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NCAB ASKS FOR HELP FROM ADMINISTRATION AS NCI DEALS WITH DELUGE OF GRANT APPLICATIONS

NCI and its advisors are stumped by a deep medical mystery: Why has the number of grant applications received by the institute grown by nearly 50% since 2013?

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**Director, Feist-Weiller Cancer Center
LSU Health Shreveport**

The LSU Health Sciences Center in Shreveport, LA is seeking a Director for the Feist-Weiller Cancer Center. The new Director will provide leadership to the Cancer Center with the development and implementation of a dynamic agenda for future growth and expansion, while also developing key relationships with the Chancellor, Vice Chancellors, Deans and other institutional Center Directors and Department Chairs.

The Feist-Weiller Cancer Center has diverse clinical settings including the Ochsner LSU Health Shreveport Academic Medical Center, a neighboring Shriners' Hospital for Children, one of eight St. Jude Children's Research Hospital affiliate clinics, and the Overton Brooks VA Medical Center. The Ochsner LSU Health Shreveport Academic Medical Center serves as a regional Level 1 trauma center for North Louisiana, East Texas and South Arkansas.

The position will report to the Vice Chancellor of Research of LSU Health Shreveport. The Feist-Weiller Cancer Center is a designated Louisiana Board of Regents Center for Excellence in Cancer Research, Treatment and Education. This cooperative community/academic partnership at Feist-Weiller Cancer Center serves area physicians, cancer patients and the general public as a resource in the fight against cancer.

The successful candidate must have proven experience as a leader who can inspire faculty and staff to work together to develop future leaders in Cancer Research. It is also important that the candidate have strong management skills with an ability to grow revenues and meet budgets, excellent communication skills, experience and interactions with NCI, and the ability to work collaboratively with a broad range of constituents both internally and externally.

Candidates must meet the following qualifications: MD degree from an LCME accredited medical school with at least 15 years experience in clinical services and administering residency and medical student educational programs. The successful candidate must be able to obtain a valid Louisiana license and be board certified. The candidate should possess a national reputation built upon a distinguished record of achievement in research, teaching and clinical care with national stature.

The search is being led by Dr. Chris Kevil, Vice Chancellor for Research at LSU Health Shreveport. Interested candidates may submit curriculum vitae and/or contact the staff supporting this recruitment to cwinne@lsuhsc.edu.

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NCAB ASKS FOR HELP FROM ADMINISTRATION AS NCI DEALS WITH DELUGE OF GRANT APPLICATIONS

By Paul Goldberg

NCI and its advisors are stumped by a deep medical mystery: Why has the number of grant applications received by the institute grown by nearly 50% since 2013?

The answer here is all the more elusive, because the volume of applications at other institutes is either staying in place or has increased slightly.

Why are scientists rushing to seek grants from the cancer institute? Is this the outcome of excitement over rapid advancement in cancer science? Or is it something bureaucratic? Is it possible that the algorithm embedded in the NIH portal assigns a disproportionate number of grant applications to NCI?

At a joint meeting of the National Cancer Advisory Board and the Board of Scientific Advisors June 10, the institute's advisory panels and NCI Acting Director Douglas R. Lowy focused on what amounts to the ballooning obligations that this run on NCI has produced.

"First, NCI, since 2013, has had an increase of just over 50% in the number of applications, and it's about 10 times higher than that of the other institutes and centers at NIH," Lowy said at the meeting. "During that period, we have had a 20% increase in the budget."

As grant applications pour in, NCI can do one of three things:

1. With the number of applications rising, the institute can sit and watch as success rates take a nosedive. This would be tantamount to standing by as the odds of getting funding drop precipitously from their current level of 8%.
2. For a while, here and there, it's possible to trim the sizes of NCI grants, but wouldn't low payoff drive scientists away from cancer?

Even today, NCI's grants pay less than grants from other institutes, and are reduced by 19% in an effort to hoist up the payline.

3. It's possible to encourage cancer scientists to apply for grants from other NIH institutes, but doesn't this amount to risking pushing them out the door and into other fields where funding is more plentiful?

"Let me emphasize that the kind of money that we're talking about here is not enough to find \$25 million, or even to find \$50 million, because that's a one-time deal," Lowy said to NCAB and BSA. "Whatever program you don't like, we could decrease it by that amount, but what happens the following year? What's happening is that we have seen that we need to be at approximately \$75 million a year of new money. In other

words, it's \$75 million this year, and \$150 million next year, and \$225 million the following year, etc.”

At the meeting, members of NCAB said they were writing a letter to the administration officials, and several board members acknowledged that drafts of the letter were being circulated. Several members of NCAB and BSA expressed interest in the criteria that the NIH Center for Scientific Review, the portal of entry for all NIH grants, uses to assign applications to NCI and other institutes.

That mechanism, which isn't publicly known, is likely to be subjected to scrutiny, sources said.

Earlier this year, then NCI Director Ned Sharpless found himself explaining the institute's sudden (and counterintuitive) need to take austerity measures at a time of Congressional generosity (The Cancer Letter, [Jan. 25](#), [Feb. 15](#)).

At the June 10 meeting, one NCAB member, Deborah Watkins Bruner, the Robert W. Woodruff Chair of Nursing at the Nell Hodgson Woodruff School of Nursing and associate director for outcomes research at the Emory University Winship Cancer Institute, said NIH should allow its funds to follow the most promising science, which happens to be in cancer.

“If you're a university and you had, say, a law school, which is losing applications and not doing so well, and a school of medicine doing great, and you still give a law school history plus 2% and the school medicine gets maybe the same and a little bit more, if they're lucky—that's a very old-fashioned way of looking at budgets, instead of looking at the enterprise,” Bruner said at the meeting.

“In addition, those budgets still contain things where at the end of the year, you might have a little bit money, even in say, the law school who isn't doing so well, so what you do is, end of year budgets, everybody use it or lose it. Instead

of taking that money and putting it into strategic initiatives in the institute that really is doing wonderful, out-of-the-box, shooting-applications-into-the-sky areas,” Bruner said.

“There's no enterprise way of redistributing resources, given the current funding model,” Bruner said. “Again, we're not the NIH advisory board, we're the NCI advisory board, and what I'm saying would benefit the NCI, so I take that bias under consideration, but as a citizen, I would want my NIH to take an enterprise-wide view of resources.”

It's unlikely that NIH would rejoice over an opportunity to direct more money to NCI. But it is possible that Congressional appropriators and authorizing committees would focus attention on this problem, especially after a letter from NCAB members becomes public, Capitol Hill sources said.

“Republican Leader Greg Walden's oversight staff is aware of this issue and monitoring,” a spokesman for the minority side of the House Committee on Energy and Commerce said to The Cancer Letter. Walden (R-OR) is the ranking member of the committee. The staff on the Republican side has a deep understanding of NIH and usually works with the Democratic side on oversight of biomedical research.

Lowy's slides and his comments at the June 10 meeting, which present an exhaustive overview of the institute's fiscal problems, appear here.

The NCAB letter is being drafted right now, sources confirmed, and it will be sent out by The Cancer Letter as a special report as soon as we obtain a copy.

“The current RO1 payline of 8%, coupled with cuts of 19% to new grants and 3% in non-competing renewals of all currently funded grants, is incredibly demoralizing for the cancer research community. Together with my colleagues on the NCAB subcommittee on Planning

and Budget, I felt that it was important to get more clarity on this issue and how it might be alleviated,” said Charles Sawyers, chair of the NCAB Subcommittee on Planning and Budget, chair of the Human Oncology and Pathogenesis Program at Memorial Sloan Kettering Cancer Center, and professor of medicine at Weill Cornell Medical College.


“We therefore set this topic as the primary agenda item at our subcommittee meeting on Sunday, just prior to Monday's joint NCAB/BSA meeting,” Sawyers said to The Cancer Letter. “We learned that has been a 46% increase in the number of investigator-initiated research project grant (RPGs) applications to NCI over the past 5 years. Furthermore, this increase is unique to the NCI compared to other NIH institutes, where applications have changed minimally over the same period. The result is huge disparity in the chances of obtaining funding.

“After hearing all of this, and the reasons for the increased number of applications, I had a number of discussions with other NCAB members as well as members of the BSA who also attended the meeting. I can say there is unanimous concern that this issue needs to be addressed—and quickly. Otherwise we risk losing talented new and established investigators who are coming into the cancer research field precisely because we are in such an explosive phase of productive discovery. A payline of 8% sends exactly the wrong message to this new crop of talent.

“I am working actively with my NCAB colleagues on ways to call attention to the issue and look forward to sharing those thoughts with you in the coming weeks.

“One topic that needs greater clarity is how NIH Center for Scientific Review (CSR), the portal of entry for all NIH grants, assigns applications to NCI versus other institutes. It is unclear to subcommittee members how this works

Strong support for RPGs - FY 2013-19

- Increases to the RPG pool several fiscal years starting with 2014
 - Established 7-year awards for Outstanding Investigators
 - Extended many ESI awards from 5 to 7 years with the R37 & preserved higher payline for ESIs
 - R21 (2-year grants) awards have **decreased**
 - R01 applications have **increased by almost 50%**
 - *Paylines and success rates*
- 

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and whether it could be tweaked to allow distribution of some cancer-related grants to other relevant institutes.”

Lowy: The success rate for NIH has gone up; the success rate for NCI has gone down, and it's getting worse

In his first advisory committee meeting after returning to the job of NCI acting director, Douglas R. Lowy asked the institute's advisors to focus on the rapidly growing number of applications for NCI grants.

Lowy's slides and his comments at the June 10 meeting, which present an exhaustive overview of the institute's fiscal problems, contrast these problems with those of other institutes.

Meanwhile, a group of NCAB members is drafting a letter to administration

officials, seeking assistance for the institute as it decides between (a) allowing the paylines to drop further, or (b) continuing to cut the amounts of grants.

Lowy's comments at the joint meeting of NCAB and BSA appear below:

The first slide is really to tell you about areas where we have been giving more emphasis and support for the RPGs between 2013 and 2019, and then just a high-level view of what some of the consequences have been.

- First, we've increased the RPG pool for several fiscal years, starting with 2014.
- Second, we established seven-year awards for outstanding investigators. That was in 2015.
- And third, last year, we extended many early-stage investigator awards from five to seven years,

using the R37 mechanism and preserved a higher pay line for early-stage investigators.

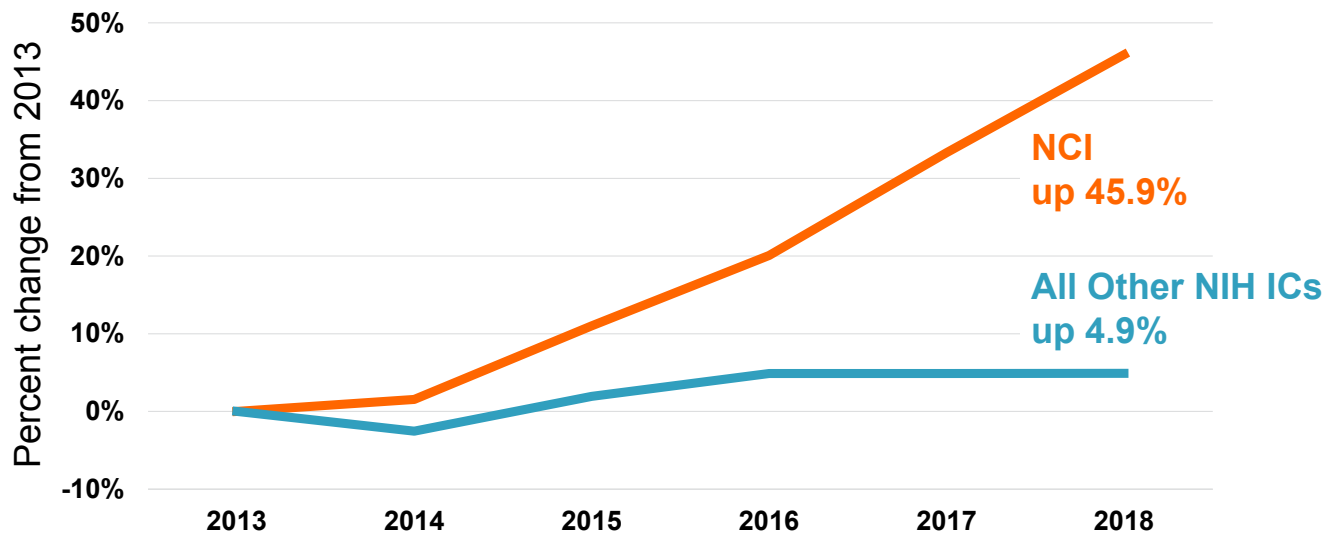
But there also has been an overall decrease in the number of R21 awards. And the reason that that is important is that it has to do with the turnover, or the average length of time, of an NCI award. Most of our awards are for five years, but the R21s—most of them—are for two years, and some are for three. The decrease means that we've taken that up by having more longer-term awards.

So, this increases the average duration of a typical award.

Ordinarily, the money that we get for the new and competing awards comes from money that has been turned over as a result of the last year of the awards, so the longer the duration is of the award period, the less money will be turning over each year. (Figure 3)

Dramatic Increase in R01 Applications 2013 - 2018

Competing R01 Applications, NCI vs All Other ICs



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Data from NIH RePORTER.

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And so, what we have found is that we have needed each year to add a substantial amount of funding to the RPG pool, so that we can both maintain the level of new and competing awards, as well as trying to stay at 100% of the commitment for the out-year cost of the award, so-called Type 5 awards, the noncompeting out-year awards. (Figure 4)

RO1 applications have increased by almost 50%, and this has led to decreases in paylines and success rates. I'm going to go over some of this in the next few slides.

First, NCI, since 2013, has had an increase of just over 50% in the number of applications, and it's about 10 times higher than that of the other institutes and centers at NIH. During that period, we have had a 20% increase in the budget.

I'm focused on the regular appropriation.

We, of course, have also benefited from the Moonshot, and a tremendous amount of research has been done through the Moonshot. But the Moonshot has a finite lifespan, and when it ends, in the last year of funding in 2023, it basically goes down to zero, and for long-term considerations, it really makes sense to focus primarily on the regular appropriation.

The RPG budget has more or less stayed steady with the increase in the budget, and I want to point out that we also have been doing a lot of other things with the budget outside the RPG pool. For example, the increases to the support grants for the cancer centers, and increase to funding for the cooperative groups.

This slide, actually—I talked with Tim Ley [NCAB member, a member of the NCAB Subcommittee on Planning and Budget, and professor of medicine and genetics at the Division of Oncology, Department of Medicine, Washington University School of Medicine in St. Louis] just a few days ago, and he asked, "What might be the story if you look at NCI, compared to other institutes?"

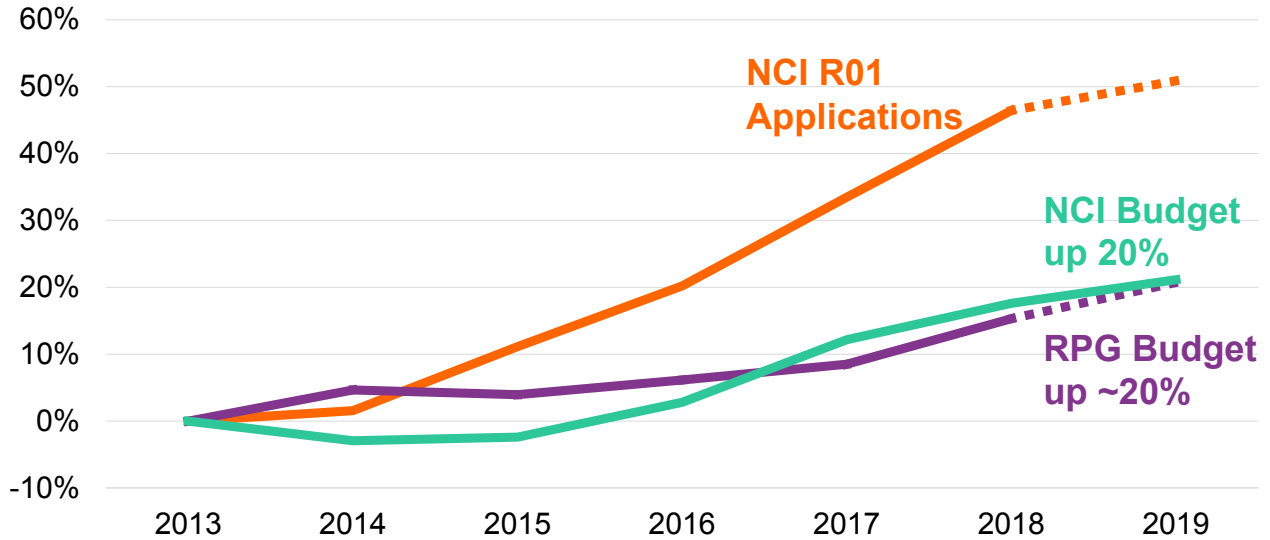
I don't expect you to be able to read the slide, although it is available in the handouts (Figure 5). I just want to give you a few highlights.

