THE CANCER LETTER

Vol. 38 No. 4
Jan. 27, 2012

PO Box 9905 Washington DC 20016 Telephone 202-362-1809

The Cancer Centers: Permanent Reinvention

From One Competitive Market To Another: UC San Diego Stakes a Claim In Las Vegas

By Paul Goldberg

Cancer centers have been known to buy physician practices to boost referrals. But few have gone as far as the University of California, San Diego, which reached out 330 miles across the desert, to buy the clinical practice of the failed Nevada Cancer Institute.

The move has prompted many oncology insiders to ask a simple question: Why?

In an interview earlier this week, UCSD Health System officials said they had one good reason to make the $18 million deal that closed Jan. 23. They needed to grow.

(Continued to page 2)

The Duke Scandal

FDA Didn't Punish Duke For Failing To Seek Proper Regulatory Clearance For Three Trials

By Paul Goldberg

FDA officials explicitly informed Duke University investigators that regulatory clearance would be required for their controversial single-institution trials that used genomic signatures to assign patients to therapy.

Internal documents released by the agency provide a fascinating glimpse of the role federal regulators played in the scandal that has become a case study in how not to conduct cancer studies in which therapy is selected based on biomarkers.

The documents are important, because they make it possible to analyze internal workings of the FDA in an area of unsettled legal and regulatory procedures.

(Continued to page 5)

News Analysis

Trials Went On Despite FDA Statements

By Keith Baggerly, MD Anderson Cancer Center

In 2007 and 2008, Duke initiated three clinical trials in which genomic "signatures" of sensitivity were used to determine patient allocation to treatment arms.

Duke has acknowledged that the three now-terminated clinical trials were conducted without FDA approvals in the form of investigational device exemptions (IDEs), despite the fact that FDA views such signatures as medical devices for which approvals must be obtained before they are used in "significant risk" situations.

(Continued to page 5)

UC San Diego's Las Vegas Bet Hedged By $15 Million Escrow

(Continued from page 1)

The second reason is clear to anyone who examines the transaction: UCSD's risk in Nevada is limited. The deal includes a promise by the NVCI board to raise $20.6 million, of which $15 million is backed by the fund set up by a private foundation.

The arithmetic is simple: UCSD commits to spend $18 million. However, the acquired cancer center makes a secured guarantee that could pay back all but $3 million of the purchasing price.

The story of the Las Vegas cancer center points to the potential pitfalls of starting a cancer center and the practical difficulties in cleaning up the aftermath of failure.

With the clinical component—basically a large medical practice—off their hands, the NVCI founders still need to find a use for a vacant, 183,000-square-foot research building, which isn't included in the UCSD purchase.

UCSD is the only NCI-designated comprehensive cancer center in the San Diego area.

However, it faces competition from Scripps Health, the Sharp Hospitals and other players. UCSD is starting construction of the $664-million Jacobs Medical Center in La Jolla.

This 10-story hospital will house the Moores Cancer Center as well as other units of UCSD.

"It is a very competitive marketplace here in San Diego," said Tom McAfee, interim CEO of UC San Diego Health System and dean of clinical affairs. "We are expanding our facilities very significantly here."

"By 2016, we will have new inpatient facilities on board, and in order to fill those facilities we need to grow our clinical volume by about 30 percent," he said to The Cancer Letter. "So a lot of our strategic plan, both inside San Diego County and outside San Diego County, is oriented towards fulfilling some of that growth."

The Las Vegas purchase is a part of the UCSD strategy to use its clinical operations revenues to buy oncology practices. Though purchased properties end up under control of the University of California Board of Regents, no taxpayers' money is used in the transactions.

In February 2011, the health system bought the San Diego Cancer Center.

That deal allowed UCSD to compete in the north coastal areas of San Diego. UCSD has also opened a radiation oncology clinic in South Bay, multi-specialty clinics in Murrieta in Riverside County, a liver clinic in Henderson, Nevada, and telemedicine clinics throughout California.

Las Vegas will offer UCSD a chance to grow, said McAfee.

"Part of our plan is to restore some of the volume that has fallen away from that practice," he said of the Las Vegas center. "If we are successful in recovering some of that volume, we would need to expand clinically even beyond that."

UCSD officials estimate that, at its peak more than two years ago, NVCI controlled about 15 percent of the Las Vegas oncology market share.

