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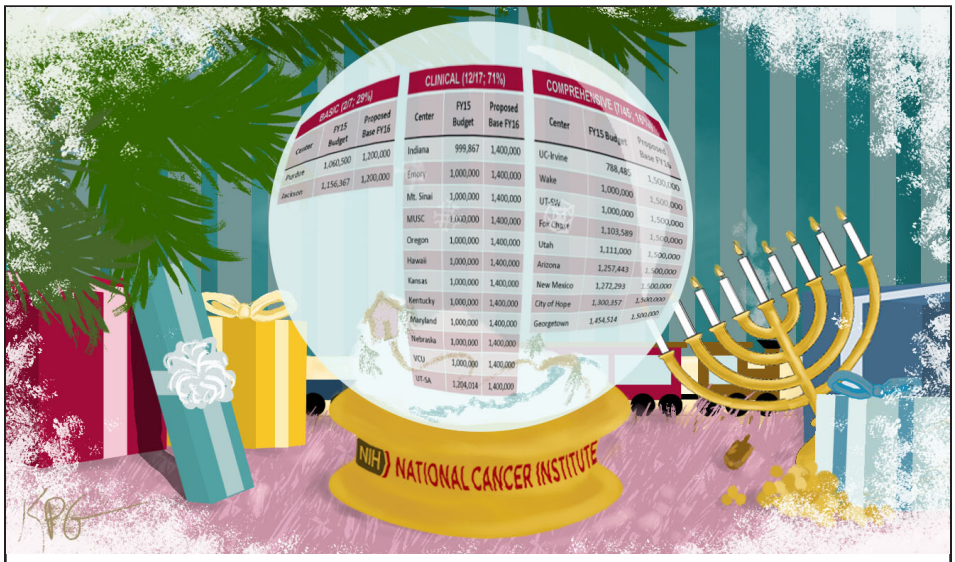

Core Grants of Newer, Smaller Centers Slated to Get Immediate Funding Boost

By Paul Goldberg

NCI is implementing a less draconian formula for increasing the core grants of newer cancer centers.

The plan, which was unveiled at the Dec. 1 joint meeting of the Board of Scientific Advisors and the National Cancer Advisory Board, seeks to correct an acknowledged inequity: by virtue of being in the NCI program longer, more established cancer centers had more incremental increases, thus amassing larger core grants.

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Capitol Hill

NIH Looks For $1-2 Billion Raise in FY 2016 As Congress Approaches Another Deadline

By Matthew Bin Han Ong

NIH is slated to receive a $2 billion increase under the Senate appropriations bill, but only $1.1 billion under the House plan for the current 2016 fiscal year.

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Guest Editorial

The Academic Difference

By George J. Weiner

Academic cancer centers have a major and unique role to play in enhancing cancer research, clinical care and education. This role will increase in value as our understanding of the complexity of cancer grows and is applied to care of patients.

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Smaller Center Core Grants Slated to Get Immediate Raise

(Continued from page 1)

In a unanimous vote, BSA asked for some refinements to the plan, but seemed to be fine with its main features.

An earlier version of the plan called for fundamental changes in the funding formula, which—according to NCI modeling—would have reduced the core grants of some of the older, larger cancer centers and gave these funds to the newer centers.

This happened largely because then-NCI Director Harold Varmus instructed framers of the previous proposal to work under the assumption that there would be no expenditure of new funds.

His successor, Acting Director Doug Lowy, decided that it was unacceptable to cut core grants, and was optimistic about the institute's chances of getting an overall increase in appropriations during the current fiscal year.

The principal difference between the old plan and new lies in fundamental assumptions. The old plan assumed no new money. The new one will channel about $40 million in new money to newer cancer centers in fiscal 2016, causing their core grants of some of these institutions to jump dramatically.

Thus, the grants for basic science centers will go up to $1.1 million, a modest increase. Clinical centers will be funded at a minimum of $1.4 million, which amounts to a $400,000 boost for most of them, and comprehensive cancer centers would get at least $1.5 million.

The largest increase would go to the comprehensive cancer center at UC Irvine, which has a core grant of $788,485 that will rise to $1.5 million. At Wake Forest and UT Southwestern, the core grants will increase from $1 million to $1.5 million.

Under the new schema, rebalancing will be accomplished in three phases over six years:

• **Phase 1 (FY16):** Establish base awards by type of center and bring all centers up to the new base, as recommended by the NCAB. Basic research centers would get the base funding of $1.2 million; clinical centers would get $1.4 million and comprehensive centers $1.5 million.

• **Phase 2 (FY17/18 – FY21/22):** Allocate new CCSG funds using the NCAB-recommended metrics of the size of the cancer-relevant research base of a center and the merit achieved in the review of its next competitive application.

• **Phase 3 (FY22/23):** Reconsider further rebalancing; continue the effort with more new money, and/or adopt a zero-based formula as recommended by the NCAB. Funds could be added at any point, if there is a sustained increase in the NCI budget.

"If phase 1 were accepted, we would implement that in FY 16," Lowy said at the BSA-NCAB meeting. "If phase 2 were accepted, we would implement that if there were an increase in the NCI budget in FY 16.

"We realize this require as multi-year commitment, and therefore we would not implement the $30 million if there were no increase in FY 16, but if there is an increase in FY 16 that is essentially at the president's budget level or something close to that which is $145 million, then we would implement the $30 million."

Lowy acknowledged that the spread between the core grants of the three kinds of centers isn't large.

"In a perfect world, there would be a larger differential. But to do so would require one of two parameter changes," Lowy said. "Either the amount of money given for the increase, the immediate increase, in step one, would be a much higher proportion of the $40 million—right now it's about $10 million plus $30 million. But if we did that, it would mean that it would be much harder for all the other centers, for when they were coming in for the renewals, to be able to get an increase. So this was the compromise that was struck."