First, let's look at NIH in general.

Five years ago, versus the most recent, 2018. The success rate of five years ago was 16.8%, and in '18, it was 20.2%. So, an increase of just under 3.5% for NIH in general.

What has happened, on the other hand, for NCI, seen here in yellow, is we went

Competing R01 applications vs. budgets for NCI & RPGs: Percent change since FY 2013



R01 Applications source: NIH RePORTER. 2019 applications estimated. NCI budget shown here is the base appropriation; does not include Cancer Moonshot.

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Success rates from 2013 to 2018 have increased for NIH overall but decreased for NCI

2013 NIH Success Rates by Institute/Center

Institute/Center	Applications	Awards	Success Rates
NEI	1,128	267	23.70%
NIDCD	721	162	22.50%
NIDDK	2,760	579	21.00%
NHGRI	341	70	20.50%
OD ORIP-SEPA	55	11	20.00%
NIDCR	718	143	19.90%
NIGMS	4,158	826	19.90%
NINDS	3,551	702	19.80%
NIAAA	853	166	19.50%
NIDA	1,874	365	19.50%
NIAID	5,367	1,008	18.80%
NIMH	2,736	512	18.70%
NHLBI	4,331	734	16.90%
FY13 TOTALS	49,581	8,310	16.80%
NIAMS	1,635	260	15.90%
NIEHS	1,028	157	15.30%
FIC	137	20	14.60%
NCI	7,975	1,095	13.70%
NIBIB	1,329	182	13.70%
NIA	2,674	365	13.60%
NLM	106	13	12.30%
NCCAM	405	47	11.60%
NICHD	3,269	354	10.80%
OD COMMON FUND	1,434	132	9.20%
NINR	581	53	9.10%
NIMHD	280	12	4.30%

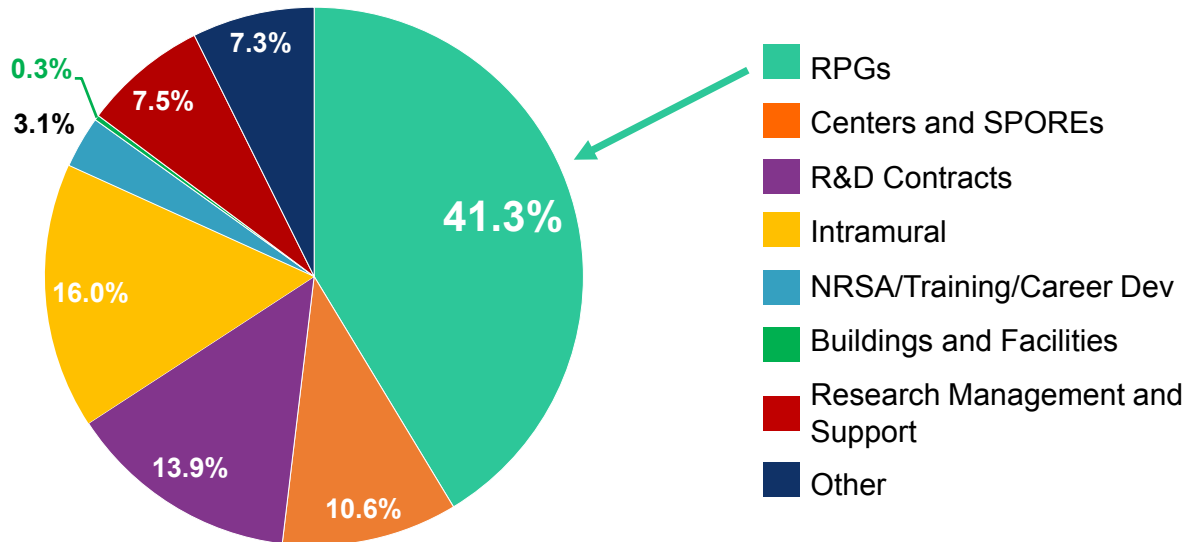
2018 NIH Success Rates by Institute/Center

Institute/Center	Applications	Awards	Success Rates
NCATS	66	23	34.80%
NIGMS	3,835	1,118	29.20%
NIA	3,240	937	28.90%
NHGRI	268	75	28.00%
NIDCD	840	228	27.10%
NEI	1,159	310	26.70%
NIAAA	948	253	26.70%
NHLBI	3,960	992	25.10%
NIAID	6,207	1,420	22.90%
NIDCR	906	201	22.20%
NIMH	2,714	602	22.20%
NINDS	4,478	975	21.80%
NIDDK	3,195	689	21.60%
NCCIH	306	62	20.30%
FY18 TOTALS	54,834	11,071	20.20%
FIC	210	41	19.50%
NIDA	2,108	391	18.50%
NICHD	3,033	557	18.40%
OD ORIP-SEPA	73	13	17.80%
NLM 2	186	33	17.70%
NIEHS	1,118	191	17.10%
NIBIB	1,523	256	16.80%
NIAMS	1,589	266	16.70%
NCI	10,282	1,162	11.30%
OD COMMON FUND	1,243	135	10.90%
NIMHD	656	70	10.70%
NINR	691	71	10.30%

Source: https://report.nih.gov/success_rates/Success_ByIC.cfm

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NCI Budget – FY 2018



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from 13.7% down to 11.3%. This is for all of the awards; it's not just RO1s—it's all of the awards in each institute.

Our RO1 success rates, as you probably know or will see, are a little bit higher than that. I think, it's really telling also when you look at the institute that was just above ours, here, it's NIAMS.

They're at 16.7%, whereas we're at 11.3%—an enormous disparity, whereas five years ago, we were at 13.7%, and the next highest was less than a percent difference, the Fogarty International Center. (Figure 6)

I think you can appreciate that while the success rate of NIH in general has gone up with the increase in the budget, the success rate for NCI has gone down.

A little over 40% of the NCI budget goes into the RPG pool, and this shows you in this pie chart on the

allocation for other parts of the NCI budget. The majority of the RPG pool actually for RO1s, [which constitute] a little bit more than half, but there are many other mechanisms included in the RPG pool.

One question that people often ask is: "Are we getting into this problem, because our awards sizes are so much higher than that of the other institutes? And the answer is, "No, we're not."

In reality, our award sizes are lower, with the exception of 2015, than that of the other institutes, so this is looking at RO1.

The next two slides show you what the trends have been between 2013 and 2019 for the RPG awards by mechanism. This slide has the number of awards. The next slide will have the dollar amounts devoted to each of those categories of awards, and I

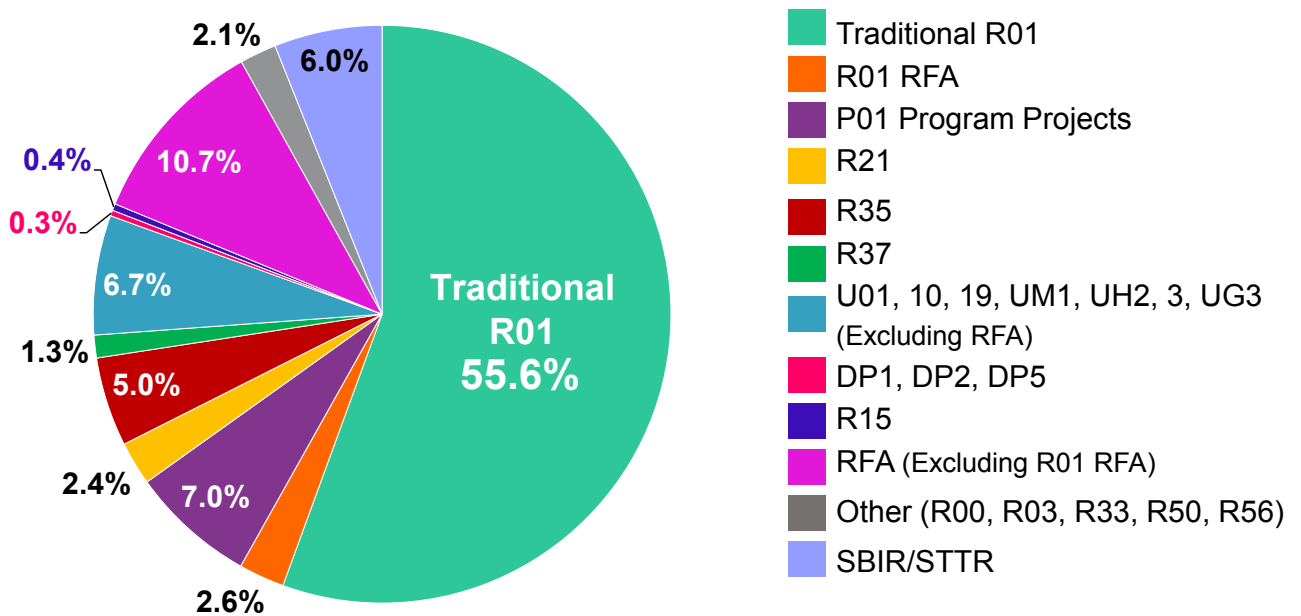
would like to highlight three aspects. (Figures 7, 8)

First, I hope you can appreciate RO1 dominates all the other individual components, and we went from a little under 600 awards to a little under 700 awards between 2013 and 2018.

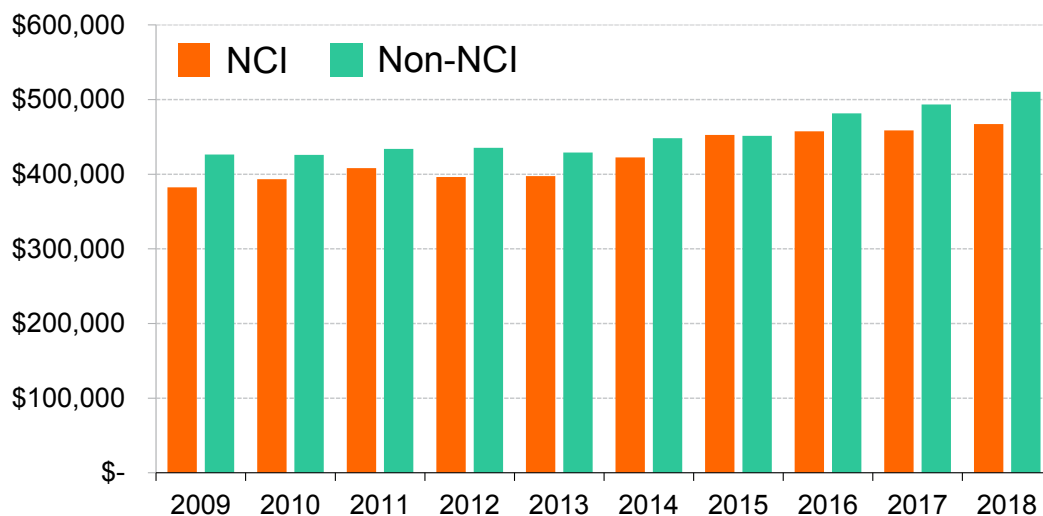
The R31 awards have been bouncing around with a high of about 300 and a low of 100, in large part because we have a three-year trial of participating for the first time in the NIH omnibus R21. And it was felt that the increase in the number of applications and the quality of awards did not merit continuing to stay as part of the omnibus, and so going away from the omnibus led to a substantial increase in the number of awards with R21s. They're shown here in the orange.

And then in the purple is shown the outstanding investigator awards, so-called R35, and it's not that it's

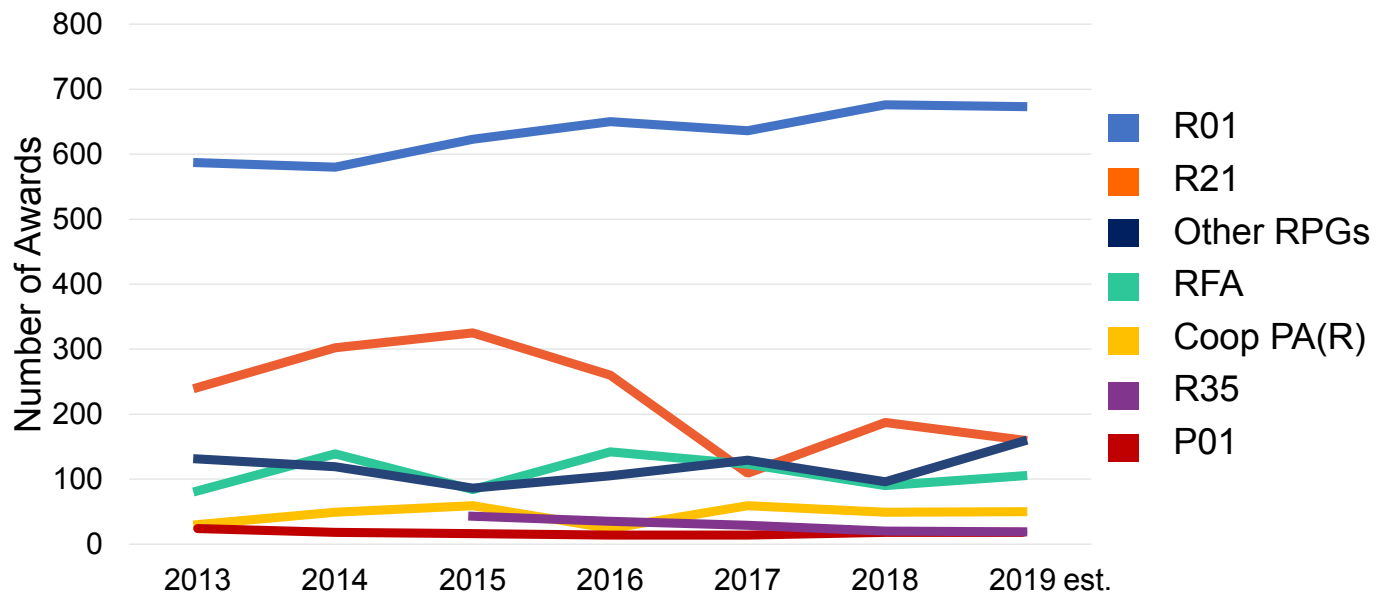
RPG Funds - FY 2018



Average total award costs of competing R01s: NCI awards are *lower* than non-NCI awards



2013-2019 trends in number of RPG awards by mechanism



R01 & R21 awards have had the largest changes

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such a large number of awards, but it's a new award. We were starting from zero, and I just want to point out that—although the people who were in the R35s, all of them had R01 awards—we've continued to increase the number of R01 awards, while we also have had the outstanding investigator awards.

This slide shows you the trends in dollar amounts (Figure 8). The rate of rise for the R01s is faster than the rate of rise for the number of applications. That's because we have increased the average dollar amount per R01. It's just that we haven't done it faster than that of other institutes, or at a higher rate than that of other institutes, and you can also appreciate here, in the orange, that the actual dollar amount for the R21s is relatively small, and the reason for that is, as I mentioned, the vast majority of the R21 awards are for two years, and here we're looking at an aggregate, so the number of awards

for R01s who are being multiplied then by five for some, then even by seven for others. So, this is a relatively small number. And here again in the purple are shown outstanding investigator awards.

This is taken directly from the online funding patterns that we published a few months ago for FY18, and some are earlier years. I'm showing it to you primarily for you to be aware that this information about the budget is available at the NCI website. But also, to show you that the unsolicited R01s in 2014 were at 15% success rate and it's gone down to 12% success rate in 2018 and then the RFAs and the R01s went from 13% to 14%, so they have held a little bit more steady. (Figure 9)

There also is a great deal of information in the NCI Budget Fact Book, and you can consult that, again, available online, if you want more information and more detail.