"We think they are probably around 10 percent market share now," he said. "By restoring some of the contracts that were lost and doing some physician outreach to referring doctors and adding some clinical trials, we think we will be able to restore that volume.

"And our modeling suggests that we will have a healthy practice at that level."

A couple of decades ago, Las Vegas cancer patients routinely traveled for care to other markets, including San Diego.

Now, care has become more available, and the local US Oncology practice has emerged as the dominant player in the valley that's home to about two million people.

In that market, patients usually receive care close to home, and those who opt to go to academic cancer centers are more likely to head to Los Angeles than San Diego, said Nicholas Vogelzang, a physician with the US Oncology Las Vegas operation (The Cancer Letter,

THE CANCER LETTER

® The Cancer Letter is a registered trademark.

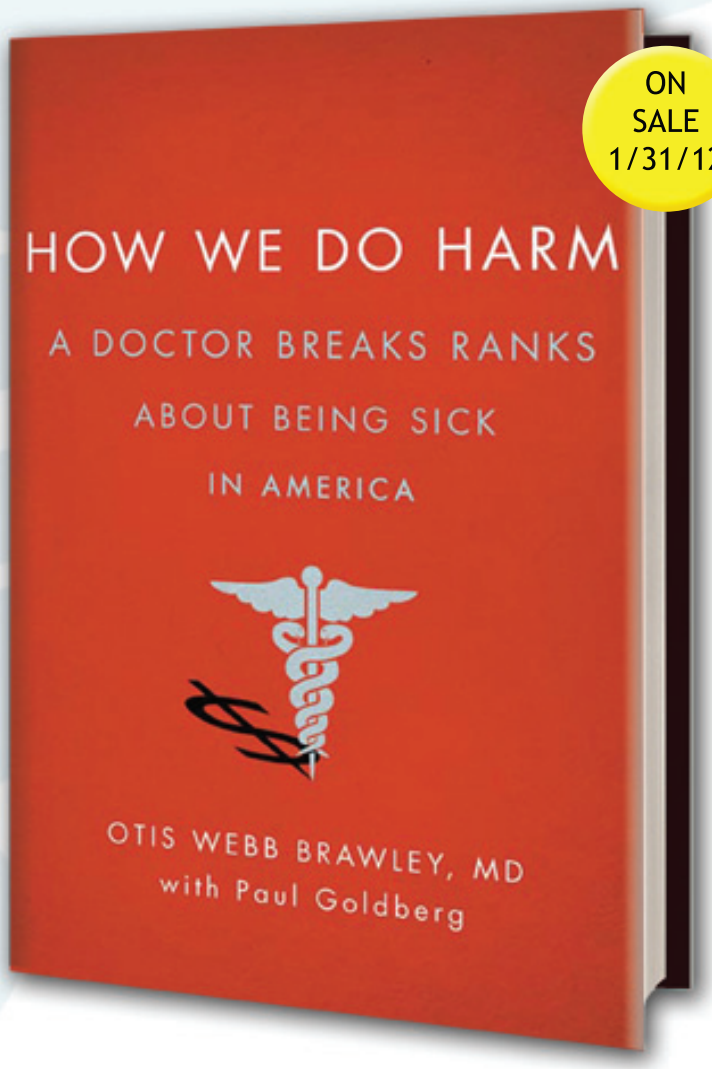
Editor & Publisher: Paul Goldberg
Copy Editor: Conor Hale

Editorial, Subscriptions and Customer Service:
202-362-1809 Fax: 202-379-1787
PO Box 9905, Washington DC 20016
General Information: www.cancerletter.com

Subscription $405 per year worldwide. ISSN 0096-3917. Published 46 times a year by The Cancer Letter Inc.

"My friend and colleague Otis Brawley has written a raw and honest portrayal of our health care system. Otis is the go-to oncologist I send so many patients to see, because he is not only a great doctor, but also a compassionate man. As we discuss the transformation of health care in this country, put Dr. Brawley's book at the top of your list."