BSA voted to accept the report, but asked the institute to make some refinements. The board asked for another presentation at its next meeting, scheduled for March 28-30.

The board asked that NCI leadership review which non-NCI funding sources should be considered in the funding base for all cancer centers. The question is

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Source: NCI

BASIC (2/7; 29%)

Center	FY15 Budget	Proposed Base FY16
Purdue	1,060,500	1,200,000
Jackson	1,156,367	1,200,000

CLINICAL (12/17; 71%)

Center	FY15 Budget	Proposed Base FY16
Indiana	999,867	1,400,000
Emory	1,000,000	1,400,000
Mt. Sinai	1,000,000	1,400,000
MUSC	1,000,000	1,400,000
Oregon	1,000,000	1,400,000
Hawaii	1,000,000	1,400,000
Kansas	1,000,000	1,400,000
Kentucky	1,000,000	1,400,000
Maryland	1,000,000	1,400,000
Nebraska	1,000,000	1,400,000
VCU	1,000,000	1,400,000
UT-SA	1,204,014	1,400,000

COMPREHENSIVE (7/45; 16%)

Center	FY15 Budget	Proposed Base FY16
UC-Irvine	788,485	1,500,000
Wake	1,000,000	1,500,000
UT-SW	1,000,000	1,500,000
Fox Chase	1,103,589	1,500,000
Utah	1,111,000	1,500,000
Arizona	1,257,443	1,500,000
New Mexico	1,272,293	1,500,000
City of Hope	1,300,357	1,500,000
Georgetown	1,454,514	1,500,000

whether the institute should consider NIH funding from institutes other than NCI, as well as funding coming from outside NIH. This would require developing a transparent process for evaluating the relevance of such funding to cancer research.

BSA also recommended that the institute leadership look at the potential impact on outlier institutions that would be benefited or hurt by any new formula for considering non-NCI funding.

Lowy said NCI needs to have the first two phases of the plan in place in order to start implementation.

"What we have is, if you will, an immediate step one and a plan for a step two, where it sounds as though we're going to need to try to define how we are going to measure the size of the grants. It sounds like that's going the happen," Lowy said. "And step three is after we've had the step of rebalancing. Step two is a five-year process, because the renewals occur over a five-year period.

"Therefore we need to make a commitment for that full five-year period so that we can do the rebalancing, based on the knowledge of that this is what the implications of the scores.

"Why not do this all immediately? Part of the reason is because the implications of the scores would not have been quite the same as we imagine they will be going forward."

Correcting the Inequity

Discussion of inequity in funding started in April 2012, when NCI announced a plan to cap the growth of awards to cancer centers while also tightening the requirements for review (The Cancer Letter, May 11, 2012).

Last year, a working group of NCAB came up with a funding formula that would, in effect, redistribute the core grant money, and also give the institute additional control over the centers (The Cancer Letter, July 3, 2013, March 1, 2014, July 7, 2014).

The NCAB formally accepted a detailed plan that broke core grants into three components. In an effort to try to implement it, the institute developed multiple formulas and hired an outside consultant to test thousands of variations. However, under all circumstances analyzed, some centers suffered drastic decreases.

It was Lowy who made the decision to alter the previous version of the plan.

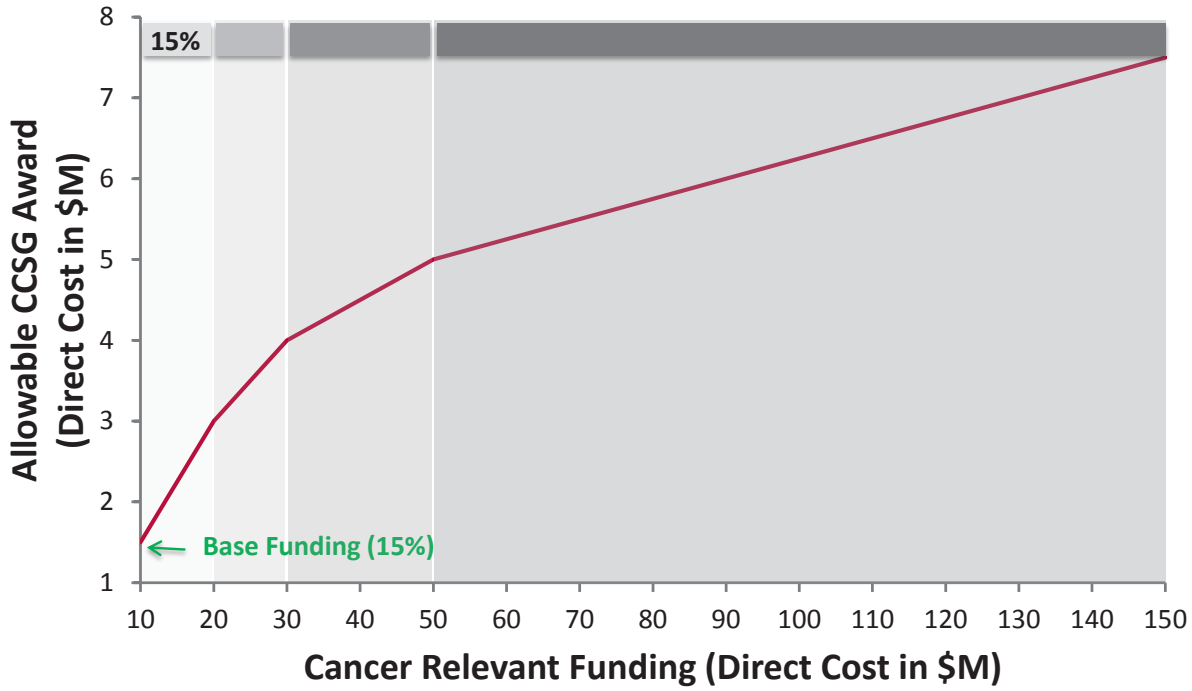
According to the working group, Lowy resolved that cutting funds for some centers was unacceptable for the following reasons:

• The CCSG funds infrastructure—something not amenable to fluctuations in funding,

• NCI has invested billions of dollars in this infrastructure—dismantling it at some centers to increase it at others isn't efficient,

• The CCSG buys institutional commitment—there

The New Benchmark Ratio: Determining a Comprehensive Cancer Center's Maximum Award



are concerns that reducing a center's CCSG award might jeopardize its influence in its academic home, and make it more difficult to leverage other sources of funding,

• And no center has seen a significant increase in its CCSG award in several cycles—everyone has lost ground to biomedical inflation.