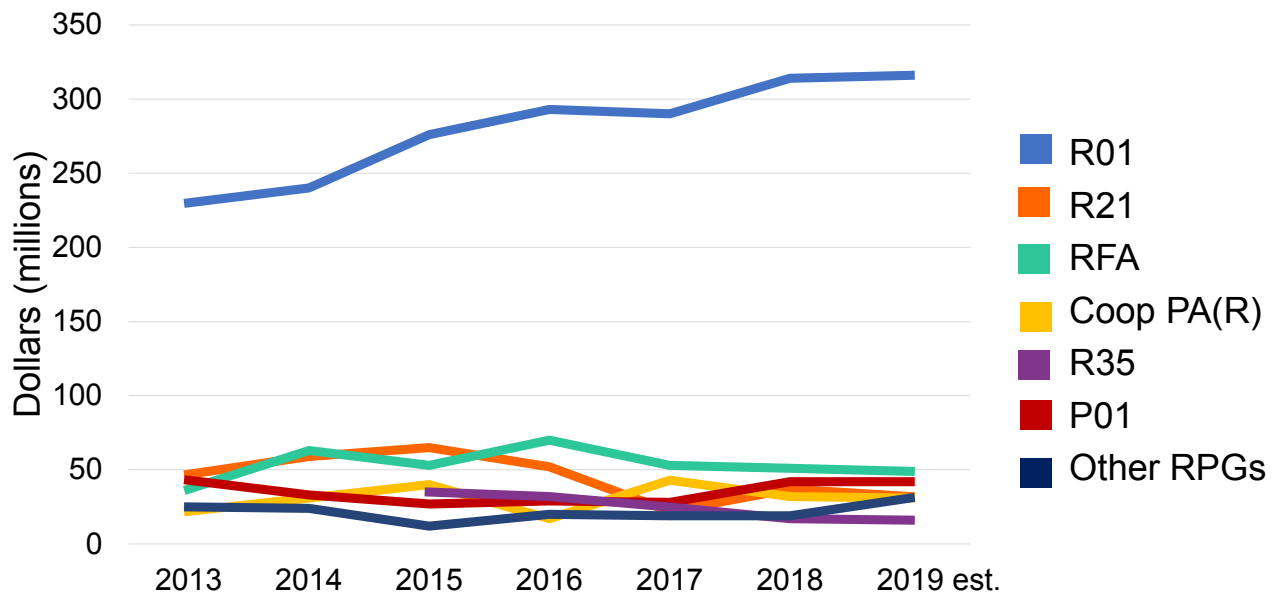
This slide is to try to show you some of the actual dollar amounts and the actual number of awards. So, the R21s, as we've seen, have kind of bounced around, and these are the R21s, it's the total unsolicited plus the RFA-associated R21s. (Figure 10)

And then, this is for the R01s, and as I mentioned, within FY2013, [when] we were under 600, and now we are a little bit under 700, as of FY18. These are the R35 awards, and we started out in the first year with the outstanding investigator awards a little bit over 40, and last year, it was 20.

We think that it makes sense to combine these two numbers, and that's basically what you see here for total R01s and R35s, but basically again, under 600 here and under 700 here.

What's happened to the competing RPG pool (that's the new and competing renewals)? In FY13, the amount that

2013-2019 trends in dollars for RPG awards by mechanism



R01 & R21 awards have had the largest changes.

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was put in was about \$400 million. That amount has been fairly steady for a number of years, but starting in FY14, we increased the amount to \$450 million, and we then increased to about \$500 million for each of the subsequent years.

The reason we wanted to try to provide as many awards as seemed fiscally responsible during this period, but as a result of increasing the amount of the awards, so here you're basically increasing by \$100 million, you need to add that additional \$100 million, if you will, each time in the out-years.

And so, it's actually turned out that we have been adding about \$75 million per year to the total RPG pool, so between 2013 and 2018, it's gone up a little bit less than \$300 million. The plan for this year is to add about another \$100 million to the total RPG pool, so it will be a total of about \$400

million that has been added during this period.

So, what about the needs for the next couple of years? We're still essentially recalibrating, and as we have more seven-year awards, that the amount of money that turns over in the year six and seven will actually go down, compared to what you would see if the awards had continued just for five years. (Figure 11)

This essentially envisions staying at \$515 million for the new and competing awards, and this shows you what we estimate the total RPG pool will be at the end of this fiscal year, so \$2.235 billion for the RPG pool, but we estimate that if we're going to keep with the 100% commitment to the continuing grants, then we would need to add about \$100 million next year for that, and that for FY21, we would need to add about another \$55 million, and

so the total would be about \$165 million over this two-year period.

If we did for FY20 and FY21 what was done for this fiscal year, which was to commit at 97%, that is, take off 3%, and essentially put it into the new and competing awards, then we would only need to have a total of a little over \$100 million, instead of the \$165 million. (Figure 13, 14)

What if we essentially didn't get an increase in the budget and we needed to basically do everything from within the RPG pool?

And so, if we only added \$18 million over this two year period, we estimate that there would need to be an 8% reduction in the commitment for the continuing grants if this were going to be the scenario, and, clearly, this would not be a tenable situation.

Funding Patterns for Competing Research Project Grants - FY14-18

2 R37s included in Other RPGs

	FY2014			FY2015			FY2016			FY2017			FY2018		
	Requested	Funded	Success Rate	Requested	Funded	Success Rate	Requested	Funded	Success Rate	Requested	Funded	Success Rate	Requested	Funded	Success Rate
R01/R37 – Unsolicited ¹	3,849	578	15%	4,550	623	14%	4,785	650	14%	5,263	650	12%	5,864	676	12%
R01 RFAs	391	51	13%	102	12	12%	240	45	19%	309	44	14%	249	35	14%
Total R01/R37	4,240	629	15%	4,652	635	14%	5,025	695	14%	5,572	694	12%	6,113	711	12%
R21 – Unsolicited	2,539	302	12%	2,864	325	11%	3,100	260	8%	1,513	109	7%	2,100	187	9%
R21 RFAs	397	53	13%	250	38	15%	283	35	12%	388	44	11%	310	26	8%
Total R21	2,936	355	12%	3,114	363	12%	3,383	295	9%	1,901	153	8%	2,410	213	9%
R35	-	-	-	224	43	19%	175	35	20%	141	29	21%	104	20	19%
R03 – Unsolicited	627	93	15%	582	67	12%	484	48	10%	714	90	13%	564	60	11%
Other RFAs ²	226	35	15%	297	34	11%	285	62	22%	443	57	13%	338	54	16%
Other RPGs ³	510	95	19%	656	94	14%	889	95	11%	933	116	12%	788	104	13%
Total Competing RPGs:	8,539	1,207	14%	9,525	1,236	13%	10,241	1,230	12%	9,704	1,139	12%	10,317	1,162	11%

¹Funded R01s include competing revisions. In FY2018 64 R01s were converted to R37s.

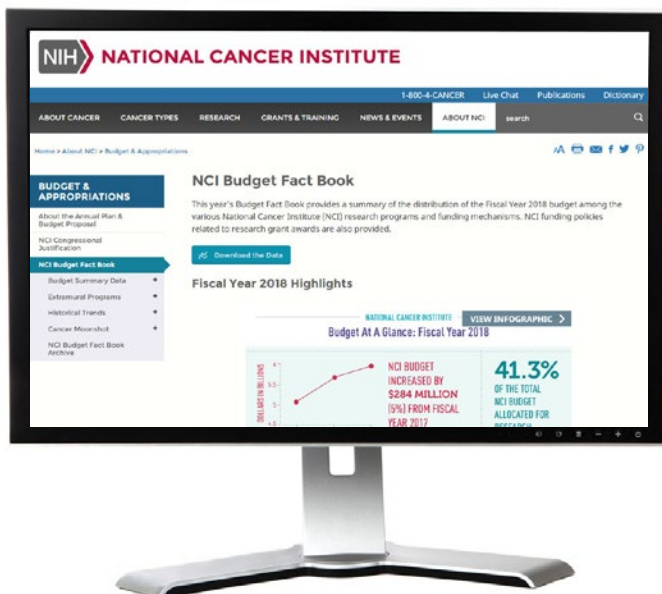
²Other RFAs include UM1, R33, R03, R38, P01, U01, UH2 and UG3

³Other RPGs include S12, DP2, P01, R15, R50, R56, R00, U01, U19, UH2, UH3, R33, UM1 and UG3.

Available online:

https://gsspubssl.nci.nih.gov/blog/articles?funding_patterns/2018

Want more data? NCI Budget Fact Book



cancer.gov > search: Fact book

- Funding Allocated to Major NCI Program Areas
- Extramural Funding
 - Displays the dollar amount and percent of NCI budget for grants and contracts.
- Obligations by Budget Mechanism and NCI Division
- NIH Management Fund, Service and Supply Fund, and GSA Rent
- Special Sources of Funds
- Funding for Research Areas

Number of R01/R35 awards & RPG pool size (millions of dollars) – FY 13-18

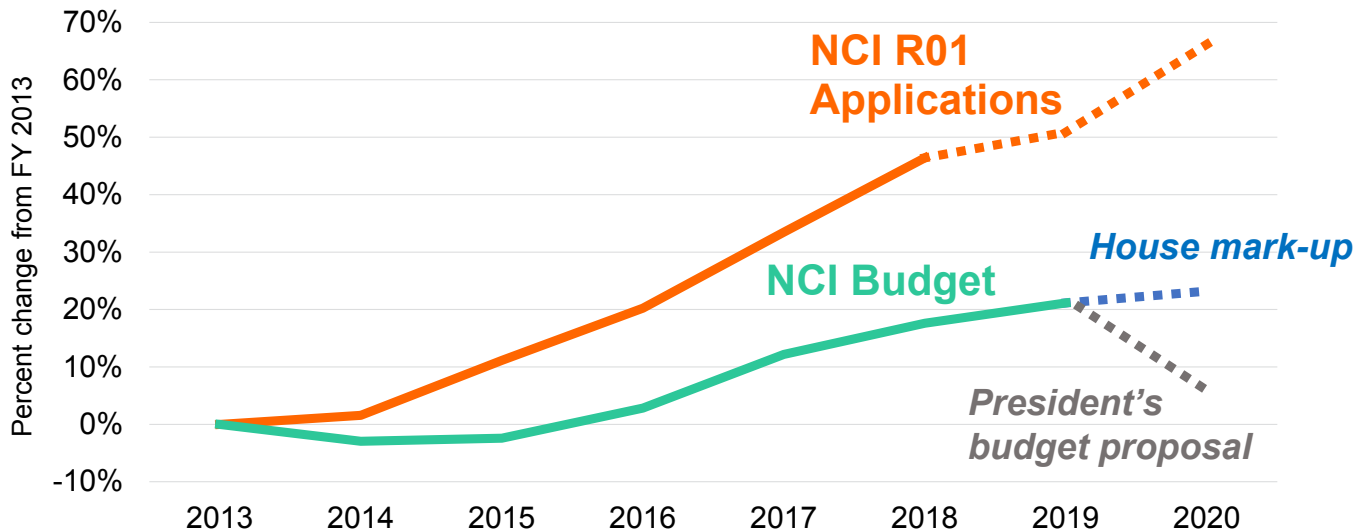
	FY13	FY14	FY15	FY16	FY17	FY18
R21s	271	355	363	295	153	213
R01s	582	578	623	650	650	673
R35s	---	---	43	35	29	20
Total (R01s + R35s)	582	578	666	685	689	693
Competing RPG pool	\$404	\$450	\$508	\$513	\$514*	\$512
Total RPG pool	\$1854	\$1858	\$1927	\$1967	\$2045*	\$2137

*FY17 Includes \$34 million of first-year costs from Cancer Moonshot fully funded awards.

Projected RPG pool size needed for commitments to continuing grants: 3 scenarios

	FY18	FY19 est.	FY 20 est.	FY 21 est.	Commitment to continuing grants	Add'l funds needed
Total competing pool	\$512	\$515	\$515	\$515	100%	\$165M
Total RPG pool	\$2137	\$2235	\$2341	\$2397		
Total competing pool	\$512	\$515	\$515	\$515	97%	\$108M
Total RPG pool	\$2137	\$2235	\$2288	\$2343		
Total competing pool	\$512	\$515	\$515	\$515	92%	\$18M
Total RPG pool	\$2137	\$2235	\$2201	\$2253		

Going Forward: Sustaining Support for RPGs



NIH NATIONAL CANCER INSTITUTE

R01 Applications source: NIH RePORTER. 2019 applications estimated.
NCI budget shown here is the base appropriation; does not include Cancer Moonshot.

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I'm not providing this to say here's what we're planning on doing. Quite the opposite, just to show you what the consequences would be if we needed to take everything from the existing RPG pool at the end of fiscal year 2019.

This slide kind of summarizes where we are. The applications have gone up. Our estimate is that the applications have not gone up as rapidly in 2019 as they did in 2017 and 2018, but remember, we're still in the middle of the fiscal year.

What happened in 2017 was that there were 500 applications more in 2017 than there were in 2016, and then in 2018, there were 600 more applications than there were in 2017, and we needed to essentially prepare for the possibility that there would be yet an additional increase of six or 700 applications. As I say, that hasn't happened. (Figure 15)

We think that the increase in the applications is because there's so much excitement about the opportunities in cancer research.

The number of applications per applicant has only gone up marginally during this period. It was 1.4 and it's gone up to 1.55. Needless to say, the dotted lines are an estimate of projection.

If we look here at the budget, the House markup continues gives us another 5% increase to the budget, substantially higher than the president's budget proposal, and we need to stay tuned to see what will happen.

We are committed to do what we can to both raise the payline in the next fiscal year, but it remains to be seen how hard or easy it will be to do that, and that will depend in no small part on what the budget situation is and the budget outlook is for 2020.

Thank you very much, look forward to your comments and questions.

Charles Sawyers [an NCAB member, chair of the NCAB Subcommittee on Planning and Budget, chair of the Human Oncology and Pathogenesis Program at Memorial Sloan Kettering Cancer Center, and professor of medicine at Weill Cornell Medical College]: I wanted to make a framing comment, not a question directly to Doug.

So, it turns out I'm the chair of the planning and budget subcommittee for the NCAB. I and my colleagues on that subcommittee convened the meeting last night that Doug referred to. We had an extremely productive discussion, really grateful to Doug and his team for a thorough discussion of data, for options, etc. and on today's agenda, I'm listed actually at the very end of the agenda to give a report back on that.

I want to keep it that way, but maybe we need a little more time, at least in the way we discuss that, but I want to just to tell everyone in the room: we take this extremely seriously. We had a productive conversation. As a sub-committee, we're going to propose to the NCAB an action item, which would include, potentially, a letter to the NIH director, etc.

I want to hopefully during the lunch break etc. to have other people give me their feedback on this idea and we will probably circulate a draft of this prior to the end of the day's report back.

Elizabeth M. Jaffee [NCAB chair, deputy director of the Sidney Kimmel Comprehensive Cancer Center, the Dana and Albert "Cubby" Broccoli Professor of Oncology, and co-director of the Skip Viragh Center for Pancreas Cancer at Johns Hopkins University]: So, Doug, that was a great presentation.

So, we're also hearing, besides what was discussed last night, we're also hearing obviously about the risk of not seeing an adequate increase, and frankly \$2 billion doesn't mean adequate either, we've been getting \$3 billion lately. And it's not reporting the RPG pool.

This information is wonderful; how do we communicate that to Congress, so that they understand what the real issues are with real numbers?

Lowy: To me, in terms of what I feel comfortable saying here, is that it is a reflection of the extraordinary opportunities that we have in cancer research, and we can point to mortality rates, for example, continuing to go down in cancer, in contrast to almost all other areas, in terms of leading causes of death.

The extraordinary advances in terms of specific diseases where mortality rates have been going down. And that this is really a result of first, basic research, then translational research, then clinical research—and that the pharmaceutical industry as [former NCI Director] Ned [Sharpless] pointed out, has more and more become oriented towards developing drugs for cancer treatment, and again, it's a reflection of the research that has happened, but in addition, the opportunities of identifying more targets, trying to understand better, for example, drug combinations for cancer treatment, etc.