— Sanjay Gupta, Associate Chief of Neurosurgery Grady Memorial Hospital, Chief Medical Correspondent, CNN



AVAILABLE AT:
AMAZON
BARNES & NOBLE
INDIE BOUND
POWELL'S BOOKS

Dr. Otis Brawley, chief medical and scientific officer of The American Cancer Society, calls for rational healthcare as he pulls back the curtain on how medicine is really practiced in America. In *How We Do Harm*, Brawley tells of doctors who select treatment based on the amount of payment they will receive, rather than on demonstrated scientific results; hospitals and pharmaceutical companies that seek out patients to treat even if they are not actually ill (but as long as their insurance will pay); a public primed to swallow the latest pill, no matter the cost; and rising healthcare costs for unnecessary — and often unproven — treatments.

Passionate and important, this is a startling exposé on the state of medicine, research, and healthcare today.

"Dr. Brawley is a premier academic oncologist and a minority doctor in the nation's largest inner city hospital. He makes the cogent point that more testing, screening, and interventions available to the rich does not always mean better medical care."

— Bruce Chabner, M.D., Director of Clinical Research, Massachusetts General Hospital Cancer Center

AVAILABLE WHEREVER BOOKS ARE SOLD • ORDER YOUR COPY TODAY

St. Martin's Press

Jan. 21).

Vogelzang was recruited from the University of Chicago to run NVCI and ultimately landed at the for-profit cancer services firm, where he serves as a member of the research executive committee, chair of the organization's developmental therapeutics committee, co-chair of the genitourinary committee, and the Las Vegas site research leader.

The Las Vegas US Oncology volume has grown by about 23 to 28 percent over the past two and a half years, since Vogelzang departed from NVCI, he said. The site is ranked number two in accruals to clinical trials within US Oncology, second only to Baylor Health System. Last year's volume accrual stood at 309 patients.

"Our analysis shows that about 700 patients per year who have cancer leave the Las Vegas marketplace for care," UCSD's McAfee said. "We would like to be considered as an option for those patients. Some of those patients might be leaving out of choice, not because the service isn't available in Las Vegas.

"But some of them might be leaving because a service isn't available, like bone marrow transplantation. We would hope that in areas where there are clinical opportunities that some of our specialists could rotate through the Nevada Cancer Institute Practice and provide consultation to those patients locally.

"Again, our goal is not to become a US Oncology. We are not a for-profit, like they are. But I think that it's good for Las Vegas that there is some competition."

The UCSD strategy would be to provide an alternative for patients, said Mark Adler, a co-founder of the San Diego Cancer Center, which was purchased by UCSD last year. Adler will serve as the interim director of the Las Vegas clinic until a permanent director is hired.

"I think it's to the benefit of the community of Las Vegas that there are choices about where they get their health care rather than a single 800-pound gorilla as their only choice," Adler said to The Cancer Letter. "I think it offers more clinical options and more access to clinical trials."

Recently, all physicians employed by NVCI signed agreements with UCSD, and the health system is recruiting to expand the staff. The center employs six medical oncologists and one radiation oncologist.

In the short run, UCSD will hire one more radiation oncologist and one medical oncologist, McAfee said. A search for a new director has been initiated as well, he said.

"The Nevada Cancer Institute was conducting basic research in the building next door to the one we have acquired," McAfee said. "We have not acquired the research portfolio or the building."

Only one basic scientist, Oscar Goodman, an MD, PhD who specializes in genitourinary cancers, will remain at the Las Vegas center, McAfee said.

"I know that his current grant has about six more months on it," McAfee said. "If he gets it renewed, then he will have ongoing funding. We told him he could continue those projects while he had funding. But to the extent that the funding goes away, we would not be able to conduct any unfunded basic research."

The founders of the Las Vegas center made a lot of mistakes, McAfee said.

"Original founders were very well-meaning in what they were hoping to bring to Las Vegas, but I think some of the efforts, in retrospect, were probably misdirected," he said. "One of the things that got the NVCI in trouble was funding a fair amount of unfunded research, using philanthropy to support it. That's not a model we use here at the university, nor one we would use in Las Vegas."

Land-use regulations precluded NVCI from building a hospital on its campus and efforts to build a hospital elsewhere never got off the ground. When the center ran into financial trouble, few suitors emerged, and in the end UCSD faced no competition.

"The ultimate deal that we are making looks nothing like the deal we were contemplating in August," McAfee said. "We went through a number of iteration in terms of what made business sense to us. We were contemplating acquiring both the medical building and the research building and taking over the research portfolios. As we did our due diligence, that didn't make sense."

