace. With next-generation sequencing technology coming online, NCI's cancer Bioinformatics Grid (caBIG®) is providing dozens of tools for management and analysis of information, for the conduct of data driven clinical trials, and for the adoption of cancer electronic health records.

Another important program is caHUB, a national biobank, or biorepository, of human tissue, blood, and other biological materials—collectively known as biospecimens—that can be used for medical research and even as a key element in ongoing patient care. It will help ensure that an adequate and continuous supply of biospecimens is available to accelerate cancer research and the development of molecularly-based diagnostic and therapeutic agents that will further enable personalized medicine. The digital record-keeping aspect of caHUB will be critical to its success.

**OBR:** *What are some the short-term goals (i.e., 2010) vs. long-term goals of NCI?*

**JN:** There are a number of new targeted therapies already undergoing study in clinical trials and a number more that will enter trials in 2010. We are also targeting a number of new tumors to be sequenced in 2010 as part of a scale-up of The Cancer Genome Atlas using American Recovery and Reinvestment Act (ARRA) funds.

**OBR:** *NCI's annual budget increased from \$4.9 billion in '08 to around \$6 billion for '09. Previously you said, "This is a once-in-a-lifetime opportunity." Please tell us how the additional money is going to help you achieve your goals for 2010.*

**JN:** For the '09 fiscal year, which ended Sept. 30, NCI's appropriation was \$4.96 billion, an increase of approximately 2.9 percent. In February '09, we received an additional \$1.26 billion through the ARRA. Those two pools of funds were treated differently, administratively speaking,

and were required to be spent differently. Funds allocated under ARRA, which must be obligated within two years, came with a mandate not only to promote scientific excellence, but to help create or save jobs. Consequently, NCI used a majority of those dollars to support investigators at research universities and to help launch new scientific careers. NCI also used ARRA funds to launch a number of programs that would otherwise have taken years to begin. For example, NCI has launched a program called ACTNOW (Accelerating Clinical Trials of Novel Oncologic PathWays), a group of 37 early-phase clinical trials of new cancer therapies

that are contingent on a very strict, accelerated timeline. As mentioned earlier, we have also used ARRA funds to scale up TCGA.

**OBR:** *How can the NCI help to increase the percentage of cancer patients that enroll in clinical trials?*

**JN:** I also feel that the number of patients in clinical trials is pretty directly related or tied to the NCI budget. The accrual rate depends on the number of trials we can open and the number of dollars per-case reimbursement. As we develop innovative investigational drugs and biologics, patients will follow and want to be part of trials. For years, NCI's ability to provide adequate [cont. on pg 24 >>](#)

*“Funds allocated under ARRA, which must be obligated within two years, came with a mandate not only to promote scientific excellence, but to help create or save jobs.”*

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per-case reimbursement has steadily declined. The tough decision is fewer trials to free up dollars for per-case expenses. Without a significant infusion of new resources into our clinical trials programs, I do not think we can expect big changes in accrual rates.

**OBR:** What role can the NCI play in speeding outcomes information and designing more efficient clinical trials?

**JN:** There is no question that the way we test new drugs in this country—one drug and one hypothesis at a time—is not adequate for an era of targeted combination therapies. The time and expense of trials must be changed, as well. Certainly this is not something NCI can change alone; however, the Institute is deeply involved in efforts to enhance clinical trials. In particular, NCI has led the way in the development of so-called phase 0 trials, which test minute doses of an investigational agent in patients and then track that agent through advanced imaging to see if it reaches and saturates its molecular target. Phase 0 trials have the potential of taking hundreds of millions of dollars and years off of drug development time, by facilitating significantly earlier “go/no-go” decisions.

**OBR:** How does NCI support new oncology drug start-ups?

**JN:** Among our efforts, the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs are NCI’s engine of innovation for developing and commercializing novel technologies and products to prevent, diagnose, and treat cancer. The SBIR & STTR Programs are one of the largest sources of early-stage technology financing in the United States. The NCI SBIR Program will soon announce the new issuance of the SBIR Phase II Bridge Award. The new Bridge Award more than triples the amount of funding available through the NCI SBIR Program to support the next stage of development for previously funded SBIR Phase II projects in the areas of cancer therapies and cancer relevant imaging technologies. **OBR**

# TUMOR TICKER™ IS NOW ONLINE!

The screenshot shows the 'Tumor Ticker' section of the Oncology Business Review website. It features a table of stock prices and market capitalization for various oncology companies. The table includes columns for 'NAME', 'SYMBOL', 'LAST', 'CHANGE', and '% CHANGE'. The data is sorted by market cap, with the top row being Pfizer (PFE) at \$11.26, followed by Novartis (NVO) at \$17.76, and Genentech (GENT) at \$11.01. The table also includes a section for 'Major Players: Market Cap > \$100B' and a 'Tumor Ticker' section with a table of stock prices and market cap data for various oncology companies.

NAME	SYMBOL	LAST	CHANGE	% CHANGE
Pfizer Inc.	PFE	\$11.26	▲ 0.18	▲ +1.62%
Novartis	NVO	\$17.76	▲ 0.51	▲ +2.92%
Genentech Inc.	GENT	\$11.01	▲ 0.21	▲ +1.92%
Amgen Inc.	AMGN	\$49.28	▲ 0.28	▲ +0.57%
AbbVie Inc.	ABBV	\$71.86	▲ 0.27	▲ +0.37%
Roche Holding Corp.	RHH	\$11.01	▲ 0.11	▲ +1.01%
Merck & Co. Inc.	MRK	\$31.17	▲ 0.17	▲ +0.55%
Vertex Pharmaceuticals Inc.	VRTX	\$16.78	▲ 0.16	▲ +0.95%
Regeneron Pharmaceuticals Inc.	REGN	\$10.88	▲ 0.10	▲ +0.92%
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Novartis	NVO	\$17.76	▲ 0.51	▲ +2.92%
Genentech Inc.	GENT	\$11.01	▲ 0.21	▲ +1.92%
Amgen Inc.	AMGN	\$49.28	▲ 0.28	▲ +0.57%
AbbVie Inc.	ABBV	\$71.86	▲ 0.27	▲ +0.37%
Roche Holding Corp.	RHH	\$11.01	▲ 0.11	▲ +1.01%
Merck & Co. Inc.	MRK	\$31.17	▲ 0.17	▲ +0.55%
Vertex Pharmaceuticals Inc.	VRTX	\$16.78	▲ 0.16	▲ +0.95%
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