The working group that drafted the new plan was headed by Chi Dang, director of the University of Pennsylvania Abramson Comprehensive Cancer Center, and Stanton Gerson, director of Case Comprehensive Cancer Center.

In its initial phase, the new proposal removes the threat of funding cuts, but in phase 2, it adopts some of the conceptual features of the earlier proposal.

In phase 2, the size of the P30 Cancer Center Support Grants would be calculated based on the following components:

• **Base award:** At renewal, a predetermined base award applicable to all centers of the same type would be the starting point. All basic, clinical and comprehensive centers would receive preset base awards. This component would use up 50 percent of the direct cost budget of the NCI Centers Program.

• **Merit funding:** This would be calculated on a linear scale, as a percent multiplier of base award, using impact score. If a center is underperforming, it may end up with a reduction of its base award. This component would use up 30 percent of the direct cost budget of the centers program.

• **Size:** This would be calculated as a percent multiplier of the base award, using figures for total peer-reviewed funding reported by the center. This component would use up to 15 percent of the direct cost budget.

• **Supplements:** This would be based on review of proposed innovative and impactful programs, cores, new initiatives and consistency with NCI priorities. This would use up to 5 percent of the direct cost budget.

Uncertainty of Future Funding

The plan was discussed by members of both boards, but only the BSA members were asked to vote.

Kevin Cullen, a member of NCAB, director of the University of Maryland Marlene and Stewart Greenebaum Cancer Center, and a co-author of the earlier plan to make the core grants more rational, said he is concerned about impact that fluctuations in the NCI budget may have on the plan.

"My concern is that, unlike NCAB working group, which had a mix of directors from small and large

centers, that group accepted the notion that there was a large disparity in funding, and that to correct that, it was appropriate that some of the larger grants might not be so large in the future," Cullen said.

"I'm a little concerned that this group has taken 'let's not harm the centers that have the large grants' as the fundamental principle. I think the proposal is good, if there are funding increases, which permit Doug to implement this.

"As we heard today, it's not at all certain what the FY 16 or the FY 17 budget for the NCI is going to be. It's not at all certain who will win the election next year and what the budget will be in the out years.

"So assuming a flat budget, how can this be implemented in a less favorable scenario? I can go back, but we looked at this, as part of NCAB working group, at the data, and the centers that get the very low scores, very good scores—there is a significant bias toward the larger centers, it's not a component of the review, but we looked at that data extensively several years ago.

"So I'm concerned that the formula that's proposed here, which permits increases based on merit, is fairly steep and will disadvantage further the small centers from getting increases in the future.

"The question would be: in a less favorable budget scenario what are the proponents moving forward?"

Wicha: Why Not Do This Immediately?

"I want to commend the committee for the work they do. But first let me actually comment on this issue of the ratio. And for at least 25 years, the cancer center directors have tried to come up with formulas that would be fair and transparent to everyone," said NCAB member Max Wicha, deputy director of the Taubman Institute, distinguished professor of oncology at the University of Michigan, and former director of that institution's cancer center.

"I can tell you from experience over the years, every time a meeting has gotten together, it became a little bit like the last report of the Democrats and Republicans in getting the budget increased.

"We all said this is very frustrating.

"The reason for that is that often the cancer center directors came in and looked at funding models from their own point of view and the narrow objectives, because every decision since the funding is finite, and it has to be divided up—every ratio or decision that benefits one cancer center disadvantaged another cancer center. That's what makes this all difficult and made it difficult over the years.

"That's why I actually like the fact that this model is coming out to be transparent and very clear to everyone. Because let me tell you what the most frustrating thing over the years were, from point of cancer center directors.

"One was that it seemed capricious about which centers had large grants and which had small grants, and seemed to have no real relationship to what they were doing or the impact of the work, but more historical.

"This makes an attempt to correct it all—albeit I'll mention it's a little too slow. It has a too far timeline to implement things in the effort not to be too disruptive.

"Part of this was that this kind of capriciousness really depended where the NCI funding was the year the cancer center review came up. No matter how well your grant did, or how well your center was doing—if you happened to be reviewed in a year when the NCI budget was flat you got no increase for the next five years. And that's then affected you five years later, so it multiplied over the years.

"If you got the exact same score, but it was the next year and NIH got increase that year, then that cancer center would get that increase and it would be reflected over time in the future so it was inherently unfair and based on the year that it was established.

"This also makes an attempt to at least even this out over the years.

One of the things that's remarkable—and I think you probably went over this very quickly when Sam presented the ratios—it is that it makes much less difference than you would think when you count what exactly is in the funding base. Because overall for most centers the ratio of NCI funding to total cancer-relevant funding is relatively the same.

"The ones that are the most different are the free-standing cancer centers and basic science cancer centers, because the free-standing cancer centers don't have are access to the large basic science departments that are in the matrix cancer centers, who have more non-NCI, cancer-relevant research. Also the basic science cancer centers similarly have are more funding from other sources. But as you can see, there are only four or five this makes a difference.