I think you want lead with the great opportunities, and as a result, I think that there are a lot of people trying to come into cancer research, and we simply can't keep up with the demand, and what that means is that while historically we of course run out of money long before we run out of good ideas to test, now we run out of the money even faster, and there are even more good ideas to test.

Electra D. Paskett [NCAB member and the Marion N. Rowley Professor of Cancer Research, director of the Division of Cancer Prevention and Control at The Ohio State University]: Thank you, Doug, I really appreciate that, and it really helps to have this complete vision of the funding.

I would agree with you, there are tremendous opportunities, and the NCI staff is just wonderful at working with us out in the field in terms of facilitating opportunities and working with us.

So, I would like to also add to the... I'll call it the perfect storm, a couple of things that are happening in academia that I think have contributed to that increase that you're seeing.

The first is that in cancer centers, we have an increasing mandate that NCI funding is the gold standard, and so cancer centers and those who are investigators at cancer centers have an increased pressure to get funding from NCI.

The second is, and it's been happening for a few years—

Lowy: Can I just respond and then you can go to the second [question] Karen Knudsen [BSA member, the Hilary Koprowski Endowed Professor, chair of the Department of Cancer Biology, and director of Sidney Kimmel Cancer Center at Thomas Jefferson University] in a previous meeting brought up the same issue, and we discussed this with Henry Ciolino [director of the NCI Office of Cancer Centers], and we're going to try to clarify that the research does not need to be at NCI. Cancer-related, yes, but it doesn't need to be at NCI. Second question.

Paskett: Second point about academia is that many of us are seeing our institutions take away a lot of the hard money guarantee for salaries. So, in some institutions used to be 100% or 80%, that's dropping back to 50, 30 and 20%, so there is more of an impetus for faculty to support themselves through grants, and that has really been changing over time.

And in addition, once you get or in order to get promotion, or you are an associate professor or higher, there is an expectation that you have two RO1s, so there is really a lot more pressure in academia to have these grants.

And so, I think that's what also is contributing to this, on top of the wonderful opportunities, and so, when you showed all of those institutes, have you also talked about perhaps when some grants come in that might be able to be co-funded with other institutes that you look at that, and I think

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Let me emphasize that the kind of money that we're talking about here is not enough to find \$25 million, or even to find \$50 million, because that's a one-time deal.

— Douglas R. Lowy

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that would be very attractive if you move forward to opening it to any NIH funding versus NCI.

Lowy: Yes, this is, again, something that was discussed last night and has been discussed previously. The perception is maybe not quite as enthusiastic as you speculate, but certainly worth the discussion, which is appreciated.

One number that you may not be aware of is that the average number of awards that NCI grantees have from NCI is 1.3; okay? And that number has not changed dramatically. That in no way changes the pressure, but I just thought I would mention that. In other words, the majority of our grantees of NCI grantees have just one award.

Kevin M. Shannon [BSA member, the American Cancer Society Research Professor, Auerback Distinguished Professor of Molecular Oncology, and professor at the Department of Pediatrics, School of Medicine University of California, San Francisco]: Doug, I have a very simple question, and then also a quick comment.

The question is: this is a really nice presentation by the way, a lot of great data here, 41% of the NCI budget going to the RPGs. How does that compare to the other institutes? Are we spending less relative part of our budget or are we spending about the same or more?

Lowy: Kevin, we spend a bit less because we have many other mechanisms that they don't have. For example, the cancer centers, so there's nothing comparable to the cancer center support grants. If you want to argue that the CTSAs are analogous, the answer is but the CTSAs are actually supported by NCATS, not by the individual institutes. The cooperate groups are; I don't think there's anything comparable within the

other ICs, just to give you two clear-cut examples.

So, one of those of those alliances are being in any discussion about decreasing for example, the number of RND contracts to try to build up the RPG pool over time.

We are continually looking to try to maximize the opportunities to fund the best research that we can in terms of contracts versus grants etc. Some of the contracts are highly meritorious, etc.

But we continue to scrutinize it. Let me emphasize that the kind of money that we're talking about here is not enough to find \$25 million, or even to find \$50 million, because that's a one-time deal.

Whatever program you don't like, we could decrease it by that amount, but what happens the following year? What's happening is that we have seen that we need to be at approximately \$75 million a year of new money. In other words, it's \$75 million this year, and \$150 million next year, and \$225 million the following year, etc.

That's why getting new resources is by far the preferable way of doing things. You've heard me say this before, all of our areas of research are underfunded. And so if we start taking away from other areas, we actually are going to be creating other problems.

Shannon: I guess, just quickly, the comment I had is, I've had a T32, generously, from the NCI for a couple of cycles, and turned it over to another faculty member, but one of the messages we've been sending our young faculty, and of course it's pediatric oncology, is don't write your KOA to the NCI, write it to NINDS; if you're studying neural tumors, write it to Heart, Lung and Blood if you're studying NDS, or anything that's not acute leukemia, try to

sneak into DK if you're studying hematopoiesis. And I worry a lot, I don't know if my adult colleagues who have these T32s in the room have the same thing, but I worry a lot that once we get people out of the NCI early in their careers, they may get less focused on cancer, and start focusing on some of these other diseases, and these are the folks we've been nurturing and supporting to be cancer researchers. So, I just raise that as a possibility for you, considering this sort of budget conversation.

Lowy: Let me just say that when it comes to early-stage investigators, we actually are supporting substantially more last year and this year than in the past. I don't want to say that things are just fine, but it is probably easier for early stage investigator to get awards now than it was even three years ago.

Deborah Watkins Bruner [NCAB member and the Robert W. Woodruff Chair of Nursing at the Nell Hodgson Woodruff School of Nursing and associate director for outcomes research at the Emory University Winship Cancer Institute]: Thanks again for the presentation, and we talked a little bit about this last night, and I just want to be sure it's raised today, and maybe it will be later, but I think slide number five, to me, is the most telling slide.

Every other conversation is about different ways to dice the same pie, it is in slide number five that Tim had asked for that shows that the NIH is not taking an enterprise-wide view of resources.

They are taking each division you get what had last year plus 2.5%, maybe a little bit more if you're lucky and you're cancer, versus cancer is our top performing, has 10,000 applications, versus the applications of other

units. We have decreasing mortality, incredible success.

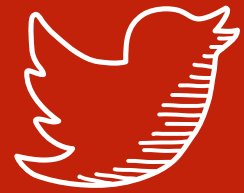
If you're a university and you had, say, a law school, which is losing applications and not doing so well, and a school of medicine doing great, and you still give a law school history plus 2% and the school medicine gets maybe the same and a little bit more, if they're lucky—that's a very old-fashioned way of looking at budgets, instead of looking at the enterprise.

In addition, those budgets still contain things where at the end of the year, you might have a little bit money, even in say, the law school who isn't doing so well, so what you do is end of year budgets, everybody use it or lose it. Instead of taking that money and putting it into strategic initiatives in, the institute that really is doing wonderful, out-of-the-box, shooting-applications-into-the-sky areas.

There's no enterprise way of redistributing resources, given the current funding model.

Again, we're not the NIH advisory board, we're the NCI advisory board, and what I'm saying would benefit the NCI, so I take that bias under consideration, but as a citizen, I would want my NIH to take an enterprise-wide view of resources.

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CMS dings MD Anderson on Medicare compliance, citing serious deficiencies in patient care

By Matthew Bin Han Ong

The Centers of Medicare and Medicaid Services has removed MD Anderson Cancer Center's Medicare "deemed" status, which means that, until the Houston hospital demonstrates compliance with federal regulations, the institution is at risk of having its Medicare provider agreement terminated.

On June 3, CMS sent a letter to MD Anderson President Peter Pisters, declaring that the agency has found "substantial noncompliance," based on "significant deficiencies" at the hospital.

"These deficiencies have been determined to be of such a serious nature as to substantially limit your hospital's capacity to render adequate care and prevent it from being in compliance with all the applicable Medicare Conditions of Participation," wrote Karen Hillman, a manager at the CMS Enforcement Branch.

The CMS letter is available [here](#).

Usually, a hospital that loses its Medicare deemed status may continue to accept Medicare patients and receive federal funding in all previous payment models, experts say. However, the hospital's status will not be reinstated until a corrective action plan has been accepted by federal regulators.

Acceptance is based on the hospital's ability to demonstrate its compliance with all federal standards during a follow-up survey.

As Pister's administration works to regain deemed status for full compliance with CMS regulations, MD Anderson's participation in all existing payment models—including Medicare and prospective payment rates based on Diagnosis Related Groups—remains intact.

This means that MD Anderson was given a fair warning and an opportunity to set things right. If the institution fails to demonstrate compliance, it would lose Medicare privileges.

CMS's decision to take punitive action appears to stem from a blood transfusion-related adverse event that MD Anderson reported to FDA, as per federal requirements for reporting of harm or injury to patients:

"In December 2018, The University of MD Anderson Cancer Center self-reported a blood transfusion-related adverse event to the Food and Drug Administration," MD Anderson officials said in a statement to The Cancer Letter. "Based on the self-reported information, the FDA conducted a full investigation and no citations were provided. Per policy, the FDA referred the case to the Centers for Medicare and Medicaid Services.

"CMS, in conjunction with the Texas Department of State Health Services, conducted surveys of MD Anderson from March 29 to April 5 and from May 13 to May 17. MD Anderson cooperated fully with CMS to address surveyor questions, and our resulting focus is on resolution, learning and improvement."

Several observers said they were shocked by the CMS action—findings of broad noncompliance and subsequent removal of a hospital's "deemed" status are usually associated with small, less-

er-known institutions, not an academic powerhouse. The U.S. News & World Report has ranked MD Anderson as the top cancer center in the U.S. for the past 10 of 11 years.

Medicare-certified providers and suppliers of health care services must be substantially compliant with federal health and safety requirements, according to two CMS rules:

- **Final rule**, January 2017: “Facilities not meeting requirements would either correct the inappropriate practice(s) or would be terminated from participation in the Medicare or Medicaid programs.”
- **Proposed rule**, May 2019: “A Medicare-certified provider or supplier that does not substantially comply with the applicable health and safety requirements risks having its Medicare provider agreement terminated.”

Because MD Anderson’s deemed status is suspended, the hospital is on an “enforcement track” with CMS, experts say. While on this track, the cancer center retains its accreditation and ability to bill CMS for services provided to Medicare beneficiaries.

MD Anderson officials said that the cancer center is “not on a pathway” to losing its Medicare contract.

“CMS has the right and responsibility to survey any hospital participating in Medicare and Medicaid programs,” officials said in a statement. “CMS has avenues of escalating serious events that pose an immediate threat to patient care. MD Anderson did not receive that level of rating and is not on a pathway to termination from CMS programs.”

In February, CMS issued a similar letter to Baylor St. Luke’s Medical Center, after an emergency room patient died as a result of receiving the wrong blood type in a transfusion—six months after

CMS cut off Medicare funding for heart transplants at St. Luke’s, according to a Feb. 7 [report](#) in the Houston Chronicle.

MD Anderson officials said the cancer center’s blood transfusion adverse event did not involve mislabeling, according to the Houston Chronicle.

When a health care provider is accredited by a national accrediting organization—for instance, The Joint Commission—the provider is “deemed” by CMS to have met or exceeded all applicable Medicare and Medicaid requirements.

According to [The Joint Commission](#), “in order to participate in and receive federal payment from Medicare or Medicaid programs, a health care organization must meet the government requirements for program participation, including a certification of compliance with the health and safety requirements called Conditions of Participation (CoPs) or Conditions for Coverage (CfCs), which are set forth in federal regulations.”

CMS may temporarily remove deemed status—and therefore the accrediting organization’s jurisdiction—when a survey team identifies noncompliance at the condition level. This is a serious deficiency that is not in substantial compliance with one or more of the CoPs in the Medicare program, experts say.

Nationally, about 300 accredited hospitals are found “out of compliance” at the condition level, which means these facilities had their deemed status suspended, until they came back into compliance—or were terminated from participating in CMS programs.

CMS found MD Anderson to be “out of compliance” with five Medicare Conditions of Participation:

- **42 CFR 482.12 Governing Body:** “The hospital must have an effective governing body legally responsible for the conduct of the hospital as an institution.”

- **42 CFR 482.13 Patient Rights:** “A hospital must protect and promote each patients’ rights.”
- **42 CFR 482.21 QAPI:** “The hospital must develop, implement, and maintain an effective, ongoing, hospital-wide, data-driven quality assessment and performance improvement program.”
- **42 CFR 482.23 Nursing Services:** “The hospital must have an organized nursing service that provides 24-hour nursing services. The nursing services must be furnished or supervised by a registered nurse.”
- **42 CFR 482.27 Laboratory Services:** “The hospital must maintain, or have available, adequate laboratory services to meet the needs of its patients.”

The full text of Conditions of Participation for Hospitals, Part 482, Subchapter G on Standards and Certification, Code of Federal Regulations, is available [here](#).

“A plan of corrective action is not required at this time,” CMS’s Hillman wrote in the June 3 letter to MD Anderson’s Pisters. “However, it is to your advantage to initiate corrective action on the identified deficient practices in order to bring your hospital in compliance with the regulations.”

Though accreditation is voluntary, and seeking deemed status is an option, not a requirement, many providers choose the accreditation process—to demonstrate compliance with CoPs—instead of certification based on a survey conducted by a state agency on behalf of the federal government.

When a hospital is found to be non-compliant, CMS advises the accredited hospital its deemed status has been removed, and its compliance monitoring is being placed under the state survey agency’s jurisdiction. MD Anderson is now under the jurisdiction of the Texas Health and Human Services Commis-

sion, the agency that surveys Texas providers on behalf of CMS.

“The deemed status of your hospital was removed on June 3, 2019, as a result of the findings of substantial noncompliance from the May 17, 2019, survey, and survey jurisdiction has been transferred to the HHSC,” Hillman wrote in the June 3 letter to Pisters.

Earlier this year, the HHSC conducted a survey of MD Anderson based on “substantial allegations of a significant deficiency or deficiencies which would adversely affect health and safety of patients if found to be present.”



In response to specific items identified by CMS during its recent surveys, multidisciplinary teams are developing plans of action, which will be submitted next week.



—MD Anderson

CMS will not accept any accreditation decisions or recommendations made by an accrediting organization—The Joint Commission, in MD Anderson’s case—when deemed status is removed, and while a provider or supplier is under state survey agency jurisdiction,” according to a 2018 [memorandum](#) issued by the CMS Center for Clinical Standards and Quality/Quality, Safety & Oversight Group to state survey agency directors.

MD Anderson’s Accreditation and Regulatory Readiness Executive Steering Committee, led by Rosanna Morris, chief operating officer, and Stephen Hahn, chief medical executive, will be taking prompt corrective action, officials said.

“In response to specific items identified by CMS during its recent surveys, multidisciplinary teams are developing plans of action, which will be submitted next week,” MD Anderson officials said in a statement. “This Executive Steering Committee is working to streamline decision-making and to ensure MD Anderson’s policies and procedures align with the care and services we provide.”

MD Anderson has been accredited by The Joint Commission since 1951.

“An independent, not-for-profit organization, The Joint Commission accredits and certifies more than 20,000 health care organizations and programs in the United States,” MD Anderson’s website states. “Joint Commission accreditation and certification is recognized nationwide as a symbol of quality that reflects an organization’s commitment to meeting certain performance standards.

“Every three years, The Joint Commission surveys The University of Texas MD Anderson for one week closely observing a range of quality, safety, patient care and support practices.”

MD Anderson received its most recent accreditation from The Joint Commission beginning Sept. 24, 2016. The commission summarized its survey findings in a 50-page report, posted [here](#).

Of the 50 pages, the commission dedicated at least 35 pages to describing “Insufficient Compliance” and “Partial Compliance” by MD Anderson to standards required for accreditation. The determination, “This Standard is NOT MET” appears 25 times throughout the report.

For instance, on page 33 of the report, the commission wrote: “Blood transfusions and intravenous medications must be administered in accordance with State law and approved medical staff policies and procedures. This Standard is NOT MET.”