The board that once ran the center will become advisory to UCSD.

Its function now would include raising $20.8 million over four years.

This could prove difficult, because the sales pitch to potential donors wouldn't be as dramatic as the original plan to build an NCI-designated cancer center

in Las Vegas.

"There is some thought that they may try to resurrect the research program that was in the research building," McAfee said. "We've agreed to serve in an advisory role in their attempts to do that."

UCSD officials weren't certain about the status of that plan. "I know that there have been discussions about that," McAfee said. "It has all evolved a lot for both of us, and t this point I am not sure what their thinking about that has been."

It appears that charitable funds that may be raised by the NVCI's former board could be used for a variety of purposes.

"The philanthropy commitment could go to pay back the original investment that was made, or it could go to support new recruits," McAfee said. "It could go to support startup of clinical trials programs. All of the above are candidates for how these funds could be used."

If the board fails to raise money, UCSD would be able to draw on a $15 million escrow originally set up by the Engelstad Family Foundation to finance lung cancer research at NVCI.

The terms of that donation were revised as part of the NVCI reorganization under Chapter 11 and now provide security for UCSD's bet on Las Vegas.

This is a follow up to a series of articles that examined the fundamental challenges to the cancer centers as they chart their future beyond 2012.

The Duke Scandal

FDA Releases Correspondence With Duke, Other Documents

(Continued from page 1)

In a letter to then Duke investigator Anil Potti, FDA officials said that one of the studies in question required an Investigational New Drug submission and approval.

FDA records show that the agency hadn't received any response from Potti.

Potti received the communication from FDA while the trials were underway. Yet, enrollment resumed despite the agency's communication, documents show.

Duke's failure to obtain proper clearance notwithstanding, the agency's audit on campus last year didn't result in any sanctions, documents show.

It would probably be wrong to conclude that any other institution or a drug company that forges ahead despite clearly stated instructions from FDA would face no sanctions.

More likely, the agency exercised lenience because Duke officials had placed Potti on leave and forced him out, thereby eliminating potential ongoing problems.

The university recently settled 11 malpractice claims stemming from the three trials. Scientific papers on which the trials were based have been retracted by the world's premier medical journals.

The documents are posted at http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/InVitroDiagnostics/ucm289100.htm and http://www.cancerletter.com/categories/documents

The Cancer Letter asked Keith Baggerly, a biostatistician at MD Anderson Cancer Center to review the newly released documents.

His analysis appears on p. 1.

News Analysis

FDA Documents Focus On Chemosensitivity Trials

(Continued from page 1)

Working with Kevin Coombes, a fellow biostatistician at MD Anderson, we raised questions about the science underlying how these signatures were derived—and concerns regarding patient safety—and published objections in September of 2009.

After our analysis was published, Duke suspended the trials pending an independent review board-sponsored investigation of the science in October 2009; announced the trials would be reopening for enrollment in January 2010; and then re-suspended the trials following new concerns about the CV of one of the PIs, Anil Potti, in July 2010; before finally terminating the trials in November 2010.

It is now acknowledged that the underlying science was flawed, and that the trials should not have been run.

Related to the scientific question, however, is a regulatory one linked to patient safety: what types of approval are required to run a trial in which signatures are used to direct therapy?

In the context of oncology trials, where therapies can be dangerous, both FDA and IRB approval may be required. As noted above, the FDA views genomic signatures used to guide therapy as medical devices, which would thus require IDEs to be used in an experimental setting.

When the clinical trial is also subject to the need for approval of an investigational new drug (IND) application, then significant risk device issues can be addressed either through the IND application or through a coordinated IDE application.

In either case, however, qualitatively similar questions need to be addressed. Which approval is viewed as primary also determines which center within the FDA has direct oversight: the Center for Devices and Radiological Health (CDRH) for devices, or the Center for Drug Evaluation and Research (CDER) for drugs.

In the Duke trials, the institution's IRB initially determined that FDA approvals would not be required because all treatment arms were seen as offering "standard of care," and therefore didn't pose "significant risk," which is the threshold for such determination.

However, two treatments can work equally well in the general population, and thus qualify as "standard of care", while having different odds of working in an individual patient.

Indeed, the Duke signatures were introduced in hopes of exploiting this distinction. By intelligently choosing the "better" therapy, they hoped to skew the odds from the 50:50 that might apply to each drug overall to something like 75:25.