"It's more psychological than real about what's counted in the base, because investigators will always say, doesn't my research count? I don't get it from NCI. And it's true, the research counts just as much as someone who gets it from the NCI—but psychologically, if their research is not in the base, they feel like they're being left out of it. But actually it makes very little difference in the end, and that's important to keep in mind.

"The one thing of the report I'm supportive of overall is the fact that these timelines are so far in the future that only the first part—which is very important, which gets the minimum centers up to a minimum standard, it is very important—that the other things are being implemented in the future. And to me, that is too much like the government that also kicks the can down the road, and doesn't make the difficult decisions in a more relevant time frame.

"I think there needs to be a more rapid re-equilibration, even though it may introduce difficulties for centers, but I don't think that the leverage of the cancer center has in institution is directly related to how big the cancer grant is.

"What I found is the deans and the heads of medical centers think it's so important to have NCI designation, because the huge impact is on clinical enterprise for clinical and comprehensive cancer centers, to have the stamp of approval of the NCI, that it makes much more difference to have a core grant than whether your core grant has another million dollars or two.

"I would myself like to see a readjustment at a quicker time frame."

What Goes Into the Base

In phase 2 of the plan, the amount of grant funding received by a center becomes a part of the formula for calculating the core grant.

"Much of population science research is funded by other agencies in oncology, particularly AHRQ and PCORI, and this could disadvantage those centers with strong population science programs," said Ethan Basch, a BSA member and director of the Cancer Outcomes Research Program at the University of North Carolina at Chapel Hill. "I wonder if you can comment on that, and if there might be accommodation to include those funding sources?"

Gerson, co-chair of the BSA group that put together the report, said NCI needs to focus on this issue.

"That was brought up by our working group members who recognize that, and that may explain the shifting that you see especially in the comprehensive centers that tend to have more obviously of the population sciences work. I think we're going to have o to push that back to the NCI centers office and ask them to examine that issue specifically," said Gerson, who is also founding director of the National Center for Regenerative Medicine and director of UH Siedman Cancer Center.

BASCH: "I would strongly encourage considering including those, and I suspect my population science colleagues would agree."

TYLER JACKS [chair of NCAB and director of the Koch Institute for Integrative Cancer Research at MIT]: "I want to add on to that concern, and I need clarification here. When a vote takes place shortly about accepting this report, what are the implications of that vote? With respect to this and other issues.

"So for example, would a positive vote for example endorse the position that NCI cancer-related funding is the metric? Or would it say that's one idea among many and you should go back and think about it?

DANG [BSA chair, co-chair of the group that produced the report]: "Currently the reports emphasize one among many, but it's one that NIH that NCI can verify the data. So it's among options."

JACKS: "Because I think that that's a very important example of what isn't captured by that plan. There are many others as well. State funding, people in Texas for example, would be pointing out CPRIT funding as an important source of cancer-related funds. In a center like mine, NSF funding, DOE funding, DOD funding, HHMI funding; all represent a fairly high fraction of total cancer-related funding base. The idea that it can't be verified as the reason why it's not included seems rather lame to me. I don't think that's appropriate."

KEVIN SHANNON [BSA member and the Roma and Marvin Auerback Distinguished Professor in Molecular Oncology and the American Cancer Society Research Professor at University of California, San Francisco]: "The other comment I would make is around this contentious issue of non-NCI funding. Because I really do like the idea of the high/medium/low sort of system.

"Having been on, as many of us have been on cancer center reviews, when you get a program to

review—I think looking at the abstract pages for those grants that are listed in the program you're reviewing and reading the abstract's front page of the aims and saying is this high, medium or low and just checking the box as to whether you agree with the cancer centers—I think that would be very workable.

"So an NDS grant from Heart, Lung and Blood, that's high. A transplant grant, maybe not so must have, maybe medium. Maybe more of process grant may be low because it's maybe not so cancer-related but could be used for cancer. So I agree with you, Tyler. I think it is potentially workable to incorporate having a look at these non-NIH, non-NCI funding sources as partly building into the review process and I don't think it's particularly onerous."

JACKS: "That's the way it's been done historically, so it can be done."

THEODORE LAWRENCE [BSA member and director of the University of Michigan Comprehensive Cancer Center]: "Since I was on the committee, I want to speak for all the members who weren't here—maybe do a little devil's advocate—though I think the presentation was a very nice summary of what the group thought.

"I think the group has covered some of the contentious issues regarding whether it's NIH funding versus cancer-related non-NIH funding. There was an email storm that went around over that.

"I think the question that was raised was, is the site visit team a precise instrument? Every point is 5 percent, and can the site visit team be so precise? And I think one issue you didn't address so much that was raised are smaller centers—will they continue to have a bias against them? Do we have data on that? Whether smaller centers tend to get worse scores? And larger centers better scores? Because I think half the people think it's true, half the people think it isn't—but there should be data."

GERSON: "The data that we appreciate is in fact there's less correlation than you might have otherwise thought. Every review period, small centers outscore large centers, and there really isn't a significant bias towards large centers. There is a concern by small centers on that part, and I think it's attended to in two ways. One is bucking up the scoring of small centers and then having a much higher benchmark ratio for the smaller centers."

Geographic Distribution

NCAB member Olufunmilayo Olopade, the Walter L. Palmer Distinguished Service Professor of Medicine and Human Genetics, associate dean for global health, and director of the Center for Clinical Cancer Genetics at the University of Chicago Pritzker School of Medicine, asked whether the report considered national distribution of cancer centers.

"The previous report really emphasized the [uneven] distribution of cancer centers across the country, and the fact there was some misalignment between centers that were well-funded in the Northeast and on the coasts and centers in the Midwest where you have the highest burden of cancer," said Olopade. "And the concern that these most meritorious and underfunded cancer centers are going to be in the places that need the most help to bring the science up.