The commission directed the hospital to provide evidence of compliance for 11 standards within 45 days, and evidence of compliance for the other 14 standards within 60 days. MD Anderson did not receive a Preliminary Denial of Accreditation status, which would have required the hospital to respond to all noncompliance findings within 45 days.

A section of the report, “Summary of CMS Findings,” lists five areas of non-compliance: patient rights, nursing services, physical environment, infection control, and respiratory care services.

A [letter of accreditation](#) was issued by the commission to MD Anderson on Dec. 22, 2016.

MD Anderson officials say they welcome the review and feedback received from the CMS survey process.

“It affords us the opportunity to further strengthen and supplement our efforts, which includes our continued and expanded approach toward quality patient care through a culture of performance improvement,” officials said in a statement.

“MD Anderson constantly strives to ensure the highest standards of patient care, resulting in the best clinical quality outcomes. We are unwavering in our commitment to provide the highest standard of care to our patients.”



REVIEW

Chernobyl, the HBO miniseries: Fact and fiction (Part III)

With episode four of the series, we moved even further from reality than in prior episodes.



By Robert Peter Gale

Visiting Professor of Hematology, Imperial College London

Executive director of clinical research in hematology and oncology, Celgene Corp.

As I wrote in [Part I](#), I realize the need to tell a story which *grabs* the viewer. Surely the cow assassination scene will go down in cinematic history, although it falls short of Mongo knocking out a horse in *Blazing Saddles*. (I wonder how Mel Brooks might have told the Chernobyl story.)

I'm amazed the producers didn't get technical advice from a health physicist or radiobiologist rather than basing much of their screenplay on a novel (*Voices of Chernobyl*). Much of episode four focused on the effects of radiation exposure on several hundred thousand personnel involved in mitigating the

accident and referred to as *liquidators* in Russian. (I suggested to my Soviet colleagues this does not translate well into English.)

In this editorial I focus on one of the most controversial and misunderstood aspects of the Chernobyl NPF accident: long-term consequences.

First, we need background. Exposure to ionizing radiations causes two types of medical effects: *deterministic* and *stochastic*. Deterministic effects are predictable, dose-dependent, and occur in everyone exposed to the same dose. For example, everyone exposed to an acute

whole-body dose of 5 gray (5,000 millisieverts) will have a marked immediate decrease in blood granulocytes.

However, not all deterministic effects of radiation are immediate. For example, development of cataracts and of coronary artery disease are deterministic effects of high-dose radiation exposure, which occur many years later.

Stochastic effects are different. Although they are also dose-dependent (the higher the dose, the greater their likelihood), not everyone exposed to the same radiation dose will develop the effect. The most important stochastic ef-

fects of radiation exposure are genetic abnormalities, birth defects, and cancer.

As I discussed in [Part II](#), exposing 100,000 people to 100 millisieverts of radiation will cause about 2,200 extra cancers and about 1,100 extra cancer deaths. Meanwhile, the background cancer rate in these 100,000 people will be 80,000, and cancer deaths, about 40,000.

There are several messages from these data: First, only about 2% of exposed persons will get cancer from their radiation exposure. Second, only 3% of cancers in this population of exposed persons will be caused by their radiation exposure. Namely, 97% of cancers would have occurred anyway and have nothing to do with their additional radiation exposure.

The obvious challenges to us in determining if a radiation exposure increases a person's cancer risk are twofold:

First, how to detect such a small increase in cancers. For example, if the collapse of the Soviet Union caused people to smoke and drink more (which it did), the increased cancers caused by these exposures would greatly overwhelm any radiation-induced cancers caused by the Chernobyl NPF accident. One can easily imagine the liquidators, aware of the potential risks associated with their radiation exposures, might change their smoking and drinking habits. We have strong evidence of this.

(It was widely believed in the Soviet Union that I had recommended drinking alcohol to protect against radiation-induced damage. Given living conditions in the Soviet Union at that time, drinking alcohol might not have been such a bad idea, but not to prevent radiation-induced cancers. Actually, as readers know, alcohol exposure causes far more cancers than radiation.)

A second challenge is how to distinguish radiation-induced cancers from cancers

that would have occurred anyway. There is nothing unique about radiation-induced cancers that would help us spot them from non-radiation-induced cases. Add to this the disintegration of the Soviet Union such that epidemiologists must now deal with three countries—Russia, Ukraine, and Belarus, with the first two at war, and none of which have a high-quality population-based cancer registry like the Surveillance, Epidemiology and End Results (SEER) registry in the U.S.

The bottom line is, it's difficult or impossible to detect whether radiation exposures like those from the Chernobyl NPF accident increase cancers, unless something extraordinary happens (more on this below).

To estimate potential long-term consequences of the Chernobyl NPF accident, we rely on prior studies, especially data from the Japanese A-bomb survivors.





However, the circumstances of populations exposed to the A-bomb are different than the Chernobyl-exposed populations (liquidators, persons who were evacuated, and those living in contaminated areas).

The A-bomb survivors were exposed instantaneously to external high-dose gamma radiations. Although liquidators had a somewhat similar exposure, people living in areas contaminated with radionuclides released from the Chernobyl NPF accident have a rather different type of exposure. Simply put, most of their exposure occurred (and will occur) over many years.

The external component comes predominately from 137-cesium deposited on the ground, but also from eating foods and drinking water containing radionuclides. This means we use unproved assumptions to get from the A-bomb data-based risk coefficients to predict what will happen post-Chernobyl. For example, most data suggest exposing people to the same amount of radiation over a prolonged vs. a brief interval is less likely to cause cancer. (Admittedly, some recent data suggest the converse.)

Other important background information may be new to some readers. All of us are exposed to ionizing radi-

ations all our lives. Moreover, all of us are radioactive. The average radiation dose to Americans is 6.2 millisieverts per year. About half of this dose results from physicians ordering radiological studies, especially CT scans. If a person lives 80 years, their lifetime cumulative dose will be about 500 millisieverts, or one-half a sievert. Compare this to the average dose of an A-bomb survivors, 200 millisieverts.

More importantly, let's compare these doses to populations exposed because of the Chernobyl NPF accident. The average dose to the liquidators was 120 millisieverts, to the evacuated population, 30 millisieverts, and to the people living in contaminated lands, 10 millisieverts. You can see from these data, most of these Chernobyl-related doses are less than most of us receive in our lifetime.

There are several other ways to view these data. For example, people living in Denver (1-mile-high and sitting on the Rockies) receive about 80 millisieverts more radiation over their lifetime, than a person living in New York (sea level and on a sandy base). Another yardstick is, exposure to 50 millisieverts increases our lifetime cancer risk from 43% to 43.5%, a 0.5 percent increase.

“

My intent is not to minimize potential cancer consequences of the Chernobyl NPF accident. If we use standard risk estimators of radiation-induced cancers based mostly on the A-bomb data (with the caveats I discussed), one can estimate 11,000 to 25,000 cancers over 80 years (95% confidence interval).

”

Lastly, a CT/PET scan exposes someone to about 30 millisieverts. So, one way to look at the exposure of the liquidators is to think of them getting four CT/PET scans, the evacuated population—one CT/PET scan, and the population living in contaminated areas as getting an abdominal CT scan.

With this background, we can return to the Chernobyl accident, consider what has happened, and predict what might happen in the future. First, the bad news. There were about 7,000 cases of thyroid cancer caused by exposure to ¹³¹-iodine. All these cancers occurred in children less than 16 years old at the time of the accident and was caused by inhalation of ¹³¹-iodine and ingesting it

There is only one report of an increase in other cancers amongst the exposed populations: an increased incidence of chronic lymphocytic leukemia (CLL) amongst the liquidators. This is curious, because most data suggest CLL is not a cancer caused by radiation. (It was the only leukemia not increased in the A-bomb survivors.) Also, because many cases of CLL are detected by routine blood testing, we need to exclude the possibility of surveillance bias, namely more blood tests in liquidators than amongst the general population.

However, more importantly, there are no reports of an increase in other leukemias known to be caused by radiation. This absence is critical, because

diation-induced solid cancers is unlikely to occur over the next several decades.

My intent is not to minimize potential cancer consequences of the Chernobyl NPF accident. If we use standard risk estimators of radiation-induced cancers based mostly on the A-bomb data (with the caveats I discussed), one can estimate 11,000 to 25,000 cancers over 80 years (95% confidence interval).

However, this should be compared with a background incidence of about 200 million over this timeframe, or about a 0.008 percent increase. Every extra death is, of course, tragic, but perspective is needed. For every terawatt (TWt) of electricity produced, nuclear energy is 10 to 100 times safer than coal or gas.

Also, as I discussed in Part II, there are no convincing data of an increase in the two other stochastic effects of radiation: genetic abnormalities or birth defects. This is not surprising, as no increases were detected in the A-bomb survivors exposed to much higher radiation doses than any of the populations we are discussing. For a list of activities associated with the same risk of death as being exposed to 1 millisievert of radiation, please see Figure 1.

Lastly, although many readers have commented favorably on this series, some have said, “What does this *jackass* (or worse names) know about reviewing movies?” True, I am a failed screenplay writer, but all is not lost: I have an Emmy, I’m a member of the Screen Actors Guild, and I get to vote on best actor for the Academy Awards. Does this qualify me to review movies? Not according to my wife, children, and any intelligent person.

In the final installment, I will tackle the series’ portrayal of the Soviet government and of our medical and scientific colleagues who have, so far, been shown in a most unfavorable light. Please tune in next week.

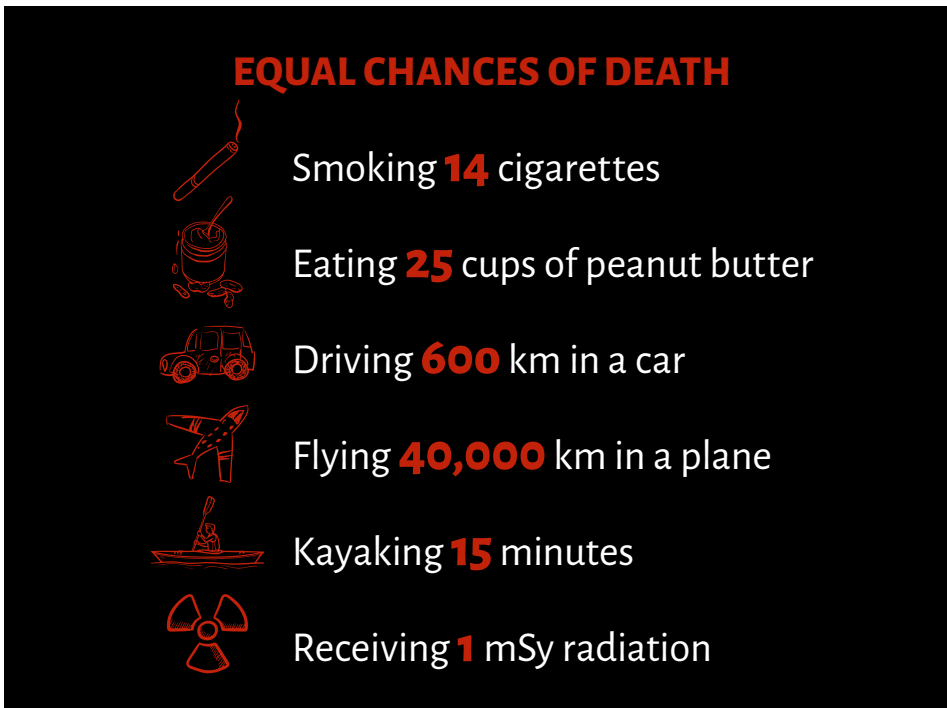


Figure 1.

Activities associated with the risk of death equal to exposure to 1 millisievert of radiation

in milk. Because thyroid cancer is rare in children, there is no question these cancers were caused by the Chernobyl NPF accident. But because thyroid cancer is treatable, there are fewer than 10 deaths.

What about other cancers?

these other leukemias were the most increased cancers in the A-bomb survivors, because they occurred about 10 years after exposure, which is 20-30 years earlier than more common cancers such as lung and breast cancers. These data suggest a large wave of ra-

Emory fires two NIH-funded faculty members for not disclosing foreign sources of funding and work in China

By Claire Dietz



Emory University has terminated two NIH-funded faculty members at the Department of Genetics for failing to disclose foreign sources of funding and the extent of their involvement with institutions in People's Republic of China.

“Since this is a personnel matter, we cannot share specific details; however, through the course of an investigation prompted by an NIH inquiry, Emory determined that these faculty members had failed to fully disclose foreign sources of research funding and the extent of their work for research institutions and universities in China,” Vikas P. Sukhatme, dean of Emory University School of Medicine, said in a memo to the faculty and staff. “Please note we are working to minimize disruption within the department and taking steps to ensure research projects continue.”

According to [Science](#), the two researchers are disputing their termination. The journal reported “neuroscientist Li Xiao-Jiang says the university dismissed

him and neuroscientist Li Shihua, his wife and lab co-leader, ‘simultaneously without any notice or opportunity for us to respond to unverified accusations.’”

In April, three faculty members at MD Anderson Cancer Center were sanctioned for failure to ensure confidentiality of review of NIH grants ([The Cancer Letter, April 26](#)). These scientists had also failed to disclose outside funding, academic appointments, and roles in laboratories outside the U.S.

The MD Anderson cases included:

- Unauthorized sharing of confidential material and failure to disclose affiliations in People's Republic of China;
- Failure to disclose personal relationships with PIs and academic appointments in People's Republic of China;
- Emailing an NIH grant application to a scientist based in the People's Republic of China.

The Senate Committee on Finance June 5 held a hearing focused on foreign threats to taxpayer-funded research. The hearing examined the actions several departments of the federal government—including HHS and NIH—have taken in response to the recent uptick in reports of researchers failing to disclose funding and academic appointments outside the U.S. ([The Cancer Letter, April 26](#)).

A webcast of the committee hearing can be found [here](#).

“Truly free collaboration and exchange of information is only possible when data and sources are credible, and the research process can be trusted,” Chairman Chuck Grassley (R-IA) said in a statement. “That trust is destroyed when foreign governments and other entities interfere in our research for their gain and to our detriment.”

In his testimony, Joe W. Gray, the Gordon Moore Chair of Biomedical Engineering and associate director for Biophysical Oncology in the Knight Cancer Institute at Oregon Health & Science University, cautioned against “stifling innovation whenever we constrain interactions.

“It has been my experience that the way people approach problems is colored strongly by their past experiences and by the nature of their education,” Gray said in submitted testimony. “It is also my experience that individuals educated in other countries bring different ways of thinking and different facts.

“Further, these individuals undergo extensive vetting to ensure a high level of education and potential. Thus, I believe that innovative solutions to the complex problems we are trying to solve throughout the biomedical community today will occur most rapidly through the free and open exchange of information and ideas, including with a broad range of foreign nationals.”

The controls on data sharing that are now in place do protect against most forms of data misuse may also have a negative impact on innovation, Gray said.

“The economic strength of the U.S. depends on innovation and on the speedy implementation and commercialization of innovative ideas,” Gray said. “I believe that the controls that are already in place provide a workable balance

between protecting data and intellectual property and allowing the free exchange of data and information needed for effective innovation.”

Grassley singled out China as a particular threat. Some of the threats to research include, “spying, theft of intellectual property, [and] disclosure of confidential information,” he said.

“We are aware that a few foreign governments have initiated systematic programs to capitalize on the collaborative nature of biomedical research and unduly influence U.S.-based researchers,” Lawrence A. Tabak, NIH principal deputy director, said in submitted testimony. “It is essential for us to continue vigilance and take additional actions to protect the integrity of the U.S. biomedical research enterprise, while also protecting important relationships with foreign scientists worldwide.”

Tabak said NIH has taken the following measures have been taken to identify and monitor these problems:

- Partnering with colleagues at the Department of Health and Human Services and the FBI to exchange information on emerging threats;
- Developing a new dashboard to assist NIH in responding to data requests needed for its reviews in this context;
- Maintaining an open channel of communication with funded research institutions and investigators;
- Training NIH staff to identify and report suspicious activity on the part of key scientists designated in grant applications as well as peer reviewers.