However, if a device is used to determine therapy in hopes that good choices can improve response, then if the device "malfunctions" it can lead to bad choices that worsen response – if the choices were actively wrong, they might reduce the odds to 25:75 instead of improving them.

Part of the purpose of the IDE is to determine whether the performance of the device has been sufficiently validated to justify its use. It is now conceded that the Duke trials should have had IDEs; they did not.

The Newly Released Documents

Until now, few documents pertaining to regulatory inquiries in the controversy made their way into the public domain.

One exception was a pre-IDE filing the Duke group made in 2006 for another genomic signature (the Lung Metagene Score, LMS), suggesting the investigators were aware of the issues.

Analogous filings pertaining to the chemosensitivity trials, however, were not publicly available. Therefore, there was no way to judge the extent to which these points were made clear to the investigators so that problems might have been caught earlier.

Following the termination of the Duke clinical trials in November 2010, the FDA conducted an audit in January-February 2011. This week, FDA released three documents in response to a freedom of information request asking for details:

1. A letter from FDA's CDRH to Potti, dated Oct. 7, 2009, indicating that one of the trials required approval to proceed.

2. A letter from Potti to FDA's CDER, dated Dec. 22, 2009, responding to some of the points raised in FDA's letter.

3. A redacted version of FDA's inspection report from 2011.

With respect to the second document, the FDA website notes "CDER has no record of receiving Dec. 2009 letter from Dr. Anil Potti discussing an IND-exemption for the trial that received pre-IDE review.

"The letter was brought to FDA's attention during our inspection of the Duke IRB and clinical investigators."

These documents establish the following:

During the expansion of the trials to include other centers, an independent review of one of the trials (NCT00509366, aka TOP0602) by Western IRB (WIRB) determined that the genomic signature was a "significant risk" device and would require an IDE. The Duke IRB was informed of this determination, but the report is unclear as to precisely when this occurred (Document 3, p. 14).

Following this determination, Anil Potti, who was at that point the trial PI (according to clinicaltrials.gov), sent a Pre-IDE inquiry to CDRH for clarification. This inquiry was received by FDA on Aug. 5, 2009 (Document 1). It is uncommon for a Pre-IDE to be sent after a trial has begun.

CDRH supplied a Pre-IDE review (Document 1) on Oct. 7, 2009, noting that if CDRH had the lead in reviewing the study, "it would represent a significant risk study" requiring both an IDE and IRB approval, but that CDER should actually have the lead in reviewing this study as a combination product, and the trial would need an IND. The document lists four specific reasons why the study represents a "significant risk". Some of these concern the use of pemetrexed, another concerns whether the assay had been sufficiently validated. The letter is clear that FDA approval would be required.

Anil Potti wrote a letter to CDRH (Document 2), dated Dec. 22, 2009, in which he addresses the concerns related to the use of pemetrexed, notes that corresponding changes have been made to the trial

protocol, and asks if an IND would still be required. This letter does not explicitly touch on whether the assay had been validated. Duke's IRB believed this response was sent to the FDA (Document 3, p. 14), but, as noted on the FDA web site, FDA first learned of this letter during the course of its inspection in 2011.

Thinking the response had been sent, the Duke IRB's point of view was that "after a couple of months, there was no response from the FDA regarding the changes made or whether an IDE should be filed. The IRB assumed that no news meant good news and decided to allow continued enrollment around 2/10 or 3/10 of the studies" (Document 3, p. 15). Had the letter been the IND requested by the FDA, this might make sense, since receipt of an IND or an IDE by the FDA triggers a 30-day "clock" after which, without a negative FDA response, the investigation can proceed.

Anil Potti's letter does not constitute an IND.

It does not identify itself as such, nor is it accompanied by the requisite forms. Nor is the letter a Pre-IDE, or of any other form that might trigger an automatic clock.

It is a followsup letter to a Pre-IDE review that does not address all of the bullet points from that review, asking if FDA approval would still be required.

In retrospect, "the IRB now realizes that it was probably wrong to assume everything was ok to proceed. The IRB realizes now that the device does pose significant risk and that an IDE should have been filed. Currently, all three studies have been closed, and the clinical sites do not plan to file an IDE" (Document 3, p.15).