"I just wanted to know whether that carried forward with this discussion and this realignment of resources. Because in fact, the newest cancer centers—some of the cancer centers in the neediest parts of the country are also not going to be the ones that are going to have the most funding base that we need to base the additional resources on.

"I want to know if you went back to that matrix. If that was put into your decision to reallocate these funds."

DANG: "I think what we have done is address the base, so that the places should go up, go up—and then merit is next, and size is the last factor in terms of proportionality. So we did not consider need, however you measure that. That's a question for Doug."

LOWY: "Scientific quality."

OLOPADE: "So one of the things that's now being reported is of course impacting the communities. So there's a lot of new metrics being put into the cancer centers to look at how the science impacts their community. And inasmuch as we have all types of science—publication science, implementation science, basic science, PCORI science—I'm wondering how this will impact people who are actually doing the research, in the communities or in the cancer centers."

DANG: "I think it's a combination of the size and merit score. The research in those areas should we recognized, and they are recognized in those two proponents."

GERSON: "We also have on the list the smaller centers that will benefit by the phase 1 uptick a number of the newer centers, and they are new locations, which is how the admission is being addressed, it seems to me."

Capitol Hill

NIH Looks for $1-2 Billion Raise As Budget Deadline Approaches

(Continued from page 1)

The Senate version would bring NIH finding up to $32 billion, with NCI receiving $5.204 billion. The House version would total just above $31 billion for NIH, including $5.081 billion for NCI.

Both chambers of Congress are setting aside $200 million for the Precision Medicine Initiative, which would include $70 million for NCI.

The two budget proposals target specific research areas, providing increased funding for Alzheimer's disease research, the BRAIN initiative, Clinical Translational Sciences Awards, and the Combating Antibiotic Resistant Bacteria program, among others.

The federal government is operating on a continuing resolution, which runs out today, Dec. 11—but to avert another government shutdown, House leaders plan to grant themselves a five-day extension. That vote is scheduled for later today. The stopgap measure will set the deadline for Dec. 16, with members hoping to pass a $1.1 trillion omnibus funding bill before then.

Republicans and Democrats are expected to iron out disagreements over the Affordable Care Act, Planned Parenthood funding, and immigration policy, as well as a massive tax break package estimated to have grown to as much as $800 billion.

"We are still on a continuing resolution, which makes it harder for us to function at full capacity," NCI Acting Director Doug Lowy said at a Dec. 1 joint meeting of the National Cancer Advisory Board and the NCI Board of Scientific Advisors (The Cancer Letter, Dec. 4).

The funding boosts for NIH are expected to continue to increase RPG success rates at the NCI.

"There was a much more modest reduction in the competing RPGs from FY 12 to FY 13. Then in FY 14 and FY 15, we had added about $50 million in each of these two years; these are additive for the RPG pool," Lowy said. "This is with there having been about a $140 million increase in FY 14, and just a $21 million increase in the NCI budget. So just to put into context what has happened with the RPG pool, in the context of the overall budget situation."

Cancer deaths are now falling at a rate of more than 1 percent per year, with each percentage drop saving about $500 billion in the economy, NIH Director Francis Collins said during a hearing before the Senate Labor-HHS Subcommittee Oct. 7.

"We see in front of us an incredible landscape of biomedical research opportunities powered by exceptional advances in scientific knowledge and technological innovation," Collins said. "Basic scientific inquiry is leading to a healthier future for all Americans.

"From the development of neurotechnologies through the BRAIN Initiative, to the million or more cohort in the Precision Medicine Initiative that will generate knowledge applicable to an entire range of health and disease, I would say that our future had never been brighter.

"But to realize that future, NIH needs your sustained support."

Biomedical research advocates and professional societies applauded the proposed increases for NIH and NCI.

"We are extremely pleased that Congress, at least from all indications, is preparing to support NIH in the FY 2016 Omnibus Appropriations Bill at possibly the level that the Senate Appropriations Committee recommended during the summer—a 7 percent, $2 billion increase, to $32 billion," said Jon Retzlaff, managing director of science policy and government affairs at the American Association for Cancer Research.

"This level of funding is consistent with what the vast majority in the broader medical research community have been advocating, specifically that it's important for NIH to receive annual budget increases that are robust, sustainable, and predictable. It's also been very gratifying to observe Congressional leaders making such public commitments to prioritizing funding for the NIH.

"This particular level of investment in the NIH for FY 2016 would allow the medical research community, and specifically cancer researchers all across our country, to pursue with a renewed sense of excitement and urgency the incredible scientific opportunities that currently exist today to improve health," Retzlaff said to The Cancer Letter.

"We have consistently said that translating these scientific discoveries into new ways to improve health and extend life is only limited by the resources that Congress annually provides to the NIH.

"This likely positive development for NIH also highlights Acting NCI Director Doug Lowy's leadership, and specifically his decision to put forward an NCI Bypass Budget for next year (FY 2017) that calls for a 7 percent increase.

"In this valuable document that is sent directly to Congress, Dr. Lowy emphasizes the importance of consistent budget increases for the NCI at a robust level

above the inflation rate.

"The AACR is 100 percent behind Dr. Lowy's recommendation, and applauds his vision, which would amount to a doubling of NCI's budget in 10 years, assuming NCI receives the annual budget increases of 7 percent for the next ten years that's recommended in the NCI Annual Plan and Budget Proposal for FY 2017 (the FY 2017 NCI Bypass Budget)."

The American public cannot afford to have promising projects fall to the wayside due to insufficient funding, said Mary Woolley, president and CEO of Research!America.

"Congress has yet to reach agreement on FY16 appropriations, so they will buy more time to hammer out a funding package by passing another CR lasting till midnight Wednesday, Dec. 16," Woolley said. "We're hopeful NIH will receive a significant increase to restore funds lost in sequestration."