According to Tabak, actions awardee institutions have taken to mitigate concerns include:

- Terminating or suspending scientists;
- Intervening to address previously unreported affiliations with foreign institutions;
- Relinquishing or refunding of NIH funds;
- Prohibiting certain individuals from serving as investigators on NIH grants;
- Raising awareness among institutional faculty about government and institutional policies dealing with foreign affiliations and relationships.

“We have evaluations underway to assess NIH’s vetting and oversight of its peer reviewers, including its efforts to prevent or identify inappropriate disclosure of information by peer reviewers, and an evaluation of how NIH monitors the financial conflicts of interest, including foreign financial interests, reported by grantee institutions,” Leslie W. Hollie, chief of investigative operations in the HHS Office of Inspector General, said in submitted testimony.

The largest number of ongoing cases regarding transmission of technical data involve China, Russia, and Iran, Louis A. Rodi, acting assistant director of the National Security Investigations Division of Homeland Security Investigations, said in submitted testimony.

“Exploitation of academia and U.S. research institutions is just one of the schemes these countries are employing to obtain access to sensitive research and export-controlled information and technology, and to facilitate its transfer abroad,” Rodi said. “These countries are attempting to obtain this information, in many instances in an illegal or subversive manner, in order to advance their own military capabilities or economic goals, many times in contravention to the national security of the U.S.”

NCTN grants awarded, with \$20M increase

The National Clinical Trials Network has received a \$20 million funding increase from NCI in the latest awards cycle—from \$151 million to \$171 million.

The network, which is funded every six years, now has 32 Lead Academic Participating Sites, up from 30 in 2014. The LAPS are academic research institutions with fellowship training programs, and most of the awardees are NCI-designated cancer centers.

To receive a LAPS award, sites had to demonstrate ability to enroll high numbers of patients in NCTN trials, as well as scientific leadership in the design and conduct of clinical trials.

The overall budget for NCTN is distributed to the various components of the network, which includes an Imaging and Radiation Oncology Core Group and Integrated Translational Science Awards.

The network, which provides the infrastructure for NCI-funded trials, annually enrolls up to 20,000 participants in cancer treatment and imaging trials.

The network groups, which consist of four adult groups, one group focused on childhood cancer, and one Canadian collaborating group, are:

- Canadian Collaborating Clinical Trials Network

- Alliance for Clinical Trials in Oncology
- ECOG-ACRIN Cancer Research Group
- NRG Oncology
- SWOG
- Children's Oncology Group

Two institutions that were funded in the last granting cycle—Stanford University and Indiana University—are not included in the current list of 32 LAPS.

Four new sites were added:

- Froedtert & the Medical College of Wisconsin
- Northwestern University – Robert H. Lurie Comprehensive Cancer Center
- Sidney Kimmel Cancer Center at Jefferson Health
- University of Rochester – Wilmot Cancer Institute

The 32 LAPS are:

- Case Western Reserve University – Case Comprehensive Cancer Center
- Dana Farber/Harvard Cancer Center
- Duke Cancer Institute at Duke University Medical Center
- Emory University – Winship Cancer Institute
- Fred Hutchinson Cancer Research Center
- Froedtert & the Medical College of Wisconsin
- Johns Hopkins University - Sidney Kimmel Comprehensive Cancer Center
- Mayo Clinic Cancer
- Memorial Sloan Kettering Cancer Center
- Norris Cotton Cancer Center at Dartmouth Hitchcock Medical Center
- Northwestern University – Robert H. Lurie Comprehensive Cancer Center

- Ohio State University Comprehensive Cancer Center
- Roswell Park Cancer Institute
- Sidney Kimmel Cancer Center at Jefferson Health
- University of Alabama at Birmingham
- University of California Davis Comprehensive Cancer Center
- University of Chicago Comprehensive Cancer Center
- University of Colorado Cancer Center
- University of Michigan Comprehensive Cancer Center
- University of North Carolina Lineberger Comprehensive Cancer Center
- University of Oklahoma – Stephenson Cancer Center
- University of Pittsburgh Cancer Institute
- University of Rochester Wilmot Cancer Institute
- University of Southern California – Norris Comprehensive Cancer Center
- University of Texas MD Anderson Cancer Center
- University of Texas Southwestern Medical Center – Harold C. Simmons Cancer Center
- University of Utah - Huntsman Cancer Institute
- University of Wisconsin Carbone Cancer Center
- Vanderbilt University Medical Center - Vanderbilt Ingram Cancer Center
- Washington University at St. Louis - Siteman Cancer Center

- Wayne State University Barbara Ann Karmanos Cancer Institute
- Yale University – Yale Cancer Center

There are separate awards for the U.S.-based NCTN Operations Centers and their associated Groups' Statistics and Data Management Centers.

Oversight of the NCTN, its organizational structure, funding, and long-term strategic direction, is under the purview of the Clinical Trials and Translational Research Advisory Committee. The federal advisory committee, which provides recommendations to the NCI director, is composed of clinical trials experts, industry representatives, and patient advocates from across the nation.

Membership in the individual NCTN groups is based on criteria that are specific to each group. Sites can belong to more than one group, and membership in at least one group allows a site to participate in the trials led by any NCTN group for which their investigators are qualified.

Researchers from the LAPS, NCI Community Oncology Research Program, other academic centers, community practices, and international members associated with the network groups may all enroll patients onto NCTN trials. Clinical trials led by NCTN groups may receive support from the IROC Group, ITSAs, and tissue banks, according to the scientific needs of the trials.

The U.S. groups are each funded through two separate awards—one to support network operations and another to support the Statistics and Data Management Centers:

- Operations Centers are responsible for developing new protocols and managing the regulatory, financial, membership and scientific committees of each group;

- Statistical Centers are responsible for data management and analysis, manuscript preparation, and safety monitoring, in addition to assisting in trial design and development.

The Network Operations and Statistical Centers for each NCTN group are geographically separate but work closely together. They are often located at an academic institution that has offered to “house” the group; however, in several cases, a center is located at a freestanding site that is funded via a nonprofit foundation. The only exception is the Canadian Collaborating Clinical Trials Network, which received a single award for its Operations and Statistical Center.

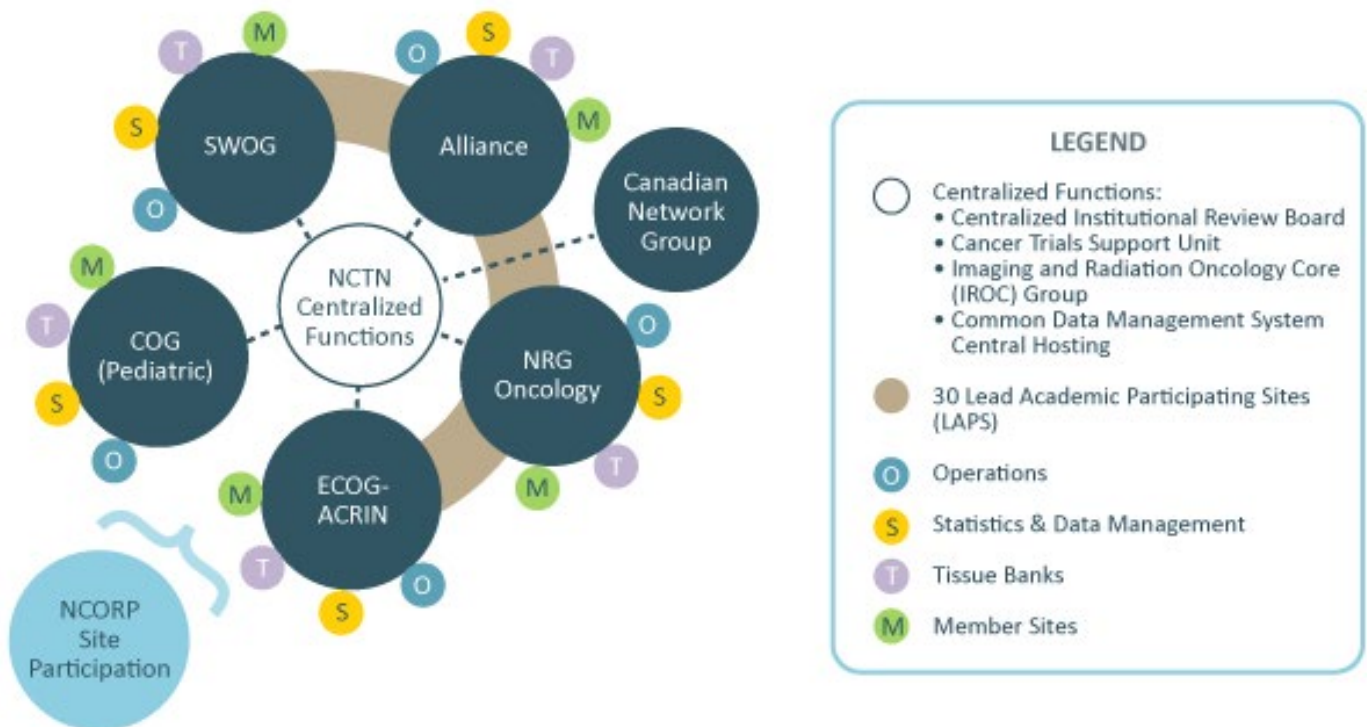
Higher levels of patient enrollment require a sustained level of data management work over several years, and the LAPS grants support the research staff required to manage this effort. The funds provided in the LAPS grants to cover this increased workload effectively raise the per-patient reimbursement level at the selected sites.

The LAPS awards also provide some funding for scientific and administrative leadership at the site itself, as the principal investigators at the site need to prioritize the clinical trials in which they participate, as well as educate and train staff at the sites in clinical research and develop strategies to promote patient enrollment.

Other investigators at community hospitals and medical centers can participate in NCTN trials, even if they are at sites that did not receive a LAPS award. These sites, as well as a number of international sites, either receive research reimbursement directly from one of the network groups with which they are affiliated, or they receive awards from the NCI Community Oncology Research Program.

Site membership in the individual NCTN groups is based on criteria that are specific to each group. Sites conducting

NCI National Clinical Trials Network Structure



clinical trials can belong to more than one group, and membership in at least one group allows a site to participate in the trials led by any NCTN group for which their investigators are qualified.

Consequently, researchers from the LAPS, NCORP, other academic centers, community practices, and international members associated with the network groups may enroll patients into NCTN trials.

To help monitor and ensure quality in trials that involve new imaging modalities and radiation therapy, NCTN established an Imaging and Radiation Oncology Core Group that assists the NCTN groups that use these modalities in their trials.

The final component of the NCTN are the Integrated Translational Science Awards. The five academic institutions that received ITSAs include teams of translational scientists who use innovative genetic, proteomic, and imaging

technologies to help identify and qualify potential predictive biomarkers of response to therapy that the network groups can incorporate into future clinical trials.

These awards are used to leverage work already underway in these investigators' laboratories, often supported in part by other NCI grants, with the expectation that these researchers will help the network groups bring new laboratory discoveries into clinical trials.

These labs employ cutting-edge technologies that enable better characterization of tumors and help to identify changes in tumor biology in response to treatment that may help explain how treatment resistance can develop.

This cycle's ITSA grantees are:

- Children's Hospital of Philadelphia
- Emory University – Winship Cancer Institute

- Memorial Sloan Kettering Cancer Center
- Ohio State University Comprehensive Cancer Center
- University of North Carolina Lineberger Comprehensive Cancer Center

Each NCTN group also collects and stores tissue from patients in NCTN trials in a harmonized network of tissue banks. Standard protocols have been developed to ensure that the tissue collected is of the highest quality. Computerized records of the stored samples have important clinical details, such as the treatments received by the patients from whom the tissue was taken, treatment response, and patient outcome.

Participants in NCTN trials may also consent to the use of their tissue specimens for studies beyond the NCTN trial in which they are enrolled. The NCTN tissue bank program includes a web-based system that any researcher can use.

Researchers, including those who are not affiliated with the NCTN, can query the system about the availability of tissue that meets certain criteria and track the review and approval process of any requests to use samples.

The NCTN groups propose concepts for new clinical trials to the NCI Disease/Imaging Steering Committees. These committees are organized by NCI to evaluate and prioritize new clinical trials, and recommend to NCI those most likely to have the highest scientific and clinical impact.

Each committee is led by nongovernmental co-chairs who are not permitted to hold leadership positions in the NCTN groups, although they can be group members. The remainder of the committee membership consists of NCTN group members selected by each group, other disease experts not involved in leadership positions in the groups, representatives of NCI-funded SPORE and consortia, biostatisticians, patient advocates, and NCI disease experts.

NCTN groups are able to reduce the costs of conducting trials by sharing resources. This collaborative approach allows members of one NCTN group to support trials led by other groups and affords NCTN members the ability to conduct a full portfolio of trials in the most common cancers.

Because the NCTN has only four U.S. adult groups, with fewer Operations and Statistical Centers that require financial support, there has been a net cost savings, according to NCI. All of the groups use a common data management system (Medidata Rave) and an integrated IT system for the tissue banks, which translates into cost savings.

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Claire Dietz contributed to this story.

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IN BRIEF



Brawley to receive 2019 AMA Distinguished Service Award



Otis Webb Brawley was named recipient of the 2019 AMA Distinguished Service Award by the American Medical Association board of trustees.

The award is the highest honor bestowed by AMA for “meritorious service in the science and art of medicine.”

Brawley is the Bloomberg Distinguished Professor of Oncology and Epidemiology at John Hopkins University Schools

of Medicine and Public Health. He is a Fellow of the American Society of Clinical Oncology, a Fellow of the American College of Epidemiology, and a Master of the American College of Physicians. He is also an elected member of the National Academy of Medicine.

He is a former chief medical and scientific officer at the American Cancer Society, where he was involved in cancer prevention, early detection, and quality treatment through cancer research and education. He continues to champion efforts to decrease smoking, improve diet, detect cancer at the earliest stage, and provide the critical support cancer patients need.

Roswell Park’s NCI designation renewed

NCI has renewed Roswell Park Comprehensive Cancer Center’s status as one of 50 Comprehensive Cancer Centers and awarded a \$22.5 million Cancer Center Support Grant to fund core research and education programs.

This is the largest award of this type and highest application score in Roswell Park’s history.

“This is the most coveted and competitive distinction in cancer, and our team has once again demonstrated that we can serve our community in a way no one else can,” said Candace S. Johnson, Roswell Park president and CEO, in a statement.

“Roswell Park has strong basic science in many areas, an outstanding center director, and exceptional facilities,” the peer reviewers wrote in assessing Roswell Park’s application. “Roswell Park is an important regional and national resource for cancer research and care. Under the strong leadership of Johnson, and with the continued commitment of the Institution, Roswell Park is poised to continue its solid upward trajectory.”

NCI invites abstracts for conference on the \$50M Childhood Cancer Data Initiative

NCI is formulating a plan to develop an innovative childhood cancer initiative focused on data sharing. The plan would be initiated with a proposed increase to NCI’s budget of \$50 million beginning in fiscal year 2020 and continuing, as proposed by the White House, for a total of 10 years.

“At NCI, we strongly believe that harnessing the power of data can be a driver of that progress, which is why the institute plans to use these proposed funds to create the Childhood Cancer Data Initiative,” Douglas R. Lowy, acting director at NCI, said in a statement.

“The aim of the CCDI is to establish more efficient ways to share and use childhood cancer data to help identify novel therapeutic targets and approaches, underpin new drug development, and enable new research pursuits to better understand the biology of childhood cancers.”

To shape the scientific direction of the CCDI, NCI is hosting a planning symposium July 29–31 in Washington, DC. The symposium will gather leaders and stakeholders from academic, government, industry, and advocacy communities to discuss scientific and clinical research data needs, opportunities for developing a connected data infrastructure, ways to provide meaningful datasets for clinical care and associated research progress, and policies around collecting and sharing data.

Deadline for submitting an abstract is June 15.

Consideration will be given for abstracts submitted up until June 30 if space is still available, NCI officials said.

ACS, Ovarian Cancer Research Alliance form research collaboration

The American Cancer Society and Ovarian Cancer Research Alliance partnered to fund multidisciplinary research projects to explore new ways of detecting, treating, and preventing ovarian cancer relapse and for improving quality of life among those diagnosed with ovarian cancer.