Summary

WIRB thought the genomic signature device used in one of the trials was a significant risk and required an IDE.

Potti was explicitly told by FDA that the questioned trial would require FDA approval to proceed.

Potti wrote a response addressing some, but not all, of the points raised by the FDA. Duke's IRB believed this response was sent in late 2009, but the FDA first saw the letter during its inspection in 2011.

Following apparent nonresponse from the FDA, Duke's IRB assumed that "no news was good news" and trial enrollments were allowed to resume.

FDA's IND and IDE mechanisms, like institutional IRBs, exist to ensure patient safety. Ignoring these mechanisms may not only delay eventual regulatory approval but also put patients at undue risk.

With respect to the question of how aware the investigators were of IDE issues, the investigators were explicitly informed of regulatory concerns regarding at least one of these specific trials while the trials were underway.

Concerns about whether the "device" posed significant risk might well apply to all three of the now-terminated trials, not just the one questioned, to the extent that the signatures were actually used to direct therapy.

FDA has since been issuing further guidance pertaining to the use of companion diagnostics, and the regulatory landscape is becoming clearer. Duke is likewise making efforts to improve the process.

One of the points this situation illustrates is that while many things may be new about genomics, the need for clarity in regulatory interactions and the conduct of human studies at the operational level is not.

Rob Califf, Duke's vice-chancellor of research and head of the institution's Translational Medicine Quality Framework Team, has provided some details in this regard.

When the letters were drafted in 2009, trials run under Duke's IGSP were operating under a different set of oversight rules than other clinical trials run at Duke, in part due to the perceived inherent complexity of genomics itself.

Califf notes this point was made by Joseph Nevins, senior author on many of the underlying scientific papers, in a presentation he made in March 2011 to the IOM panel reviewing the use of omics-based signatures in clinical trials. An MP3 audio of the presentation is available from http://bioinformatics.mdanderson.org/Supplements/ReproRsch-All/Modified/IOM/index.html.

What this meant, however, was that reaction to an FDA letter was much different than it should have been.

Had an FDA pre-IDE review been sent to one of the typical research units at Duke in October 2009, it might have been logged and discussed by the group, and a response (a) would have been discussed by the group, not the individual investigator, and (b) the chance would have been higher that it would have been vetted to make sure it more directly addressed all of the concerns raised.

One of the modifications made since this event has

been to standardize mechanisms of oversight for human research—so that, for example, communications with the FDA would no longer be controlled by the individual investigator.

A mistake happened here, but hopefully similar mistakes can be avoided going forward.

Keith Baggerly is a biostatistician at MD Anderson Cancer Center.

Cancer Screening

Study Examines Disparities In Achieving Screening Targets

The first federal study to identify cancer screening disparities among Asian and Hispanic groups highlighted significant disparities racial and ethnic populations, and that overall screening rates were below targets. The study by the Centers for Disease Control and Prevention and NCI was published in the CDC Morbidity and Mortality Weekly Report.

In 2010, breast cancer screening rates were 72.4 percent, cervical cancer screening rates were 83 percent, and colorectal cancer screening rates were 58.6 percent. These were all about 10 percentage points below their Healthy People 2020 targets. Healthy People 2020 is a nationwide set of health promotion and disease prevention objectives set by the Department of Health and Human Services.

Screening rates for all three cancers were significantly lower among Asians (64.1 percent for breast cancer, 75.4 percent for cervical cancer, and 46.9 percent for colorectal cancer) and Hispanics were less likely to be screened for cervical and colorectal cancer (78.7 percent and 46.5 percent, respectively) when compared to non-Hispanics (83.8 percent and 59.9 percent, respectively).

"It is troubling to see that not all Americans are getting the recommended cancer screenings and that disparities continue to persist for certain populations," said Sallyann Coleman King, an epidemic intelligence service officer in CDC's Division of Cancer Prevention and Control and lead author of the study.

"We must continue to monitor cancer screening rates to improve the health of all Americans."

Researchers used the 2010 National Health Interview Survey, which tracks progress toward Healthy People 2020 objectives.

Significant findings include:

• Screening rates for breast cancer remained relatively stable and varied no more than 3 percent over the period 2000-2010.

• From 2000-2010, colorectal cancer screening rates increased markedly for men and women, with the rate for women increasing slightly faster so that rates among both sexes were nearly identical (58.5 percent for men and 58.8 percent for women) in 2010.

• From 2000-2010, a small but statistically significant downward trend of 3.3 percent was observed in the rate of women who reported getting a Pap test within the last three years.

• Considerably lower breast, cervical, and colorectal cancer screening use was reported by those without any usual source of health care or health insurance.

"Healthy People objectives are important for monitoring progress toward reducing the burden of cancer in the U.S.," said study co-author Carrie Klabunde, an epidemiologist in Division of Cancer Control and Population Sciences.

"Our study points to the particular need for finding ways to increase the use of breast, cervical, and colorectal cancer screening tests among Asians, Hispanics, as well as adults who lack health insurance or a usual source of health care."

Currently, the CDC National Breast and Cervical Cancer Early Detection Program provides low-income, uninsured, and underinsured women access to timely breast and cervical cancer screening and diagnostic services. The center's Colorectal Cancer Control Program funds 25 states and four tribal organizations to implement population-based approaches to increase screening among men and women aged 50 years and older.

In Brief

NCCR Elects New Board Members; Anne Katz Named Editor of ONF

THE NATIONAL COALITION FOR CANCER RESEARCH elected several individuals to serve on its board of directors.

Barbara Duffy Stewart, executive director of the Association of American Cancer Institutes, will serve as president of the organizations beginning in February, through 2014.

The seven members of the board of directors are:

• **Louis DeGennaro**, executive vice president and chief mission offer of the Leukemia and Lymphoma Society,

• **Lisa Hughes**, senior director for policy and advocacy at the Prevent Cancer Foundation,

• **David Ringer**, national vice president of extramural grants at the American Cancer Society,

• **Wendy Selig**, president and CEO of the Melanoma Research Alliance,

• **Ellen Sigal**, chairperson and founder of Friends of Cancer Research,

• **Philip Stella**, medical director at St. Joseph Mercy Hospital Cancer Center,

• and **Frank Torti**, director of the Comprehensive Cancer Center of Wake Forest University and past acting commissioner of FDA.

GEORGETOWN UNIVERSITY Medical Center licensed worldwide rights of a potential cancer therapy and diagnostic, invented by two Georgetown researchers, to Maryland-based BioMetrx LLC.

The agreement will expedite the translation of the agent, Rasstore, to the clinical setting, according to a statement from the university.

Rasstore utilizes the tumor suppressor gene RASSF1A. Rasstore was invented by Milton Brown, director of GUMC's Drug Discovery Program, and Partha Banerjee, an expert on RASSF1A and tumor suppression.

"It's rewarding for Partha and I to see an agent progress from concept to where we are today—on the verge of completing pre-clinical IND enabling studies for a new agent which we believe has applications in prostate cancer and possibly other cancers as well," said Brown, who holds the Edwin H. Richard and Elisabeth Richard von Matsch Endowed Chair in Experimental Therapeutics and is an associate professor at Georgetown Lombardi Comprehensive Cancer Center.

BioMetrx has begun raising the capital required to support clinical investigation.

ANNE KATZ was named editor of the **Oncology Nursing Forum**, the flagship journal of the Oncology Nursing Society. She will be begin March 1.

Katz is a clinical nurse specialist at the Manitoba Prostate Centre, an adjunct professor in the School of Nursing at the University of Manitoba, and a sexuality counselor for the Department of Psychosocial Oncology, CancerCare in Winnipeg.

She has served as the editor for the journal Nursing for Women's Health, and is a contributing editor for the American Journal of Nursing.

"I want to take the high regard with which ONF is held among oncology nurses and researchers and move it even higher," said Katz in a statement.

"There is such a thirst for nursing evidence to guide our collective practice, and I want ONF to be the number one place where nurses, and our allied health colleagues, get that information."

KIMBERLY WOODS-SMITH was appointed director of science and medical outreach at the **Lung Cancer Alliance**. She will also serve as the primary point of contact for the alliance's medical and professional advisory board.

Woods-Smith will work with the scientific and medical community, researchers and other professional societies to build collaborations with the alliance's initiatives. She will monitor developments in lung cancer research and translate the findings for the general public.

A selection committee is seeking nominations for the **2012 DR. PAUL JANSSEN AWARD for Biomedical Research**.