Guest Editorial

Weiner: AACI Initiative Will Demonstrate the Value of Academic Cancer Centers

(Continued from page 1)

Academic cancer centers leverage synergies among these various missions, with the result being a positive impact on patient health and the economy at the local, regional and national levels. Accelerating progress in cancer medicine is dependent on the success of academic cancer centers and development of new models of collaboration between academic cancer centers and community oncology.

To ensure academic cancer centers are able to thrive well into the future, we need to do a better job of explaining their unique role to the broad range of constituents, including patients, payers, policy makers, university leadership, community oncology partners and the general public.

As part of the first phase of its Academic Difference Initiative, the Association of American Cancer Institutes is gathering and organizing evidence that demonstrates the value of academic cancer centers. Some of this evidence is based on analysis of the value of specific projects at individual academic cancer centers, while other evidence points more to a national impact of academic cancer centers as a whole.

The second phase of the effort will involve disseminating the gathered information. Information collected through this initiative will be provided to individual cancer centers to enhance local support for their efforts. At the national level, this information will be used to advocate for support for academic cancer centers in general.

This initiative is not intended to be another level of peer review on the quality of the information that has been gathered by member cancer centers, nor is it designed to develop a new, comprehensive database or generate new data. Instead, it is focused on gathering, organizing and sharing information that is already available that speaks to the unique and vital role played by the academic cancer centers.

AACI has received dozens of pieces of evidence thus far in response to its call for examples of value from individual centers. These examples focus on the following areas:

Research

Academic cancer centers make fundamental scientific discoveries, explore the translational potential of these discoveries, and test cutting-edge approaches to cancer prevention, early detection and therapy. This includes clinical trials and outcomes research that is vital for development of guideline-concordant care. Academic cancer centers generate intellectual property that results in patents and startup companies.

There are multiple examples of academic centers conducting innovative early-phase clinical trials that have led to major changes in the cancer treatment paradigm, including treatments that are more effective, less toxic and in some cases less expensive than previously available treatments. Academic cancer centers are developing new collaborative efforts that are allowing the cancer research community to accelerate progress by working together to respond to the changing paradigm in our understanding of how the molecular makeup of cancer influences cancer therapy and care. Examples include the Oncology Research Information Exchange Network and the Big Ten Cancer Research Consortium.

Clinical Care

Academic cancer centers play an essential role in assuring that patients can receive quality care both at the academic cancer centers and in their communities. In this manner, they partner closely with community

oncologists and are vital to their ability to provide top-quality care. Academic centers provide access to opinions from multidisciplinary teams that are experts in specific cancer types. The ability to tap into such knowledge will be increasingly important to community oncologists as we learn more about the complexity of cancer, and there is growing evidence that access to such expertise can improve patient outcomes.

Many academic cancer centers are developing novel networks that allow them to partner with community oncologists, thus enhancing access to expert opinions and quality care while allowing patients to receive the majority of their care close to home. Academic cancer centers also provide clinical cancer care to under-served populations. A number offer free training to patient navigators who then serve patients in the community in a culturally sensitive manner.

Education

Essentially all oncologists in the nation have been trained at academic cancer centers. The same applies to cancer researchers who eventually work in both the public and private sectors and have been central to innovation in the biotechnology industry, a driver of our national economy. Both clinical and research training programs abound at academic cancer centers, yet not all are alike. Many fill unique niches such as training in specific research fields, new technologies, specific cancer types, underrepresented minority populations, outcomes research and health care delivery. In addition to physicians and researchers, they are involved in training other members of the cancer care team including, but not limited to, nurses, pharmacists and physician assistants.

Academic cancer centers provide education to the public through extensive outreach programs. This includes interactions with statewide cancer control efforts, support for education programs designed to reduce cancer disparities, communication about healthy life styles and unique approaches such as culinary classes that focus on nutrition for cancer patients.

Economic Impact

These three overlapping missions of academic cancer centers—research, clinical care and education—have a positive economic impact locally, regionally and nationally. Academic cancer centers create intellectual property, generate jobs, invest in their communities, act as economic drivers by launching startup companies and bring resources to the community through "medical tourism." There is growing evidence that academic cancer centers can provide cost-efficient cancer care based on their success in following guidelines and limiting ineffective, end-of-life, expensive treatments.

Looking Ahead

AACI is still gathering from its members. Once this phase is complete, we will reach out to center directors and administrators, public and government relations staff and others to help us use this information to convey the message we all believe—that academic cancer centers are more valuable than ever, and are vital if we are to accelerate our ability to reduce the burden of cancer for those we serve.

The author is the director of the University of Iowa Holden Comprehensive Cancer Center.

ACS and ASCO Jointly Publish Breast Cancer Survivorship Guideline for Primary Physicians

The American Society for Clinical Oncology and the American Cancer Society published a joint guideline for primary care physicians on managing the long-term care of breast cancer survivors, recommending regular surveillance for recurrence, but not performing laboratory or imaging tests in patients not displaying symptoms.

The guideline includes recommendations on screening for second primary cancers, management of long-term and late effects, health promotion, care coordination and practice implications. The guideline was published Dec. 7 by both CA: A Cancer Journal for Clinicians and the Journal of Clinical Oncology.

"Patients should undergo regular surveillance for breast cancer recurrence, including evaluation with a cancer-related history and physical examination, and should be screened for new primary breast cancer," according to the guideline's abstract.

"Data do not support performing routine laboratory tests or imaging tests in asymptomatic patients to evaluate for breast cancer recurrence.

"Primary care clinicians should counsel patients about the importance of maintaining a healthy lifestyle, monitor for post-treatment symptoms that can adversely affect quality of life, and monitor for adherence to endocrine therapy." The guideline also contains proposals for managing pain, distress, depression, anxiety and fatigue in breast cancer survivors.