The two organizations are committing to a total investment of \$8 million to sustain four research teams over four years.

The joint initiative seeks to raise funds to support four multidisciplinary research teams to investigate biological, clinical, and psychosocial factors associated with ovarian cancer outcomes. Once initial funding is acquired, a request for proposal/critical peer review process will select the four research teams.

ACCC, AstraZeneca to launch initiative to support care for stage III/IV NSCLC

The Association of Community Cancer Centers and AstraZeneca announced a collaboration to support a national quality care initiative for patients with stage III and stage IV NSCLC.

To improve interdisciplinary communication and care coordination for patients with stage III and IV NSCLC, the ACCC, along with partner organizations: the American College of Chest Physicians, the International Association for the Study of Lung Cancer, and LUNGeVity Foundation, is forming a multi-phase initiative: Fostering Excellence in Care and Outcomes in Patients with Stage III and IV NSCLC.

This initiative will identify barriers to care excellence and provide guidance and support for process improvement projects centered around issues key to advancing optimal care for this patient population.

The project will include process improvement models developed and tested across a variety of care settings from large academic institutions to smaller community programs or practices. The project is supported by AstraZeneca.

An initial survey conducted for the project yielded robust cross-discipline responses providing data on current practice patterns, gaps and barriers to care coordination and communication, and other systemic processes that can hinder timely adoption of advances in staging, biomarker testing, and treatment planning for NSCLC.

The project's steering committee will guide the selection of six cancer programs to serve as process improvement sites. The committee, composed of leaders from multiple disciplines committed to improving care in stage III and IV NSCLC, is chaired by David Spigel, chief scientific officer; director, Lung Cancer Research Program; principal investigator, Sarah Cannon Research Institute.

Facilitated by ACCC, the six selected sites will create and execute process improvement models aimed at overcoming identified barriers to excellence in care for patients with these NSCLC stages. The models tested will be applicable across care settings.

Krista Nelson received Leadership in Oncology Social Work Award

Krista Nelson was awarded the Association of Oncology Social Work's

2019 Leadership in Oncology Social Work Award.

Nelson serves as secretary of the Association of Community Cancer Centers, program manager of Quality & Research, Cancer Support Services & Compassion, Providence Cancer Institute, Providence Health and Services in Portland, OR.

The award was conferred during the AOSW 35th Annual Conference.



Nelson is a past president of the board of directors of the Association of Oncology Social Work. She is also a past invited director of the American Psychosocial Oncology Society. She serves as an invited director on the board of directors of the National Accreditation Program for Breast Centers and as a director of the American Clinical Social Work Association. In 2015, Nelson was named as a finalist in the Schwartz Center Compassionate Caregiver of the Year Award.

In presenting the award, Leora Lowenthal, AOSW Awards committee member, recognized Nelson for her leadership and strength in fostering partnerships across the wider oncology community.

The Leader in Oncology Social Work Award is sponsored by the American Cancer Society.

THE CLINICAL CANCER LETTER



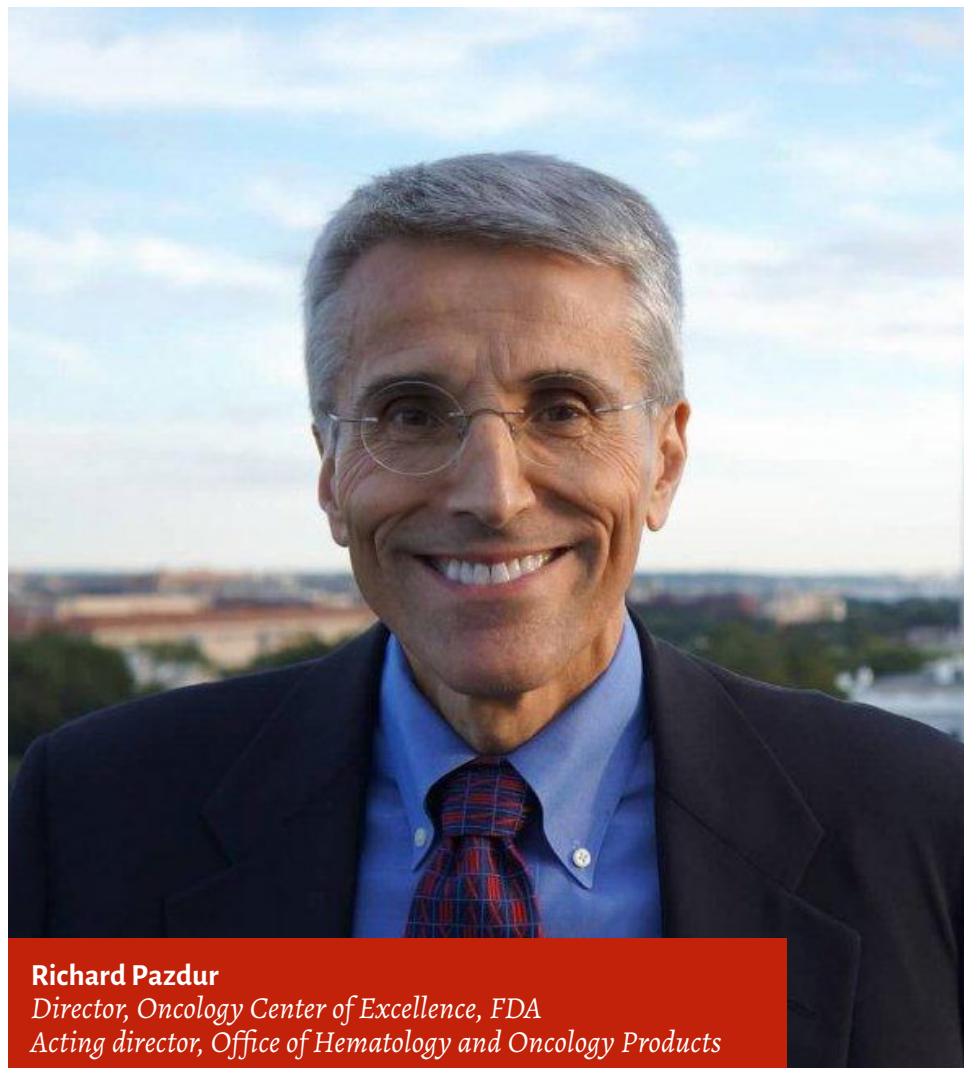
CONVERSATION WITH
THE CANCER LETTER

FDA's Project Facilitate uses a call center to streamline access to unapproved cancer therapies

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Our hope is that Project Facilitate will make it easier for oncology professionals to get accurate information they need about Expanded Access so that they can assist their patients—not just those with large Twitter or Facebook followings, but any patient, anywhere in the U.S.

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Richard Pazdur

Director, Oncology Center of Excellence, FDA

Acting director, Office of Hematology and Oncology Products

Q

&

Pazdur spoke with
Paul Goldberg, editor and
publisher of The Cancer Letter.

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The FDA Oncology Center of Excellence announced a pilot program to help physicians get access to unapproved therapies for patients with cancer.

The program, called Project Facilitate, will include a call center that will serve as a point of contact with the agency. Through the call center, FDA oncology staff members will guide physicians treating patients with cancer through submission of Expanded Access requests for their patients.

Project Facilitate will also seek to provide follow-up on patient outcomes.

“This is a concierge service to support the patient’s medical team throughout the process, from providing information that will help the oncologist complete the Form FDA 3926 to following up on the status of the patient,” said Richard Pazdur, director of the FDA’s Oncology Center of Excellence and acting director of the Office of Hematology and Oncology Products. “It doesn’t change FDA’s existing Expanded Access process in any way, but it should make it easier for oncologists to gather the information they need to submit an Expanded Access request. It’s often faster to speak to a knowledgeable person on the phone rather than searching through a lot of information on websites.”

Pazdur spoke with Paul Goldberg, editor and publisher of The Cancer Letter.

Paul Goldberg: How is Project Facilitate different from FDA’s other Expanded Access ventures?

Richard Pazdur: The Project Facilitate call center serves as a single point of

contact where FDA oncology staff will assist oncologists and the healthcare team through the steps to submit an Expanded Access request for an individual cancer patient.

This is a concierge service to support the patient’s medical team throughout the process, from providing information that will help the oncologist complete the Form FDA 3926 to following up on the status of the patient. It doesn’t change FDA’s existing Expanded Access process in any way, but it should make it easier for oncologists to gather the information they need to submit an Expanded Access request. It’s often faster to speak to a knowledgeable person on the phone rather than searching through a lot of information on websites.

That said, because we want to make sure patients and their oncologists continue to have robust sources of information, Project Facilitate is working in conjunction with the Reagan-Udall Foundation for the FDA, which started the [Expanded Access Navigator](#) website to educate patients and health care professionals about the Expanded Access process. Patients and physicians can look for treatment options, clinical trials, and company contact information on the Navigator. The Navigator offers information provided by companies about their Expanded Access policies and includes any Expanded Access programs listed on [ClinicalTrials.gov](#).

Companies now are required by the 21st Century Cures Act to publicly list their Expanded Access policies, if they have a drug intended to treat a serious or life-threatening disease or condition. The Navigator website helps them comply with that requirement.

Once the oncologist and the patient have identified the investigational therapy they want to try, the oncolo-

gist, nurse, pharmacist, or other member of the patient’s healthcare team can contact Project Facilitate for assistance in completing the Expanded Access request.

Why is Project Facilitate needed?

RP: Before Project Facilitate, the Expanded Access requests for cancer patients arrived at multiple places within the FDA and were forwarded separately to FDA oncology or hematology divisions. Sometimes these requests were delayed while being sent from one place to another. I have long felt that the Expanded Access process would be so much easier for everyone if oncologists could simply call one of our oncology nurses or pharmacists for assistance.

In addition, we were seeing that most of the oncology Expanded Access requests were coming from patients and oncologists at the larger academic centers. But the patients who don’t live near these centers and who may not be able to travel to take part in a clinical trial could also benefit from access to investigational therapies that may be available through Expanded Access.

For oncologists who don’t have experience working with Expanded Access, the process can appear complex and burdensome. However, the FDA allows the vast majority of Expanded Access requests to proceed, and the agency streamlined the application form a few years ago.

So, we would encourage community oncologists to consider Expanded Access for cancer patients who have exhausted all other available therapies.

FDA U.S. FOOD & DRUG ADMINISTRATION
ONCOLOGY CENTER OF EXCELLENCE

PROJECT FACILITATE

Assisting healthcare providers with requests for access to investigational oncology products

DO YOU NEED HELP SUBMITTING A SINGLE PATIENT IND EXPANDED ACCESS (EA) REQUEST (ALSO KNOWN AS COMPASSIONATE USE) FOR A PATIENT WITH CANCER?

...FDA's Oncology Center of Excellence (OCE) can help:

- Locate IRB resources
- Find an EA contact for a drug/biotech company
- Complete Form FDA 3926

9:00 AM - 5:00 PM Eastern Time (M-F)
Phone: (240) 402-0004
Email: OncProjectFacilitate@fda.hhs.gov
www.fda.gov/oce

Patients: Talk to your healthcare provider to discuss whether expanded access is an appropriate option.

“

It doesn't change FDA's existing Expanded Access process in any way, but it should make it easier for oncologists to gather the information they need to submit an Expanded Access request. It's often faster to speak to a knowledgeable person on the phone rather than searching through a lot of information on websites.

”

Is it only for oncology?

RP: Project Facilitate is only for oncology Expanded Access requests at this time. Right now, Project Facilitate is a pilot program and is staffed by a team leader and a rotation of project managers who cover shifts on a volunteer basis within the Oncology Center of Excellence, but as we get a better idea of the volume of calls, we will establish some permanent positions.

Do you expect there to be an increase in the number of requests due to Project Facilitate?

RP: We expect there will be an increase, at least initially, although possibly longer term as well. As I mentioned earlier, there could be cancer patients who would benefit from Expanded Access but were unaware of it or their oncologists thought it would be too difficult a process. While we want more patients to take part in clinical trials, and we want clinical trials that don't exclude pa-

tients unnecessarily, Expanded Access does provide a way that patients can get access to an investigational drug if they don't qualify for or can't get to a clinical trial.

Using the Project Facilitate call center, how long would it take for a physician to get a formal response from the FDA?

RP: Given the urgent need in most Expanded Access situations, the FDA has an excellent track record of responding quickly to these requests: emergency requests for individual patients are usually granted immediately by phone or within hours; non-emergency requests are generally processed within a few days. We expect the call center to be a valuable resource to help navigate healthcare providers through the process more efficiently.

How does all of this work in the Right-to-Try world?

RP: Right-to-Try and Expanded Access are mutually exclusive programs. The main differences between these programs are, first, that under Right to Try, the drug has to have completed a phase I trial. That's not the case with Expanded Access. Second, under Right to Try, the patient doesn't need permission from the FDA and the FDA doesn't review these requests.

Do you have buy-in from industry?

RP: We held a workshop with the Reagan-Udall Foundation on May 16 at the FDA. Patient advocates and representatives from several companies attended and took part in the discussion of Project Facilitate. Generally, the comments we received were positive and constructive regarding FDA's efforts to streamline Expanded Access. However, apparently some pharmaceutical companies require the healthcare facility to sign a liability contract in order to supply the drug, and negotiating this contract can delay Expanded Access requests. This is not an FDA requirement.

Does FDA need to estimate the amount of drug that exists to make it available?

RP: No, the FDA doesn't supply the drugs to the patients. The patient's physician approaches the pharmaceutical company to ask for its agreement that it will provide the drug being sought. The company has the right to approve or disapprove the physician's request. If the company agrees to the physician's request, the physician can then apply to the FDA for authorization to proceed.

How would Project Facilitate collect information on denials of access by companies?

RP: Project Facilitate can follow up on individual requests and gather information, such as how many patients received the investigational medical product and if not, the reason it was denied.

How would Project Facilitate counteract social media campaign and political pressure that are often brought to bear in such cases?

RP: Our hope is that Project Facilitate will make it easier for oncology professionals to get accurate information they need about Expanded Access so that they can assist their patients—not just those with large Twitter or Facebook followings, but any patient, anywhere in the U.S., who has a serious or life-threatening cancer and who does not have other treatment options and is unable to access products through a clinical trial. With information about available products and the FDA Expanded Access process, patients can make an informed decision with their physician regarding their treatment options.

As healthcare professionals ourselves at the Oncology Center of Excellence, we would rather help seriously ill patients get the best care they can get without them having to launch social media campaigns.

Is there anything we've missed?

RP: The Project Facilitate phone number is 240-402-0004 and the email address is OncProjectFacilitate@fda.hhs.gov. We have been getting inquiries from other countries since Project Facilitate launched on June 3, so I should add that this program is only available for U.S. oncologists and their patients.

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CLINICAL ROUNDUP



Cancer survivors predicted to number over 22M by 2030

There were more than 16.9 million Americans with a history of cancer on Jan. 1, 2019. The number is projected to reach more than 22.1 million by 2030 based on the growth and aging of the population alone, according to estimates from Cancer Treatment and Survivorship Statistics, 2019.

The [report](#) is produced every three years by the American Cancer Society in collaboration with NCI to help the public health community better serve this growing population. It appears in *CA: A Cancer Journal for Clinicians*, with a companion consumer edition published as *Cancer Treatment and Survivorship Facts & Figures*.

The number of cancer survivors continues to increase in the U.S., even as incidence rates are stable in women and declining in men. This is due to a growing and aging population, as well as increases in cancer survival due to advances in treatment and early detection.

The report uses the term “cancer survivor” to describe a person who has a history of cancer, from the time of diagnosis through the remainder of their life. However, it is important to note many people with a history of cancer do not embrace this term.

The report estimates there are currently 8.1 million males and 8.8 million females in the U.S. with a history of cancer. About two out of three cancer survivors (68%) were diagnosed five or more years ago and nearly one in five (18%) was diagnosed 20 or more years ago. Nearly two-thirds (64%) are aged 65 years or older. In addition, the report estimates that in the U.S., there are 65,850 cancer survivors 14 years and under and 47,760 ages 15 to 19.

The authors’ estimate of the number of cancer survivors in 2030 (22.1 million) is based on population projections produced by the U.S. Census Bureau, using current incidence, mortality, and survival rates. Changes in cancer occurrence and survival, due to advances in treatment and early detection, could further impact cancer prevalence.