The award is for achievements in the field of biomedicine or medical technology that have made, or have strong potential to make, a measurable impact on human health.

The award, given by Johnson & Johnson each year, includes a citation and a prize of $100,000. The award will be presented in September.

Nominations will be accepted until Feb. 15, and can be submitted online at https://www.pauljanssenaward.com/nominations.

FDA News

FDA Approves Inlyta Pill For Renal Cell Carcinoma

FDA approved **Inlyta** (axitinib) to treat patients with renal cell carcinoma who have no responded to previous therapies.

Inlyta blocks kinases that play a role in tumor growth and cancer progression, and is a pill taken by patients twice a day.

"This is the seventh drug that has been approved for the treatment of metastatic or advanced kidney cell cancer since 2005," said Richard Pazdur, director of the Office of Hematology and Oncology Products in the FDA's Center for Drug Evaluation and Research.

"Collectively, this unprecedented level of drug development within this time period has significantly altered the treatment paradigm of metastatic kidney cancer, and offers patients multiple treatment options."

The recently approved drugs include sorafenib, sunitinib, temsirolimus, everolimus, bevacizumab and pazopanib (The Cancer Letter, Dec. 16, 2011).

The safety and effectiveness of Inlyta were evaluated in a single randomized, open-label, multi-center clinical study of 723 patients whose disease had progressed on or after treatment with one prior systemic therapy. Results showed a median progression-free survival of 6.7 months compared to 4.7 months with sorafenib treatment.

The most common side effects observed in greater than 20 percent of patients in the clinical study were diarrhea, high blood pressure, fatigue, decreased appetite, nausea, loss of voice, hand-foot syndrome, weight loss, vomiting, weakness and constipation.

Inlyta is marketed by Pfizer Inc.

FDA approved **Voraxaze** (glucarpidase) to treat patients with toxic levels of methotrexate in their blood due to kidney failure. Methotrexate is a commonly used cancer chemotherapy drug normally eliminated from the body by the kidneys. However, patients receiving high doses of methotrexate may develop kidney failure.

Voraxaze is an enzyme that breaks down methotrexate to a form that can be eliminated from the body. Voraxaze was given an orphan drug designation, and is administered intravenously.

"Prolonged exposure to high levels of methotrexate can result in kidney and liver damage, severe mouth sores, damage to the lining of the intestine, skin rashes, and death due to low blood counts," said Pazdur.

A single clinical study of 22 patients evaluated the effectiveness of Voraxaze, with all patients receiving Voraxaze treatment. The study considered treatment a success if the methotrexate level fell below a critical level within 15 minutes and stayed below the critical level for eight days.

Ten of the 22 patients met this standard. Although not all patients experienced this result, Voraxaze eliminated 95 percent of the methotrexate in all patients.

A separate clinical study evaluated the safety of Voraxaze in 290 patients. The most common side effects observed in greater than one percent of patients in the clinical study were low blood pressure, headache, nausea, vomiting, flushing and abnormal sensation.

Voraxaze is marketed by BTG International Inc.

FDA approved **Picato** gel (ingenol mebutate; 0.015%, 0.05%) for the topical treatment of actinic keratosis, a precancerous condition caused by cumulative sun exposure that has the potentional to progress to squamous cell carcinoma. About 65 percent of squamous cell carcinomas begin as untreated actinic keratosis.

Picato 0.015% is used once daily on the face and scalp for three consecutive days. The 0.05 percent gel is used once daily on the trunk and extremities for two consecutive days.

"Since there is no way to predict which actinic keratosis will advance to skin cancer, early detection and treatment of lesions are critical," said study investigator Mark Lebwohl, of Mount Sinai Medical Center. "What makes this new solution particularly exciting is the two or three day course of treatment."

In four phase III clinical trials, 60-68 percent of patients with actinic keratosis on the face and scalp treated with Picato saw 75 percent or greater reduction of existing AKs, versus 7-8 percent with placebo, while 44-55 percent of patients with AKs on the trunk and extremities experienced 75 percent or more reduction, versus 7 percent reduction for placebo.

Patients treated with the gel saw 37-47 percent complete clearance of lesions on the face and scalp, and 28-42 percent on the trunk and extremities, versus up to 5 percent complete clearance with placebo in all studies.

The most common adverse events were local skin reactions, including erythema, flaking/scaling, crusting and swelling.