The guideline's recommendations are based on 237 reviewed articles from available from PubMed

through April 2015, and was drafted by a working group with members in primary care, gynecology, surgical oncology, medical oncology, radiation oncology and nursing.

A table summarizing the guideline's recommendations is available on the ASCO Institute for Quality website.

In Brief

Rodriguez-Galindo to Lead St. Jude International Outreach

CARLOS RODRIGUEZ-GALINDO joined **St. Jude Children's Research Hospital** to head the International Outreach Program.

Rodriguez-Galindo will also serve as an executive vice president, and will chair the newly created Department of Global Pediatric Medicine, as well as hold the Four Stars of Chicago Endowed Chair in International Pediatric Research.

A native of Spain, Rodriguez-Galindo came to St. Jude in 1994 as a postdoctoral fellow and served as a clinical researcher and faculty member for more than a decade. His work focused on therapies for retinoblastoma, sarcomas and rare childhood cancers.

He returns to St. Jude from Dana-Farber Cancer Institute and Boston Children's Hospital, where he was director of the Pediatric Solid Tumor Program, medical director of the Clinical and Translational Investigations Program, and director of the Global Health Initiative in Pediatric Cancer and Blood Disorders. He also served as professor of Pediatrics at Harvard Medical School.

The International Outreach Program has helped create networks such as the Asociación de Hemato-Oncología Pediátrica de Centro América, which includes members from Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Dominican Republic and Panama; the National Childhood ALL Study Group in China; and the Pediatric Oncology East and Mediterranean Group, which encompasses partner sites and collaborating centers in more than 20 countries in the Middle East, northern Africa and southern Asia.

DANIEL SIMON was named president of **University Hospitals Case Medical Center**, effective Jan. 1, 2016.

Simon will succeed **Fred Rothstein**, who announced his retirement this summer after serving as president of UH Case Medical Center for the past 12 years.

Simon, a cardiologist, served as director of the UH Harrington Heart & Vascular Institute since 2006 and as president since 2014. Additionally, he has served as chief of the Division of Cardiovascular Medicine at UH Case Medical Center and as professor of medicine at Case Western Reserve University. He also holds the Herman K. Hellerstein, MD, Chair in Cardiovascular Research at UH Case Medical Center.

Simon was elected into the American Society for Clinical Investigation, Association of University Cardiologists, and the Association of American Physicians. He is a recipient of a MERIT Award from the National Heart, Lung, and Blood Institute. Additionally, he is a fellow of the American College of Cardiology, the American Heart Association, and the Society of Cardiac Angiography and Interventions.

TERRILL JORDAN was named president and CEO of **Regional Cancer Care Associates**, effective Jan. 1, 2016.

Jordan joined RCCA in 2012 and currently serves as vice president and chief legal officer. Jordan succeeds Andrew Pecora, a founder of RCCA who served as president from the company's formation. Pecora will continue as a member of the company and as a practicing oncologist at the John Theurer Cancer Center.

THE GUSTAVE ROUSSY Institute of Oncology is looking to recruit young doctors, pharmacists and engineers in France, Europe and the rest of the world, offering three-year research contracts to work with the institute's researchers toward the presentation of a doctoral thesis in sciences.

The due date for applications in Feb. 15, 2016. Candidates may apply directly at http://www.phd-in-oncology.com. Gustave Roussy intends to recruit half of the candidates from outside France.

The research work can be carried out under co-supervision, involving the candidate's home research establishment and possibly collaboration with another international center of excellence.

Research will be carried out in one of Gustave Roussy's laboratories and will be focused in DNA repair, molecular-driven medicine, radiobiology, hematology, immunotherapy or molecular epidemiology.

BAYLOR COLLEGE OF MEDICINE will collaborate with **Biocept Inc**. to develop minimally invasive blood-based tests using Biocept's circulating tumor cell and circulating tumor DNA molecular diagnostic assay platforms to detect mutations in the estrogen receptor gene ESR1.

However, nearly one-third of women treated with Tamoxifen and other endocrine therapies become resistant to these therapies. ESR1 mutations are becoming important biomarker targets as an indicator for therapy resistance and could serve as a companion diagnostic to cancer therapeutics currently in development that address this acquired form of resistance.

Drugs and Targets

FDA Approves Alecensa for ALK-Positive NSCLC Patients

FDA granted accelerated approval to Alecensa (alectinib) for the treatment of people with anaplastic lymphoma kinase-positive metastatic non-small cell lung cancer, who have progressed on or are intolerant to crizotinib.

In two studies, Alecensa shrank tumors in ALK-positive NSCLC patients who progressed on crizotinib, with objective response rates of 38 percent (95% CI 28-49) and 44 percent (95% CI 36-53).

The first study is a phase II single-arm, open-label trial evaluating 87 patients. The second study is a phase I/II global, single-arm, open-label trial evaluating 138 patients. Both administered 600 mg of Alecensa orally twice daily.

In a pooled subset analysis of the two studies, patients with tumors that spread to the brain or other parts of the central nervous system demonstrated an ORR of 61 percent (95% CI 46-74).

The indication for Alecensa is approved based on tumor response rate and duration of response. Continued approval for this indication may be contingent upon verification and description of clinical benefit in confirmatory trials.

Alecensa is being studied in a global, randomized phase III study comparing Alecensa to crizotinib as an initial treatment for people with advanced NSCLC whose tumors were characterized as ALK-positive by Ventana ALK (D5F3) CDx Assay developed by Roche Diagnostics.

Alecensa will be available to people in the U.S. within two weeks, according to the drug's sponsor, Genetech, a member of the Roche Group.

FDA approved Vistogard (uridine triacetate) for the emergency treatment of adults and children who receive an overdose of fluorouracil or capecitabine, or who develop certain severe or life-threatening toxicities within four days of receiving these treatments.

"Today's approval is a first-of-its-kind therapy that can potentially save lives following overdose or life-threatening toxicity from these chemotherapy agents," said Richard Pazdur, director of the Office of Hematology and Oncology Products in the FDA's Center for Drug Evaluation and Research.

Vistogard, taken orally, blocks cell damage and cell death caused by fluorouracil chemotherapy. Patients should take Vistogard as soon as possible after the overdose or early-onset of severe or life-threatening toxicity. The patient's health care provider will determine when he or she should return to the prescribed chemotherapy after treatment with Vistogard.

The efficacy and safety of Vistogard were studied in 135 adult and pediatric cancer patients who were treated in two separate trials and had either received an overdose of flourouracil or capecitabine, or had early-onset, unusually severe or life-threatening toxicities within 96 hours after receiving fluorouracil, not due to an overdose.

The studies' primary measure was survival at 30 days or until chemotherapy could resume if prior to 30 days. Of those who were treated with Vistogard for overdose, 97 percent were still alive at 30 days. Of those treated with Vistogard for early-onset severe or life-threatening toxicity, 89 percent were alive at 30 days. In both studies, 33 percent of patients resumed chemotherapy in less than 30 days.

Vistogard is not recommended for treating non-emergency adverse reactions associated with flourouracil or capecitabine because Vistogard may lessen the efficacy of these drugs. The safety and efficacy of Vistogard initiated more than 96 hours following the end of treatment with flourouracil or capecitabine have not been established.

Vistogard is marketed by Wellstat Therapeutics Corp. The FDA previously granted Vistogard orphan drug designation, as well as priority review and fast track designations.

FDA cleared for marketing the first cooling cap to reduce hair loss in female breast cancer patients undergoing chemotherapy.

The Dignitana DigniCap Cooling System is indicated to reduce the frequency and severity of alopecia during chemotherapy in breast cancer patients

in which alopecia-inducing chemotherapeutic agents and doses are used. It is a computer-controlled system that circulates cooled liquid to a head-worn cooling cap during chemotherapy treatment.

The cooling action is intended to constrict blood vessels in the scalp, which, in theory, reduces the amount of chemotherapy that reaches cells in the hair follicles (hair roots). The cold also decreases the activity of the hair follicles, which slows down cell division and makes them less affected by chemotherapy. The combined actions are thought to reduce the effect chemotherapy has on the cells, which may reduce hair loss.

The FDA reviewed data for DigniCap cooling system through the de novo classification process, a regulatory pathway for some low- to moderate-risk devices that are novel and not substantially equivalent to any legally marketed device.

The European Medicines Agency granted Orphan Drug Designation to Debio 1143 for treatment of ovarian cancer.

Debio 1143 is an oral, small molecule inhibitor of apoptosis proteins with a dual pro-apoptotic and immunomodulatory mode of action developed as a potent chemo/radiosensitizer in oncology.

Further to the encouraging signs of efficacy seen in clinical phase I and supported by this significant regulatory milestone, Debiopharm International SA, the drug's sponsor, will expand the clinical development of this therapy.

Amgen submitted a variation to its Kyprolis marketing authorization application to the European Union, to include a combination with dexamethasone for the treatment of adult patients with multiple myeloma who have received at least one prior therapy.

The application is based on results from the phase III head-to-head ENDEAVOR study in which patients with multiple myeloma treated with Kyprolis (carfilzomib) plus dexamethasone achieved superior progression-free survival compared to those receiving Velcade (bortezomib) plus dexamethasone (18.7 versus 9.4 months, respectively) ($p<0.0001$).

The European Commission recently granted marketing authorization following accelerated assessment for Kyprolis in combination with lenalidomide and dexamethasone for the treatment of adult patients with multiple myeloma who have received at least one prior therapy.

AstraZeneca and Voluntis announced plans to test a digital support service for women undergoing treatment for recurrent platinum-sensitive high-grade ovarian cancer in clinical trials of cediranib plus olaparib.

The service has been developed by Voluntis in clinical collaboration with AstraZeneca and NCI. It is delivered through a smartphone app paired with a web portal to help clinicians and patients manage side effects of hypertension and diarrhea sometimes associated with combination therapy with cediranib and olaparib. Such side effects are traditionally described to care teams through manual, time-consuming and non-digitized channels.

The app will be tested as a companion device in three separate clinical trials sponsored by the NCI beginning in the first quarter of 2016, under a Cooperative Research and Development Agreement between the NCI and AstraZeneca. This approach illustrates a clear focus on understanding the patient journey when developing therapeutic solutions.

Eli Lilly and Company and Merck announced an immuno-oncology collaboration that will evaluate abemaciclib (LY2835219), Lilly's cyclin-dependent kinase 4 and 6 inhibitor, and Merck's Keytruda (pembrolizumab) in a phase I study across multiple tumor types.

Based on the trial's results, the collaboration has the potential to progress to phase II trials in patients who have been diagnosed with either metastatic breast cancer or non-small cell lung cancer.

Lilly is the sponsor of the phase I study, and of any subsequent phase II studies, per the terms of the agreement. Enrollment is scheduled to begin in early 2016. Financial details of the collaboration were not disclosed.

Lilly's abemaciclib is a cell cycle inhibitor, designed to block the growth of cancer cells by specifically inhibiting CDK4 and CDK6. Pembrolizumab is a humanized monoclonal antibody that works by increasing the ability of the body's immune system to help detect and fight tumor cells. Pembrolizumab blocks the interaction between PD-1 and its ligands, PD-L1 and PD-L2, thereby activating T lymphocytes, which may affect both tumor cells and healthy cells.

Abemaciclib is in phase III development with two trials in HR+ breast cancer patients, as well as a phase III trial in lung cancer.