Many survivors cope with long-term physical effects of treatment as well as psychological and socioeconomic sequelae.

Challenges also remain for survivors and their caregivers with regard to navigating the health care system, including poor integration of survivorship care between oncology and primary care settings, as well as financial and other barriers to quality care, particularly among the medically underserved.

“People with a history of cancer have unique medical, psychosocial, and economic needs that require proactive assessment and management by health care providers,” said Robin Yabroff, senior scientific director of Health Services Research and co-author of the report. “Although there are growing numbers of tools that can assist patients, caregivers, and clinicians in navigating the various phases of cancer survivorship, further evidence-based resources are needed to optimize care.”

The report said identification of the best practices for delivering quality rehabilitation and posttreatment cancer care is needed and points to ongoing efforts by

the American College of Surgeons, the Alliance for Quality Psychosocial Cancer Care, and the American Cancer Society.

Identifying colorectal cancer subtypes in patients could lead to improved treatment decisions

Researchers at the USC Norris Comprehensive Cancer Center found identifying a metastatic colorectal cancer patient’s Consensus Molecular Subtype could help oncologists determine the most effective course of treatment. CMS also had prognostic value, meaning each subgroup was indicative of a patient’s overall survival, regardless of therapy.

The results are from the multi-center phase III CALGB/SWOG 80405 trial and [published](#) in the *Journal of Clinical Oncology*.

CMS categorizes colorectal cancer into four distinct, biologically characterized subgroups based on how mutations in the tumor behave. The subgroups were created using data from several research teams around the world that had previously analyzed tumors of colorectal cancer patients who were treated with surgery and adjuvant chemotherapy.

Although CMS classification is not based on clinical outcomes, there seemed to be patterns in how different subtypes responded to treatment.

“We wanted to understand the importance of CMS for patients with metastatic disease who are treated with the two most important first-line therapies,” said Heinz-Josef Lenz, professor of medicine in the Division of Oncology at the Keck School of Medicine of USC and J. Terrence Lanni Chair in Gastrointestinal Cancer Research at USC Norris. Lenz was the lead author on the study. “We anticipated that CMS had prognostic value,

but we were impressed at how strongly CMS was associated with outcomes.”

The study compared the efficacy of two different therapies (chemotherapy and cetuximab vs. bevacizumab) on 581 metastatic colorectal cancer patients categorized by CMS. The data showed a strong association between a patient’s CMS subtype and both overall survival and progression-free survival. For example, patients in CMS2 had a median overall survival of 40 months compared to 15 months for patients in CMS1.

CMS also was predictive of overall survival among patients on either treatment, with patients in certain subtypes faring better on one therapy over the other. Survival for CMS1 patients on bevacizumab was twice that of those on cetuximab, whereas survival for CMS2 patients on cetuximab was six months longer than for bevacizumab.

“This study establishes the clinical utility of CMS in treating colorectal cancer,” said Lenz in a statement. “It also provides the basis for more research to uncover additional clinically significant predictive signatures within these subtypes that might better personalize patient care.”

Currently, it is not possible to order patient subtyping, though multiple efforts are underway to develop an assay approved for clinical use. Lenz estimates this could happen in a matter of months.

Until then, Lenz and his colleagues continue to analyze data from more than 44,000 samples of blood, tissue, and plasma in one of the largest, most comprehensive research efforts to characterize DNA, RNA, and germline DNA in colon cancer.

“This is only one study of many more to come that will help us understand this disease at the molecular level so we can provide better care for patients,” Lenz said.

CALGB/SWOG 80405 is supported by a grant from NCI. Genentech also funded the study. Primary study contributors included teams led by Alan Venook

from the University of California, San Francisco; Federico Innocenti from the University of North Carolina, Chapel Hill; Omar Kabbarah from Genentech; and Fang–Shu Ou from Alliance for Clinical Trials in Oncology at Mayo Clinic.

Study suggests higher triple-negative breast cancer incidence among black women is not generalizable

A new study found substantial variation in the prevalence of triple-negative breast cancer among black women with breast cancer by birthplace in the U.S.

The prevalence of triple-negative breast cancer was highest among U.S.-born and Western-African–born black women, followed by Caribbean-born, and Eastern-African-born black women.

The [study](#) is published in the journal *Cancer* and its findings suggests the typical notion of higher proportional burden of triple-negative breast cancer among black women is not generalizable to all women of African descent.

Triple-negative breast cancer is approximately twice as common, both in proportion of breast cancers and in incidence rates among black women than white women in the U.S., a factor that is often considered as one contributor to lower breast cancer survival among black patients.

Black populations in the U.S. are diverse, comprising people born in the U.S. as well as immigrants from various countries. Rapidly growing numbers of immigrants from different national and social backgrounds during the most recent three or four decades have reshaped the overall black population in the U.S.

In 2013, about 9% of the black population was documented as being born

outside the U.S., with approximately one-half born in the Caribbean, 35% born in Sub-Saharan Africa, and 9% born in Central and South America.

It is also notable the highest levels of within-population genetic diversity have been reported among persons who self-identified as blacks than among those in other racial groups. Still, nativity and geographic origin among black women has seldom been examined, even as nativity-related differences may improve the understanding of the etiologic heterogeneity of breast cancer.

Investigators, led by Hyuna Sung of the American Cancer Society, examined the prevalence of triple-negative and hormone receptor-negative breast cancer among black women in the National Program of Cancer Registries and U.S. Cancer Statistics.

The authors identified 65,211 non-Hispanic black women who were diagnosed with invasive breast cancer from 2010 through 2015 and who were recorded as being born in the U.S., East Africa, West Africa, or the Caribbean.

They found compared with U.S.-born black women, the prevalence rate ratio of triple-negative breast cancer was 13% lower among Caribbean-born women, and 46% lower 0.54 among Eastern-African–born black women.

“It is not clear what risk factors are associated with subtype prevalence by birthplace,” said Sung. “However, the similarity in breast cancer subtype prevalence between U.S.-born and Western-African–born blacks, contrasted against the differences with Eastern-African–born blacks, may in part reflect shared ancestry-related risk factors.”

The authors conclude “presenting breast tumor subtype in black women as a single category is not reflective of the diverse black populations in the nation. Their study “calls for a concerted effort

for more complete collection of birth-place information in cancer registries.”

DRUGS & TARGETS



FDA approves chemoimmunotherapy regimen in diffuse large B-cell lymphoma

FDA granted accelerated approval to Polivy (polatuzumab vedotin-piiq), a novel antibody-drug conjugate, in combination with the chemotherapy bendamustine and rituximab product, to treat adult patients with diffuse large B-cell lymphoma that has progressed or returned after at least two prior therapies.

FDA granted the approval of Polivy to Genentech. It granted the application Breakthrough Therapy and Priority Review designations. Polivy also received Orphan Drug designation.

Polivy is an antibody that is attached to a chemotherapy drug. Polivy binds to a specific protein (CD79b) found only on B cells, then releases the chemotherapy drug into those cells. Efficacy was evaluated in a study of 80 patients with relapsed or refractory DLBCL who were randomized to receive Polivy with BR or BR alone.

Efficacy was based on complete response rate and duration of response,

defined as the time the disease stays in remission. At the end of treatment, the complete response rate was 40% with Polivy plus BR compared to 18% with BR alone. Of the 25 patients who achieved a partial or complete response to Polivy plus BR, 16 (64%) had a DOR of at least six months and 12 (48%) had a DOR of at least 12 months.

FDA approves two indications for Keytruda

FDA has approved Merck's Keytruda as monotherapy in patients whose tumors express PD-L1 (Combined Positive Score ≥ 1) or in combination with platinum and fluorouracil for the first-line treatment of patients with metastatic or unresectable, recurrent head and neck squamous cell carcinoma.

The approval is based on results from pivotal phase III KEYNOTE-048 trial, where Keytruda demonstrated a significant improvement in overall survival compared with the EXTREME regimen (cetuximab with carboplatin or cisplatin plus FU) as monotherapy in patients whose tumors expressed PD-L1 (CPS ≥ 1) (HR=0.78 [95% CI, 0.64-0.96]; p=0.0171) and in combination with chemotherapy in the total study population (HR=0.77 [95% CI, 0.63-0.93]; p=0.0067).

With these new indications, Keytruda is the first anti-PD-1 therapy approved in the first-line setting as monotherapy in patients whose tumors express PD-L1 (CPS ≥ 1) or in combination with chemotherapy regardless of PD-L1 expression for patients with metastatic or unresectable, recurrent HNSCC and the first anti-PD-1 therapy to demonstrate a statistically significant improvement in OS in these patients.

Keytruda was initially approved for the treatment of patients with recurrent or metastatic HNSCC with disease progression on or after platinum-con-

taining chemotherapy in 2016 under the FDA's accelerated approval process based on objective response rate data from the phase Ib KEYNOTE-012 trial.

In accordance with the accelerated approval process, continued approval was contingent upon verification and description of clinical benefit, which has now been demonstrated in KEYNOTE-048 and has resulted in the FDA converting the accelerated approval to a full approval.

This approval is based on data from the prespecified interim analysis of the phase III KEYNOTE-048 trial, a randomized, multi-center, open-label, active-controlled trial conducted in 882 patients with metastatic HNSCC who had not previously received systemic therapy and who were considered incurable by local therapies.

Randomization was stratified by tumor PD-L1 expression (Tumor Proportion Score $\geq 50\%$ or $<50\%$) according to the PD-L1 IHC 22C3 pharmDx kit, HPV status according to p16 IHC (positive or negative), and ECOG Performance Status (0 vs. 1). Patients were randomized 1:1:1 to one of the following treatment arms:

- Keytruda 200 mg intravenously every three weeks;
- Keytruda 200 mg intravenously every three weeks, carboplatin AUC 5 mg/mL/min intravenously every three weeks or cisplatin 100 mg/m² intravenously every three weeks and FU 1000 mg/m²/day as a continuous intravenous infusion over 96 hours every three weeks (maximum of six cycles of platinum and FU);
- Cetuximab 400 mg/m² intravenously as the initial dose then 250 mg/m² intravenously once weekly, carboplatin AUC 5 mg/mL/min intravenously every three weeks or cisplatin 100 mg/m² intravenously every three weeks and FU 1000 mg/m²/day as a continuous intravenous infusion over 96 hours every three weeks (maximum of six cycles of platinum and FU).

Among the 882 patients, the study population characteristics were: median age of 61 years (range, 20 to 94), 36% age 65 or older; 83% male; 73% White, 20% Asian, and 2.4% Black; 61% had ECOG PS of 1; and 79% were former or current smokers. Twenty-two percent of patients' tumors were HPV positive; 23% had PD-L1 TPS $\geq 50\%$; and 95% had stage IV disease (19% were stage IVA, 6% were stage IVB, and 70% were stage IVC). Eighty-five percent of patients' tumors had PD-L1 expression of CPS ≥ 1 , and 43% had CPS ≥ 20 .

Treatment with Keytruda continued until RECIST v1.1-defined progression of disease as determined by the investigator, unacceptable toxicity, or a maximum of 24 months. A retrospective re-classification of patients' tumor PD-L1 status according to CPS using the PD-L1 IHC 22C3 pharmDx kit was conducted using the tumor specimens used for randomization.

The main efficacy outcome measures were OS and progression-free survival as assessed by blinded independent central review according to RECIST v1.1 (modified to follow a maximum of 10 target lesions and a maximum of five target lesions per organ) sequentially tested in the subgroup of patients with CPS ≥ 20 , the subgroup of patients with CPS ≥ 1 and the overall population.

In KEYNOTE-048, the safety of Keytruda, as a single agent and in combination with platinum (cisplatin or carboplatin) and FU chemotherapy, was investigated in patients with previously untreated, recurrent, or metastatic HNSCC.

The median duration of exposure to KEYTRUDA 200 mg every three weeks was 3.5 months (range, 1 day to 24.2 months) in the KEYTRUDA single agent arm and was 5.8 months (range, 3 days to 24.2 months) in the combination arm.

Keytruda was discontinued for adverse reactions in 12% of patients in the Keytruda single agent arm. The most common adverse reactions resulting in

permanent discontinuation of Keytruda were sepsis (1.7%) and pneumonia (1.3%).

FDA approves PD-L1 IHC 22C3 pharmDx assay in HNSCC

FDA has approved Agilent Technologies Inc.'s PD-L1 IHC 22C3 pharmDx assay for expanded use.

The assay is now approved as an aid in identifying patients with head and neck squamous cell carcinoma for treatment with Keytruda (pembrolizumab), anti-PD-1 therapy manufactured by Merck.

Keytruda, as a single agent, is indicated for the first-line treatment of patients with metastatic or unresectable, recurrent HNSCC whose tumors express PD-L1 (CPS ≥ 1) as determined by an FDA-approved test.

PD-L1 IHC 22C3 pharmDx is the only companion diagnostic FDA-approved to aid in the identification of HNSCC patients for treatment with KEYTRUDA. HNSCC is the fifth cancer type for which PD-L1 IHC 22C3 pharmDx has gained FDA approval in the U.S.

Keytruda is a humanized monoclonal antibody that increases the ability of the body's immune system to help detect and fight tumor cells. Keytruda 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.

Agilent developed PD-L1 IHC 22C3 pharmDx in partnership with Merck & Co. PD-L1 IHC 22C3 pharmDx also helps physicians identify non-small cell lung cancer, cervical cancer, gastric or GEJ adenocarcinoma, and urothelial carcinoma patients for treatment with Keytruda.

PD-L1 expression in NSCLC tissues is interpreted using Tumor Proportion Score. PD-L1 expression in HNSCC, urothelial carcinoma, cervical cancer, and gastric

or GEJ adenocarcinoma tissues is interpreted using Combined Positive Score.

Cofactor Genomics joins FNIH Biomarkers Consortium

Cofactor Genomics said it has become a member of the Foundation for NIH Biomarkers Consortium with the goal of advancing the adoption of multidimensional biomarkers in cancer and immune-related diseases.

Formally launched in 2006, the FNIH Biomarkers Consortium is a major public-private biomedical research partnership managed by the FNIH with broad participation from stakeholders across biomedical research, including government, industry, academia, patient advocacy, and other not-for-profit organizations.

In addition to the FNIH, founding members include NIH, FDA, the Pharmaceutical Research and Manufacturers of America, the Centers for Medicare & Medicaid Services, and BIO.

The FNIH Biomarkers Consortium brings together expertise and resources of various partners to rapidly identify, develop, and seek qualification of potential high-impact biomarkers particularly to enable improvements in drug development, clinical care, and regulatory decision-making.

Cofactor's success in demonstrating the utility of Predictive Immune Modeling with their ImmunoPrism assay positions them to add value to a number of the initiatives of the FNIH Biomarkers Consortium, specifically in the area of inflammation, immunity, and cancer.

Cofactor's technical teams will participate in the FNIH Biomarkers Consortium and offer expertise in ImmunoPrism reagents and services to achieve advanced profiling of immune response.

The Cancer Letter wins investigative, design awards

The Cancer Letter won four 2019 Dateline Awards from the Washington, D.C. Chapter of the Society of Professional Journalists:

- Investigative Journalism, Newsletter/Trade Publications, first place, for "When Surgical Innovation Kills," by Matthew Ong
- Front Page Design, Newsletter/Trade Publications, first place, by Jacqueline Ong and Katherine Goldberg
- Photo Illustration, Newsletter/Trade Publications, first place, by Katherine Goldberg
- Series, Newsletter/Trade Publications, finalist, for "From Rhetoric to Harm," by Paul Goldberg and Matthew Ong

Ong has won six Dateline Awards over the past five years. This is the third time Ong has won a first-place Dateline Award for his investigative work on minimally invasive surgery and cancer-related outcomes.

Ong's series has also received awards from six organizations, including the National Press Club, the national Society of Professional Journalists, and the National Institute for Health Care Management (The Cancer Letter, How Medical Devices do Harm, 2014-2017; When Surgical Innovation Kills, 2018-2019.)

This is the second consecutive year The Cancer Letter has won first-place design awards.

Here are a few of The Cancer Letter's award-winning covers published in 2018:

