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GARY REEDY DESCRIBES PLAN FOR TURNING AROUND THE AMERICAN CANCER SOCIETY

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Q & A

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

CONVERSATION WITH THE CANCER LETTER

Gary Reedy describes plan for turning around the American Cancer Society

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Gary Reedy
CEO of the American Cancer Society

Gary Reedy has a big turnaround project on his hands.

As CEO of the American Cancer Society, he has to stem the charity's decade-long decline in gross receipts, which has been slipping gradually from around $1.039 billion to the 2016 level of $779 million.

In addition to being one of the oldest charities and having one of the most recognized health organizations in the US, ACS is the largest continuous private funder of cancer research. While other organizations are more focused on specific diseases and treatment modalities, ACS, is big—the biggest.

If it can be reengineered, i.e. if it can find new urgency and new ways to raise money, ACS might be positioned to stand up for the needs of cancer patients and the future of cancer research as it is being threatened by the Trump administration's budgetary priorities.

The society has been around since 1913. Its critics say it has grown stodgy, bureaucratic, not sufficiently focused on research, reliant on fundraising practices of a different era, a big political and economic structure in search of urgency. ACS has been trying to streamline its organization for decades, and in 2011, it took fiduciary control from its 12 autonomous divisions, creating a single structure (The Cancer Letter, Nov. 18, 2011).

TOTAL PUBLIC SUPPORT	
2007	$1B (rounded from $1,039,325)
2008	$1B (rounded from $1,008,462)
2009	$930M
2010	$898M
2011	$896M
2012	$889M
2013	$885M
2014	$840M
2015	$810M
2016	$779M

Source: American Cancer Society

For decades now, it has been weathering competition from groups focused on specific diseases—hematologic malignancies, breast cancer, prostate cancer, pancreatic cancer. Some of these groups are nimble, able to energize their constituencies.

In a move that signals a new open style at ACS, Reedy, a former Johnson & Johnson executive and a long-time ACS volunteer, agreed to sit down with Paul Goldberg, editor and publisher of The Cancer Letter, for an in-depth conversation focusing on the obstacles ACS faces today and to brainstorm ways to overcome them.

"From my standpoint as I sit here, I'm grateful for the incredible grassroots network that we have and for every one of those people that gives us $45 or $50 at a time, but I also see incredible opportunity to keep that base and hopefully continue to grow it, but also to expand up the pyramid, if you will, into sports, into entertainment, into corporations, and into high net worth individuals," Reedy said.

Reedy is a pharma industry guy. He came up through SmithKline Beecham, Centocor, and J&J. After 37 years in pharma jobs, he is accustomed to cranking out tangible results, ambitious sales quotas, quantifiable targets, aggressive strategies.

"The society has got, I'd say, somewhat of a risk-averse culture, and I'm really trying to change that because I believe passionately in our mission and what we're here for. And I believe we have to take some risks," he said in a conversation with The Cancer Letter. "I told my board, 'We're not going to take any type of risk that's going to intentionally compromise the society or the integrity of the society, but we're going to take some risks. And some of them aren't going to turn out so well, but we're going to learn from those and we're going to move on, we're going to move forward.'"

Reedy has been in the ACS job for almost three years now, and his contract has been extended by another three. This should be enough to change the slope of the gross receipts curve, he says.

His challenges include finding a fundraising strategy that will fill in the funding gaps left by the ACS biggest fundraising program, called Relay for Life. During these events, members of competing teams take turns circling a track in such a manner that every team has a member on track at all times. Relay events last for six to 24 hours.

"The truth be told, I think that we were a little slow as far as refreshing the product and as far as changing the product and saying, 'Look, it doesn't have to be a specific way. The most important thing is that you're coming together as a community to take a stand against cancer. Whether you want it to be for 24 hours or if you want it to be for 12 hours or six hours or whatever, do it the way that your community wants to do it,'" Reedy said.

Reedy said the society will grow Relay, but will also move toward raising funds from corporate donors and high net worth individuals, as well as pursue "venture philanthropy" projects, where donors would be able to make tax-deductible contributions for ACS to use to invest in cancer ventures.

"What we're going to be doing is investing in both early-stage, late-stage companies, technologies, and all in the cancer world, obviously, but we'll be investing either for an equity position or revenue stream so that, as the product or the company and as they reach commercialization or they're sold or whatever, then whatever our position is in that company, we'll be able to cash that in and put it right back into the

research pot." Reedy said. "The American Cancer Society is putting in the first $10 million, and then we're going to match the next $15 million that we raise, and we have a target to raise at least $100 million in the first year or so."

During the Moonshot years, Reedy made a pledge to nearly double the commitment to research, increasing it from the current level of $150 million to about $250 million. That doubling would also include investment in commercial projects, Reedy said.

Paul Goldberg: Could I ask you to help me understand where ACS is now and what the future looks like? In 2007, ACS grossed about over a billion, what are you grossing now?

Gary Reedy: We peaked out in 2007-2008 right around $1.1 [billion], and now we're a little north of $800 million.

What happened?

GR: Paul, I think what happened more than anything else—a couple things.

First of all, 2008 happened, and that was tough on everyone, and the same time that that was going on, our biggest revenue producer that we've ever had, Relay for Life, was entering the decline phase of its lifecycle. And that was a huge moneymaker for us, and it has continued to decline every year since 2008. So, not all of that decline came from Relay, but the majority of it did.

What happened to Relay? Why would it not continue to pump money?

GR: First of all, it started in 1985, so everything goes through a life cycle. In 2008, it was 20-some years old. So that happened, but the other thing is that we've seen, Paul, and I think other charities will probably say they've seen this as well, is that the community peer-to-peer fundraising has really declined.

If you think about it, how things have changed in the last 30 years, when people used to have more free time on their hands, and could engage in events, and you could take your family and go places and spend... heck, when Relay started, it was a 24-hour event. Fast-forward 30-some years, and things are so hectic today.

And if you look at community fundraising across the board, it's actually showing declines. I think it just has to do with the world we live in today, that people are getting much more interested in raising money different ways and, as I like to say, "having an experience" and being able to "get in and get out."

So maybe you go for something that lasts a couple hours, and then you go on to your kid's soccer games or whatever. I think that's the biggest thing is Relay had been around for a long time had really, I think, done a terrific job as far as bringing communities together, bringing survivors together.

The truth be told, I think that we were a little slow as far as refreshing the product and as far as changing the product and saying, "Look, it doesn't have to be a specific way. The most important thing is that you're coming together as a community to take a stand against cancer. Whether you want it to be for 24 hours or if you want it to be for 12 hours or six.

What's also interesting is the sociology on that. I've been covering this field long enough, I guess, to remember the precincts as part of ACS. I mean, there used to be this massive grassroots structure. And, of course, you had more divisions than there were states when John Seffrin took over. And now, over many years it's been trimmed quite a bit. What I'm wondering about is whether there's a cost to that as well? Of course, there are savings from it, but the cost is that the link with the community, the urgency of it. It's not so local anymore. Is that what might be happening?

GR: I think that there is some truth there, Paul. And if you look at where we are now—and I've been a volunteer with this society since 2000, so I've actually witnessed a lot of this as a volunteer and also as a board member.

I think, going back to 2012-2013, when we made the decision to move from a federated model with these individual governing units into a single enterprise, I think that some of the communities felt abandoned. And I believe here in the next two or three years post that time, that we became in many ways more centralized than decentralized. And also, the federated model, you have, I guess, ultimate decentralization with each of the government units more or less calling the shots.

I think there we got out of the communities some, maybe not and totally by design are intentional, but I think what we're doing now is we are getting back into the communities. And what we did this past year, we went from 11 divisions to six regions, to 46 markets.

The idea here is to really get back into those markets to where it's the volunteers along with the staff in those respective markets that are saying, "Okay, this is how we want to fight cancer in our markets. This is what makes the most sense, this is what's going to have the greatest impact, and this is how we want to raise funds to help pay for that."

One of my goals that I have had since I walked in here was to give the society back to the volunteers.

We started in 1913. A group of volunteers formed at that time the American Society for Cancer Control, and it's been volunteer-led and staff-supported for that entire time. I think there was a period of time there when we became a little bit more, in the other direction, a little more control and command from the staff standpoint, and probably disenfranchised some of our volunteers in some of our communities. But now we're trying to get back to what made us great as far as really being much more, I like to say, customer-focused.

Face it, if not for volunteers out there helping us fight this fight, we would not be able to do a third of what we do. I'm trying to put the society back in the hands of the volunteers, so that they can really be passionate about helping us deliver on the mission in their respective markets and communities, and also be passionate about helping us raise funds to support those activities.

I guess that's a question of urgency. How do you get urgency? How do you wrap it up? I'm sure you have some urgency, but one can always use more.

GR: I'll tell you one thing, Paul, I have incredible urgency, and I know my board of directors does, too.

When I was chair of the board back in 2012-2013 and we went to a single enterprise versus a federated model, we also downsized the board from 43 board members to 21, and in doing that, we also transitioned to a competency-based board versus a geographically based board.

And I will tell you, each year the board has gotten stronger and stronger, as far as looking at the competencies, that we need to be as impactful and as relevant as possible, and to help us think about new ways of having mission impact, and new ways of raising revenue.

The board has a high sense of urgency, as do I, as does my senior leadership team. And I would say that within the organization now, both at the staff and the volunteer level, that people are excited and are really wanting to get down to the work of delivering a mission and raising revenue.

Now, does everyone have the same level of urgency? No. I mean I think that would be highly unusual if they did, I would love if they did, but I think people are getting more excited, both the staff and volunteers, about the society and what it is we're doing and how we're doing it, that they're wanting to be part of it.

You've had time to assess the whole situation, it's been more than two and a half years; right?

GR: Yeah, a little more than two and a half years. I started at the end of April in 2015. It's been two years and eight months.

Doubling research

By now, you must have a pretty clear idea of how you turn this around and really make it work, and give it the urgency. How do you do it?

GR: I'll tell you, I feel that I do, and I'll tell you one of the first things that we did.

I think one of the smartest things we did, Paul, when I came in is we went through a strategic planning exercise with the board and put together a strategic plan. And we actually did it in a 90 day period of time, which was pretty remarkable, but had full board buy-in and we were all excited, because we felt great about the plan.

I cautioned the board, I said, "Look, putting strategic plans is the easy part, executing against it is the toughest part, because many times organizations both for-profit and not-for-profit spend a lot of time doing strategic planning, then they take the plans, put them on the shelf, and may or may not dust them off and look at them." But we have really been executing this plan ever since we approved it in November of 2015.

What we're doing is, from a mission standpoint, we are really putting a lot of focus on research. The society today is the largest not-for-profit private funder of cancer research in the United States. We fund about $125 million of basic research grants per year, and we said that we want to double that.

We said in 2016 that we wanted to double it in the next five years to get it to $250 million a year that we want to be funding. And we're also looking at what we're doing from a cancer control standpoint.

And versus trying to be everything to everybody, we're saying, "Okay, based upon our experience, our knowledge and our skillsets, what is it that we can really either lead or participate in and have the greatest impact?"

From a cancer control standpoint, we're looking at major platforms. We had a platform going for the last couple years to get 80 percent of the eligible population in the U.S. screened for colon cancer by 2018, and have really been working diligently on that and are making fairly significant progress. Will we get to 80 percent by the end of 2018? No, I don't think so. We will, within some age populations, but not across the board. We've made a lot of progress, there's a lot more people that are not going to be dying from colon cancer as a result of that, and obviously we're going to keep on going with the campaign.

We're getting ready at the first of 2018 to launch a campaign to eliminate all HPV-related cancers globally through getting young boys and girls vaccinated. We've got a vaccine out there now that works against 90 percent of the HPV-related cancers out there, so we think there's a terrific opportunity both in the U.S. and really outside the U.S. to eradicate these cancers, cervical cancer being the most prominent, once and for all. We're taking on major platforms like that from a mission and from a cancer control standpoint.

From a patient services standpoint, we have our call center that's available 24/7, 365. I mean, each year, it takes over a million and some calls from people asking for help or looking for hope or just wanting to talk to someone. We're really beefing up that. We're beefing up our lodging program with our Hope Lodge and our hotel partners, and we're really beefing up our transportation services through our volunteers and through some other pretty innovative partnerships. And then we're looking at new revenue streams.

Pursuing corporate giving

Let me interrupt you for a second. Remember John Seffrin [immediate past ACS CEO] used to say that the ACS raises money $60 at a time?

Is that feasible anymore? What are the alternatives?

GR: Fortunately, we have got an incredible grassroots base, who are Relay for Life and our community events help us raise that money. Sixty dollars at a time is being generous, it's more like $45 at a time. But where we have not played and played very effectively, Paul, is through partnerships and through partnerships with corporations, through getting funding through foundations, through high net worth donors, working with high net worth donors to deliver on the types of programs in cancer research and cancer control that they want to.

We have not been very successful either in the sports field or the entertainment industry, so we're starting to develop some relationships and partnerships there to help other organizations join with us to raise money on behalf of cancer.

From my standpoint as I sit here, I'm grateful for the incredible grassroots network that we have and for every one of those people that gives us $45 or $50 at a time, but I also see incredible opportunity to keep that base and hopefully continue to grow it, but also to expand up the pyramid, if you will, into sports, into entertainment, into corporations, and into high net worth individuals.

Urgency—in Washington and globally

And to expand the mission to international as well, right?

GR: We are. I don't know if you saw the article in The New York Times.

Yeah, I wanted to get to that. Yes, it's similar to what Cancer Research UK is doing and similar to a lot of what the other people are doing, which is I guess is where things are going, to go towards more of an international role.

GR: I think we have to play a role internationally to the extent that we can. Now, we're not hiring people to work outside the U.S., we have a global group here. It's not a very large group at all, but we work through partnerships and we work with other organizations and countries and with other cancer organizations to both share our knowledge and expertise, and to partner with them to put together something that hopefully is sustainable.

If I look outside the U.S. and see what the cancer burden is, it's hard to not engage in that, because you can have an impact.

What about Washington? Right now, there is obviously no shortage of controversies, and with those controversies there are opportunities to enhance urgency—by standing up for the people who give you the $60 at a time or $45 at a time or others.

GR: I think you're very familiar with our 501(c)(4) organization—the ACS Cancer Action Network. And we are very active at both the state and the federal level. I mean we have people in every state, and then we've got some of the best policy talent and lobbyists in D.C. that advocate daily on behalf of cancer patients.

And this always gets to be sticky, and especially in today's environment, if you come out in support of something or if you come out opposed to something based upon which side of the aisle created it, then all of a sudden you're labeled "partisan." And, obviously, ACS CAN is absolutely, as is the American Cancer Society, non-partisan.

What I tell people all the time, Paul, is we advocate through the lens of the cancer patient. We are advocating on behalf of cancer patients and what's best for cancer patients. We have a saying here at the American Cancer Society that where you live should not determine if you live. We're always advocating for increased research funding, we're advocating for increased access to care, we're advocating for increased screening.

We are very actively engaged in Washington, and you'll see us come out—on some legislation reviews we'll say, "Absolutely, no, oppose this," because of the impact it's going to have on cancer patients, and on other legislation we'll say, "Hey, these parts of it are really good for cancer patients, but these parts are not."

I see you doing it; don't get me wrong. I'm just wondering whether enough people see you doing this. I'm still stuck on the question of urgency.

GR: It's interesting that you say that, because what we try to do, and some people have said to me before, "Gary, you should be out there and you should be on the national networks and you should be talking about health care, and you should be talking about what cancer patients need."

And I don't necessarily disagree with that, but what we're trying to do is work through our network and our systems to be as effective as possible. I can tell you there is a huge sense of urgency there. But anything we can do to create greater urgency—that's one of the things I'm trying to do here with the society—my whole thing, Paul, is relevance.

That's another way of saying urgency.

GR: Yes. I've said to the staff and to the volunteers, "We have got to focus on relevance. What we're doing, we have to make sure that it is relevant to eliminating this disease and hopefully accelerating the progress towards the elimination of it." And I said, "Only if we are relevant, then will we have the opportunity for people to invest in us."

And I personally have gotten rid of the term "donor." I use the term "investor," because whether someone's investing $50 in the American Cancer Society at a time or whether they're investing $50 million, to me they're both investing that money in us because they feel like that we're one of the best games in town for making a difference, for making an impact.

Relevance, nimbleness, urgency—I've said over and over to my staff and to the volunteers, "If we're not being nimble, if we're not being urgent, if we're not taking risks, then who should be? Because our mission is to help eliminate this disease."

Why am I not seeing you on national TV right now? I'm on the question of getting credit for, if we're building up the urgency or for standing up for your constituency at this time.

GR: Yes. As a matter of fact, and I will tell you, Paul, as we said, I've been here 32 months, and I have intentionally spent my time really listening, really examining the organization, really laser-focused and executing this strategic plan. We've made great progress on execution of the plan, and I've got a really good leadership team in place, and my plan for 2018 is to be out there more and to be more visible.

In person—you?

GR: Yes, me personally. I'll tell you, it's funny, I've had a chance to talk to a lot of volunteers and some people that didn't even know me, that I've just met at conferences, and they all same the same thing, they say, "The American Cancer Society needs a face. People know the society, but they need a face to connect to a society."

And they say, "And you should be that face. You should be out there and you should be advocating on behalf of these cancer patients, and you should

be carrying the American Cancer Society flag on a national level." And I said, "Look, I don't disagree with you, and I would be happy to do that and I will do that, but I want to make sure that we have our house in order before I go out and start on the speaking circuit or whatever." But the plan for 2018 is for me personally to be out and to be much more visible.

What would Mary Lasker say?

I'm glad I asked. What would Mary Lasker say right now? She would probably say, "Go out there, Gary."

GR: Mary Lasker is a true inspiration to me. I didn't know her personally, but boy, the people I run into that actually knew her and just reading about her—and I tell people this, Paul, and I don't know if you agree or not, but I think that she is the one person that had more of an impact on this organization than anyone else that I know.

Of course. Well, she bought it from the surgeons. She made it more public. She was fighting the good fight in a way that really I, in my career, I have really not seen ACS fighting in the same way. And maybe it's time.

GR: As you well know, she's the one who changed the name. She changed it from the American Society for Cancer Control to the American Cancer Society. No, I'll tell you what, I would relish the opportunity to even do to a small degree what Mary was able to do for the society as far as, really, it's relevant, it's prominent, making sure that the society was front and center on all these issues. And my intention is to do that to the best of my ability.

Well, you're changing the trajectory. I mean that's your job now, right?

GR: Right, right.

Mary Lasker did more than change the trajectory—the National Cancer Act happened because of her.

GR: Right, absolutely.

It's hard to go back to the numbers after talking about Mary Lasker, but what's the percentage of the money you raised that goes to the mission?

GR: 75 percent.

And you're spending about $125 million on research?

GR: Research, right. Actually, in 2016 it was $150 million.

Oh, $150 million. That's with direct and indirect costs?

GR: Yes. And that's both our research as well as our intramural program. That's research combined. Our intramural program is the one that produces Cancer Facts & Figures and all the nutritional information and all the prevalence and all that. A little north of $150 million in 2016.

"Venture philanthropy"

Yeah. And Joe Biden got you to commit to $250 million—is that still going to happen?

GR: That's the plan. We're definitely focused on that, and I'd love to tell you right now that I know exactly how it's going to happen, but we have two or three different initiatives that we're working on that we think will get us there, but that's still the plan. By the end of 2021, I want to say that we have spent at least a quarter of a billion dollars on research.

So that's still on track?

GR: Absolutely. I don't know if you've heard this yet or not, Paul, and probably haven't, because we're just getting ready to officially launch it in 2018, but we are launching a venture philanthropy fund.

I am truly excited about this. We've already set it up as a separate LLC of the American Cancer Society, non-profit. People can invest in this fund and they'll get the whatever tax treatment that they would get for supporting a non-profit, they'll get that same tax treatment. But they will not be getting a return, because any returns that we get from our investments we're going to plow right back into the fund.

And what we're going to be doing is investing in both early-stage, late-stage

companies and technologies, all in the cancer world, obviously, but we'll be investing either for an equity position or revenue stream so that, as the product or the company and as they reach commercialization or they're sold or whatever, then whatever our position is in that company, we'll be able to cash that in and put it right back into the research pot.

What I like to tell people is that we have a fairly significant track record in funding research, or at least identifying good research to fund. And as you well know, 47 of our researchers have gone on to win the Nobel Prize, and we have a bunch more in queue that will be winning it. I like to tell folks that this is a good way to increase the probability that you could have a major impact in finding one of the next cancer breakthrough—plus it is something that you can feel like that you're a part of it.

We're going to use our scientific advisors and our business advisors on the fund, as well as our extensive network of researchers to look at these opportunities, and try to invest in the ones that we think have the greatest potential.

There's going to be a lot of them that are not going to progress. That's just the nature of research. But all you need is a few singles and a double and a triple and maybe somewhere down the road, a home run, and you have this sustainable model for funding research.

So we're going to launch it in first quarter of 2018. The American Cancer Society is putting in the first $10 million, and then we're going to match the next $15 million that we raise, and we have a target to raise at least $100 million in the first year or so.

I'm hoping, Paul, that we can start making some investments, and then, three or four years down the road, hopefully get some returns coming in.

And I would love, in the next maybe eight to 10 years, that this fund would be at least up to a half a billion dollars, from the money we've continued to raise, as well as from the returns that we're starting to get back into it. That's the goal. That's going to hopefully create a source of funding for us to continue to invest in and fund the best resources out there.

But that doesn't count against research, right? The $250 million is actually research proper, or is it applied research going through this venture fund?

GR: It will be both. Since this money will be invested in research, it can count towards the $250 million, but that's only when we invest. If we raise $100 million in the next 12 to 18 months, that's not all going to go towards research. Only the year that we invest in technology, would that money go towards research. We could have a $100 million fund, but only invest $15 million of it in any given year, so that $15 million would be counted towards research.

It would be all the money that you would be putting into research to commercialize inventions…

GR: Right, yes. Behind the NCI, we're the second largest funder of basic research, and we're still going to fund that. And I still hope to be able to put at least $125 or $150 million a year into that, because we have so many grants that go through our peer review process that we run out of funding.

It's not for a lack of great science to fund, it's just for a lack of funds to support it. We want to continue to raise as much money as we can to support basic research, but this money raised in this venture fund will be invested specifically in more translational research and technologies that we could hopefully get a return from.

What's the payline now on that? What's the percentage of the pay line?

GR: It's 14% which is lower than I stated. Hopefully we will be able to increase it in the years ahead.

Separate review for commercial projects

How would you manage conflicts in the venture fund, because the investment you'd be making would presumably be altering the marketplace. And what kind of a peer review will you use? Will it be different from the scientific peer review?

GR: We're going to have probably six to eight scientific advisors that are going to be looking at this. That will be their main responsibility.

And these are world-renowned researchers and scientists that will be looking at the type of opportunities that we're thinking about investing in, and hopefully we bring some opportunities to potentially invest in, as well as a panel of six to eight business advisors.

In a lot of ways, we're going to run it like a venture fund because we're running it ourselves, but we're going to use these scientific advisors as well as business advisors to look at the different opportunities to invest in this

early-to-late-stage technology and saying, "Based upon our knowledge, based upon what's going on, we feel like that these investments here are good investments."

Is there going to be some kind of—I don't want to use the "Chinese wall," because I don't think that's the word used anymore—but is there going to be some kind of a separation of church and state? How do you separate it?

GR: Yes. That's why we set it up as a separate LLC. It's going to be called "Bright Edge Ventures" and he type of research that it is investing in will be decided by the scientific investors and business advisors, and it will be totally separate from the type of research that we are funding through a grant review process.

And that will continue to be decided by our review groups and by our extramural research council. It's two separate entities.

This alone could take care of the trajectory problem.

GR: I'll tell you, it's my hope. I'm a very optimistic person, but I try to be conservative on projections. But I have spoken with a lot people, Paul, over the last couple years about this venture fund, and I've spoken with venture capitalists, I've spoken with researchers, I've spoken with high net worth individuals, and people are truly excited about the potential.

And it's all, getting back to your original question around urgency, it's all there to accelerate getting these products to patients sooner, and hopefully ending this disease sooner.

Cancer in Africa vs. HIV in Africa

Now, the international program, it does bring urgency. I didn't understand a couple of things from the New York Times story.

What I didn't understand is, how it actually works, because cancer is really different from AIDS. You're taking cancer drugs that are difficult to transport and have severe side effects, and taking them to a country like Ethiopia, where there are no oncologists, actually. Well, they have four, I believe. How do you make that happen in a better way that actually does benefit people?

GR: And you bring up some very salient points. As you well know, with chemotherapeutic drugs, a lot of them have to be refrigerated, they have to be handled properly, they have to be reconstituted under a hood.

That's part of the whole program, is to make sure that where these drugs are going to be made available, that there is the proper procedures to make sure that they're used effectively, and that there are also oncologists onboard, or if there's not an oncologist—which I'm not aware of, at least the hospitals where we're doing this, they're not all oncologists—but at least they have access to oncology.

There are four or five main partners in this, but one of them is NCCN, and there are a group of oncologists from those countries—I think there's about 40 oncologists, Paul, and they have formed their own group to where they are looking at the NCCN guidelines for these most common cancers and for the chemo therapeutics that are being provided, and working with NCCN to make sure the guidelines are applicable to their individual countries and to their situations so at least they have something to go by on when to use the drugs, how to use it based upon NCCN guidelines.

It's a very involved, extensive process. We're doing some of the work, but there's a lot of people involved in this that are also doing work on the ground. And to your point, a lot of this is more or less patterned after how the AIDS epidemic was addressed.

But that was an easier one, in a way.

GR: Oh, yes.

Because that was just bunch of pills, you take them over, and make sure people take them.

GR: Yes, this is a little more complicated. NCCN is an important partner here, as well as IBM. IBM has provided an incredible service as far as, first of all, developing a tool called ChemoQuant that really helps the hospitals identify, or I should say keep a record of which drugs they have and, which ones they need, and how to procure them so they can get a supply of the drugs and have them on hand.

And then IBM is also working on the example I just shared with you on developing the guidelines with NCCN, developing a guidelines tool for the oncologists to use that has their customized guidelines in it. We're trying to use the knowledge from NCCN, and then also the technology from IBM to put tools in both the pharmacists hands as

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well as the oncologists hands to help facilitate delivery of these drugs.

"There is time"

What's your time frame in terms of changing the trajectory? Are we going to start seeing results soon? How much time is the board giving you?

GR: When I signed on in April of 2015, I signed a three-year employment agreement, and the board just renewed that in November for another three years. That will be April '18 through April '21.

So, you have time.

GR: Yes, there is time. That's the absolute answer. The society, since 2008, that we talked about early on, had experienced revenue declines each year up until 2016, and 2016 we had our first revenue increase in like eight or nine years, and our total revenues were up about three and half percent.

This year they're going to be lower than 2016, but a lot of that was by design, because there were just a lot of fundraising things that we were doing that really were not having that much impact, and at the end of the day were probably costing us more to do them than we were actually getting out of them.

Part of the strategic plan, Paul, was looking at everything we're doing across the board, and looking at it from efficiency and an effectiveness standpoint, and where it's having impact in the communities, where people are engaged, then we are continuing to do that and will continue to, and will also continue to make it more customized.

But in areas where we were doing Relay events or whatever, there was very little engagement and we were putting a lot of time and resources into it, and from a revenue standpoint, we're actually losing revenue. We cut those out. We knew going into '17 that our revenue more than likely was going to be a little bit less than 2016, and it is, but for 2018 going forward, I'm expecting to have revenue increases every year from here on out.

Yes, you also have had some staff cuts. How may people are working at ACS now, and do you need to cut some more?

GR: Since I've been here, we have had three reductions in staff. I was here for about six months, just listening and watching and absorbing before I made any cuts, but I would like to say, Paul, that for the most part, I have made the reductions that I feel like I need to make.

I told the staff, "As long as I'm CEO you can always expect and anticipate change. And I'm not going to be changing just for the heck of changing, but we're going to continually look at the organization and see, how do we need to be organized and what type of competencies and skillsets do we need to have to be as impactful as possible?"

I'm not trying to telegraph massive changes on the front, but what I am trying to telegraph is that it will be constant change. But from my perspective, I feel like that the changes that we've made in the last two and a half years, for the most part, are the most significant changes that we have to make.

To summarize, I guess we will be seeing you speaking more for the society, right?

GR: Yes.

Will we be seeing the society become more of an international organization?

GR: I think we'd say having more global presence. And like I said, it's very important, we're not hiring people in these countries, we're doing this work through partners, just like the African thing with IBM and Clinton Health Access initiative, and NCCN. It will all be through partnerships.

More entrepreneurial?

GR: Definitely, I would say more entrepreneurial, more risk taking. The society has got, I'd say, somewhat of a risk-averse culture, and I'm really trying to change that because I believe passionately in our mission and what we're here for. And I believe we have to take some risks.

I told my board, "We're not going to take any type of risk that's going to intentionally compromise the society or the integrity of the society, but we're going to take some risks. And some of them aren't going to turn out so well, but we're going to learn from those and we're going to move on, we're going to move forward."

Getting back to your urgency question, I feel an incredible amount of urgency. I felt that as a volunteer, and I certainly feel it now as CEO to do whatever we can as quickly as we can to have

an impact on this disease. This year, there's going to be 600,000 Americans that are going to lose their life to the disease, and it will be 8 million people that's going to lose their life to it.

We are making progress, and we're in an unprecedented area of progress right now from a research standpoint, so to me, the urgency should be the highest it's ever been, because I think we have the greatest opportunity to have an impact like we've never had an impact before.

Is there anything we've missed, anything you wanted to add?

GR: The one thing I'll add is, I've gone around the country saying to anyone that will listen that the American Cancer Society is open for business, that we will partner with anyone. That, by doing so, we can have a greater impact on this disease than either of us can have by ourselves.

From my standpoint, people that are involved in cancer, we all have the same mission, we're all involved in it because we want to eradicate this disease, so let's work together and get there quicker versus doing our separate things.

I think down the road that you'll see a lot more collaborations with the American Cancer Society, maybe collaborations with organizations that you would look at as being a competitor, but to me it's all about how fast can we get across the finish line? Let's work together and get there quicker.

Tobacco conflicts policy sacrosanct

I did a story recently about John Seffrin (The Cancer Letter, Oct. 6, 2017). Essentially, it was about the ACS anti-tobacco policy. That's still staying, right?

GR: Yes.

You're not looking at it?

GR: No, I mean our anti-tobacco policy is as strong as it's ever been.

And it's staying strong? It's sacrosanct?

GR: Yes. If you look at tobacco, and as you well know, it's the only product that's regulated by the FDA that if used as intended, will kill at least 50 percent of the people that use it. And I personally have absolutely zero tolerance for tobacco companies and for tobacco, and our position is the same it's always been. We will do anything we can to help people quit.

Well, the comingling of funds is another one. ACS is one of the few places that does not allow it.

GR: Oh, no, you're absolutely right. Yes, absolutely not. That's the other thing I'm excited about, too, is there's a lot more people reaching out to me now to say, "Hey, if you ever have a board seat, I'd love to be on your board."

I think that's a good sign, that people are starting to see the society in a different light, and to see a society that's really out there and has a sense of urgency and is trying to have a huge impact. And I tell people that we're reinventing ourselves to be more relevant and to be more contemporary.

But if a board member has any type of relationship with a tobacco company or has any securities in tobacco companies, they can't be a board member. They could be board member if they sold their securities, but if they have any type of relationship, absolutely not. And we do not take any type of funding from tobacco companies or anything.

The entrepreneurial thing is also coming through. You're obviously thinking entrepreneurially about what the ACS can do.

GR: Well, thank you. I tell folks, Paul, that I spent seven years in the pharmaceutical industry and I said, "Today I am working just as hard as I've ever worked in my career." And I say, "Most evenings I go home fairly exhausted, but I feel great. I just really feel great."

I felt great when I was working in the industry, because I felt like that we were developing drugs that were giving people their lives back and extending their lives, but this is a whole different type of feeling—when you feel like you're involved in something that's really going to impact people's lives not only today, but for generations to come.

Thank you so much.

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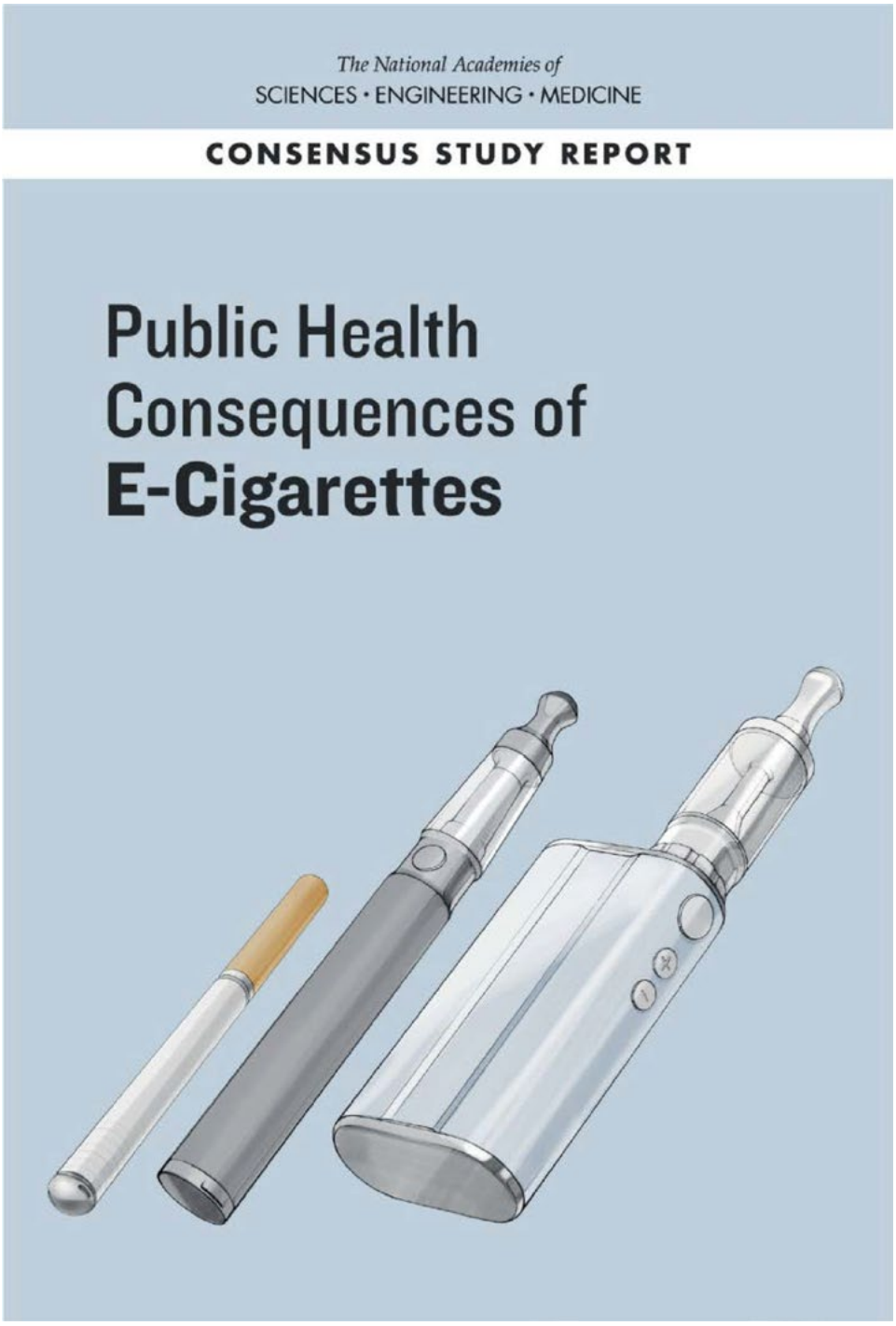
E-cigarettes less harmful than conventional cigarettes, but may lead youth to start smoking, says National Academies report

By Matthew Bin Han Ong



E-cigarettes contain a lower number of toxic substances than conventional cigarettes, but their long-term health effects are not yet clear, the National Academies of Sciences, Engineering, and Medicine concluded in a report published Jan. 23.

The report, commissioned by FDA at the direction of Congress, is the result of a comprehensive and systematic review of over 800 peer-reviewed studies on e-cigarettes. Although the research base is limited, given the relatively short time e-cigarettes have been used, the NASEM committee concluded that e-cigarettes—although not devoid of health risks—are likely to be far less harmful than conventional cigarettes.

E-cigarettes are a diverse group of products containing a heating element that produces an aerosol from a liquid that users inhale via a mouthpiece, and include a range of devices such as "cig-a-likes," vape tank systems, and vape mods. In 2016, e-cigarette use by youths was substantially higher than cigarette smoking or use of any other tobacco product.

Millions of Americans use e-cigarettes, and e-cigarette use is generally greatest among young adults and decreas-

es with age. Use varies substantially across demographic groups, including age, gender, race, and ethnicity. For example, among youth and adults, use is typically greater among males than females, according to the NASEM report.

Among youth—who use e-cigarettes at higher rates than adults do—there is substantial evidence that e-cigarette use increases the risk of transitioning to smoking conventional cigarettes. The NASEM report found that evidence suggests completely switching from combustible cigarettes to e-cigarettes reduces an individual user's exposure to numerous toxicants and carcinogens, as well as reduces some short-term health outcomes.

E-cigarettes cannot be simply categorized as either beneficial or harmful, said David Eaton, chair of the committee that wrote the report, and dean and vice provost of the Graduate School of the University of Washington, Seattle.

"In some circumstances, such as their use by non-smoking adolescents and young adults, their adverse effects clearly warrant concern," Eaton said in a statement. "In other cases, such as when adult smokers use them to quit smoking, they offer an opportunity to reduce smoking-related illness."

Eaton and his colleagues found conclusive evidence that exposure to nicotine from e-cigarettes is highly variable and depends on the characteristics of the device and the e-liquid, as well as on how the device is operated. Also, there is substantial evidence that nicotine intake from e-cigarettes among experienced adult e-cigarette users can be comparable to that from conventional cigarettes.

Other findings include:

- There is conclusive evidence that in addition to nicotine, most e-cigarettes contain and emit numerous potentially toxic substances.
- There is substantial evidence that except for nicotine, exposure to potentially toxic substances from e-cigarettes (under typical conditions of use) is significantly lower compared with conventional cigarettes.
- There is no available evidence whether or not e-cigarette use is associated with intermediate cancer endpoints in humans. According to NASEM, an intermediate cancer endpoint is a precursor to the possible development of cancer. For example, polyps are lesions that are intermediate cancer endpoints for colon cancer.
- There is limited evidence from animal studies using intermediate biomarkers of cancer to support the hypothesis that long-term e-cigarette use could increase the risk of cancer.

prehensive report not only adds to our knowledge base, but also raises some important questions about the net effect of e-cigarettes.

"One finding that's particularly troubling is that kids who experiment with e-cigarettes are more likely to try smoking. At the same time, the report finds that current smokers who completely switch to e-cigarettes may see improved short-term health outcomes.

"Ultimately, this report helps identify areas that need further study to better understand the net public health impact of e-cigarettes as we continue our work on policies to protect kids and significantly reduce tobacco-related disease and death. We need to put novel products like e-cigarettes through an appropriate series of regulatory gates to fully evaluate their risks and maximize their potential benefits."

> "This report shows what happens when a new product is introduced without meaningful government oversight. It demonstrates why the FDA should fully and aggressively implement the overdue e-cigarette regulations that took effect in August 2016."
>
> *– Matthew Myers*

The NASEM report also notes that the wide diversity within electronic nicotine delivery systems or e-cigarettes products poses a challenge for research on their risks and the public health impact.

"We appreciate the National Academies' review of the complex public health considerations around e-cigarettes," FDA Commissioner Scott Gottlieb said in a statement. "Their com-

The NASEM report underscores the need for immediate FDA regulation of e-cigarettes, said Matthew Myers, president of Campaign for Tobacco-Free Kids.

"It is deeply troubling that there are still so many unanswered questions about the impact of e-cigarettes on public health despite the fact they have been on the market for a decade and are being used by millions of kids

MODELING OF E-CIGARETTE USE

Source: The National Academies of Sciences, Engineering, and Medicine

2015-2050 Life-years lost due to e-cigs (in Millions)
E-cigs = 10% x risk of combustibles

Initiation Increases by	Cessation Increases by -5%	0%	5%	10%	15%
0%	1.4	0.0	(1.1)	(2.2)	(3.2)
5%	1.5	0.1	(1.0)	(2.1)	(3.1)
10%	1.5	0.1	(1.0)	(2.1)	(3.1)
25%	1.7	0.3	(0.8)	(1.9)	(2.9)
50%	2.1	0.7	(0.5)	(1.5)	(2.6)

2015-2070 Life-years lost due to e-cigs (in Millions)
E-cigs = 10% x risk of combustibles

Initiation Increases by	Cessation Increases by -5%	0%	5%	10%	15%
0%	2.4	0.0	(2.3)	(4.5)	(6.6)
5%	3.1	0.7	(1.7)	(3.9)	(6.0)
10%	3.8	1.4	(1.0)	(3.2)	(5.3)
25%	5.9	3.4	1.0	(1.2)	(3.3)
50%	9.3	6.8	4.4	2.1	(0.0)

and adults," Myers said in a statement. "This report shows what happens when a new product is introduced without meaningful government oversight. It demonstrates why the FDA should fully and aggressively implement the overdue e-cigarette regulations that took effect in August 2016.

"The FDA should reverse a decision it made last year to delay until August 2022 a key requirement that e-cigarettes already on the market undergo scientific review by the FDA. In addition, the FDA should enforce the requirement that manufacturers who introduce new or modified products provide detailed information about these products and undergo FDA review before these products are allowed on the market.

"This report also shows why Congress must reject a proposal, contained in a House appropriations bill, to greatly weaken FDA oversight of e-cigarettes (and cigars) already on the market, including the candy-flavored products that appeal to kids.

"As today's report demonstrates, effective FDA regulation is key to minimizing the risks and realizing any potential benefits of e-cigarettes."

E-cigarettes are addictive products that require closer scrutiny by FDA, said Harold Wimmer, national president and CEO of the American Lung Association.

"The Academies' thorough and comprehensive review of the science shows clear and convincing evidence that FDA must use its full oversight authority over e-cigarettes to protect the public health," Wimmer said in a statement. "This report, which was done at the behest of Congress, must be used to put an end to the tobacco industry's lingering rhetoric that these products are 'safe' and don't need FDA oversight.

"This report underscores the grave mistake FDA made in July when it announced it would postpone by five years the legal requirement that e-cigarette manufacturers submit their products for FDA review in order to determine whether they should stay on the marketplace. E-cigarettes have become the most popular tobacco product among youth, continuing to attract and addict our kids to nicotine while exposing them to potentially dangerous toxins and carcinogens. FDA must enforce the Tobacco Control Act in order to protect the public health from e-cigarettes."

E-cigarettes may help adult smokers move away from conventional cigarettes, but it does not achieve ending an addiction to nicotine, said American Heart Association CEO Nancy Brown.

"We hope that message is not lost on the public as it absorbs this latest analysis," Brown said in a statement. "As the report concludes there is substantial evidence that users of e-cigarettes can become dependent on these products and that the nicotine intake is comparable to conventional cigarettes. We would add that there is substantial evidence that using e-cigarettes can lead to cardiovascular dysfunction and the National Academies highlights some of that research.

"We must do all we can to stop this disturbing trend before it turns another generation into lifelong tobacco addicts. While the body of research on e-cigarettes is growing, the association maintains that it is far from complete.

"We agree with the National Academies that the jury is still out on the benefits and harmful effects of e-cigarettes, especially in the long-term. Until we have sufficient scientific data, we must have strong FDA regulation of these products and any new versions that come on the market.

"As always, the association will remain vigilant of e-cigarettes and their public health impact and continue our fight to eradicate all tobacco use in our nation."

Shutdown ends, fifth CR likely before Congress votes on FY18 omnibus

By Matthew Bin Han Ong

After a three-day shutdown, the Senate voted 81-18 on Jan. 22 to pass a three-week continuing resolution to keep the federal government funded through Feb. 8.

The federal government shut down at midnight Jan. 20, after the Senate balked at a House stopgap CR that did not include a provision to allow children of undocumented residents to stay in the country.

The shutdown precipitated a weekend of partisan finger-pointing, which lasted until Democrats accepted a promise from Sen. Mitch McConnell (R-KY) to use the stopgap bill to discuss the Deferred Action for Childhood Arrivals program that affects children brought to the U.S. by parents who had immigrated here illegally.

The House passed the CR with 266-159 votes, and President Donald Trump signed the bill Monday night, ending the shutdown and putting hundreds of thousands of furloughed civil servants back to work Tuesday morning, many of them in the Washington, D.C. region.

"I am pleased we've moved past this unfortunate and unnecessary government shutdown," Senate Appropriations Committee Chairman Thad Cochran (R-MS) said in a statement. "We must use the next few weeks to reach a budget agreement and begin to address other national priorities. My committee is more than ready to get to work to finalize the 2018 appropriations bills."

The short-term funding bill—the fourth CR in fiscal 2018—includes a six-year extension of the Children's Health Insurance Program and delays a number of tax increases in the Affordable Care Act. It also keeps funding levels flat for federal agencies, including NIH and NCI, and delays the implementation of the medical device tax for two years.

"We are pleased to see Congress prioritizing access to quality, affordable and comprehensive health care coverage to nearly 9 million lower income children, many whom have been affected by cancer," Chris Hansen, president of the American Cancer Society Cancer Action Network, said in a statement. "The CHIP is an integral part of the safety-net for lower-income children and their families who depend on care through the program."

A prolonged shutdown would damage both parties politically, with mid-term elections only nine months away.

The stopgap measure avoided a complete déjà vu of the 2013 shutdown—a debacle that paralyzed the federal government for 16 days and resulted in a profound loss of momentum at NIH (The Cancer Letter, Oct. 18, 2013).

NIH has a lot at stake. The research institution is poised to receive its third-in-a-row $2 billion raise. If assurances from Congressional leaders are to be believed, the support for the measure to continue to boost NIH funding remains strong and bipartisan (The Cancer Letter, Jan. 19).

The agreement to re-open the government through Feb. 8 does not address the ongoing dispute over the Budget Control Act spending caps—a core issue that has prevented Congress from approving a final FY18 budget for the federal government.

"We sincerely hope that there won't be any additional government shutdowns before Congress is able to reach a long-term bipartisan funding agreement, and we also hope that this most recent CR, which will expire on Feb. 8, will be the last one that's necessary before the FY 2018 appropriations process is finalized," said Jon Retzlaff, chief policy officer for the American Association for Cancer Research. "However, the agreements that were made by congressional leaders to reopen the government on Monday will likely require additional CRs because of the fact that any potential deal on new spending limits will likely have to await a deal on immigration, specifically the efforts and focus by Democrats to protect the many young undocumented immigrants who came to the United States as children from losing the protection of an Obama-era program shielding them from deportation beginning in March.

"In the meantime, AACR leaders will continue to make their voices heard on Capitol Hill, specifically to urge House and Senate leaders to come together to finalize a multi-year, bipartisan budget agreement that raises the budget caps on the non-defense discretionary spending accounts that are currently in place for FY 2018 (that were imposed by the Budget Control Act of 2011)," Retzlaff said to The Cancer Letter. "In fact, 96 distinguished AACR leaders, including the current and past presidents, as well as many other fellows of the AACR Academy, recently signed on to a letter with such a message and shared it with Congressional leaders.

"We are confident that an agreement to raise the budget caps will result in a $2 billion funding increase, to $36.1 billion, for the NIH in FY 2018, which is what was approved last year by the Senate Appropriations Committee."

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>
> *– Jon Retzlaff*

Congressional leaders must still reach an agreement to increase the spending caps, which would allow the Appropriations Committees to develop an omnibus package that includes funding for all agencies and programs, the Federation of American Societies for Experimental Biology said in a statement.

"It will take between three weeks to a month for appropriators to negotiate the omnibus bill," FASEB officials said. "Another CR will be needed to continue government operations beyond February 8.

"FASEB is optimistic that Congress will finalize an agreement on the budget caps soon."

if stakeholders continue to push for a budget deal that raises the caps, a deal will be struck, said Mary Woolley, president of Research!America.

"The most likely scenario is that higher spending levels will be incorporated into an omnibus bill that is signed into law before the next CR expires," Woolley said in a statement. "It was not so long ago that fighting for higher caps was considered ambitious at best, a fool's errand at worst. Now policymakers on both sides of the aisle are treating it as unfinished business."

If Republican and Democratic leaders fail to come to an agreement, sequestration would set in and cuts to military and civilian programs would be made across the board.

"This is the fourth CR passed by Congress since FY 2017 ended on September 31, 2017, which makes it difficult for the NIH, as well as the institutions and scientists it supports, to effectively plan for critical research projects in the years ahead," the American Society for Clinical Oncology said in a statement. "ASCO continues to urge Congress to pass a full FY 2018 funding bill that includes a $2 billion increase to the NIH to continue our momentum against cancer."

IN BRIEF

Attila Seyhan named Fox Chase director of translational medicine operations

Attila Seyhan was named director of translational medicine operations, a newly created position, at Fox Chase Cancer Center.

Seyhan will work closely with Wafik S. El-Deiry, deputy cancer center director for translational research, to manage and promote multiple initiatives, including development of investigator-initiated clinical trials and other translational protocols, protocol writing and manuscript preparation, organization of translational medicine events, support for translational requests for application, and grant preparation and submissions.

He also will work with industry to follow through on investigator-initiated basic and translational letters of intent and concepts. This work will involve collaboration with clinicians, scientists, regulatory personnel, administrators, tech transfer office staff, the grants management office, institutional review board, institutional advancement, and external entities.

A molecular biologist, Seyhan has more than 16 years of experience in drug, target, and biomarker discovery and development, as well as preclinical and clinical translational research, focused on diabetes and metabolic diseases, cancer, inflammation and immunology, molecular virology, and rare genetic diseases.

His most recent position was associate professor at the Translational Research Institute for Metabolism and Diabetes at Florida Hospital in Orlando, FL, and adjunct associate professor at Sanford Burnham Prebys Medical Discovery Institute, in Orlando. In addition, he served as a research affiliate in the department of chemical engineering at Massachusetts Institute of Technology.

Douglas Fraker joins Rutgers Cancer Institute as surgeon-in-chief

Douglas Fraker, an endocrine and oncologic surgeon, has joined Rutgers Robert Wood Johnson Medical School as chair of the Department of Surgery.

Fraker, who led the Division of Endocrine and Oncologic Surgery at the University of Pennsylvania, began his duties as department chair on Jan. 1. He leads the department in each of its mission areas, including the clinical arm, which is a component of Rutgers Health.

He also serves as surgeon-in-chief at Rutgers Cancer Institute of New Jersey and as chief of the surgical service at RWJBarnabas Health's Robert Wood Johnson University Hospital—New Brunswick.

"One of the most attractive aspects of this job is the quality and dedication of the leadership across all divisions," Fraker said in a statement. "As chair of surgery, I intend to work for them to allow each division to grow into a nationally recognized clinical enterprise."

Fraker received his bachelor of arts degree in molecular biology from the University of Wisconsin. He graduated magna cum laude from Harvard Medical School, and completed his residency training in general surgery at the University of California, San Francisco.

Pancreatic Cancer Action Network receives $25 million gift

Skip Viragh

The Pancreatic Cancer Action Network said it has received a $25 million gift—the largest donation in the history of the organization. The gift was made to honor the memory of Skip Viragh, one of the country's most influential mutual fund investment experts, who died in 2003.

PanCAN said it will use the multimillion dollar gift to advance its existing programs and services, including the launch of its clinical trial platform Precision PromiseSM, as well as early detection efforts, the Know Your Tumor molecular profiling service, patient services, and research.

Another $15 million gift was made to PanCAN in 2015 in Skip's memory. That gift led the organization's goal to raise $200 million by 2020 and to launch initiatives considered critical to transforming patient outcomes, such as the Know Your Tumor precision medicine service and the Patient Registry.

NYU and Columbia researchers awarded $3.7M NIH grant for work on oral cancer

The National Institute of Dental and Craniofacial Research has awarded Brian Schmidt of the Bluestone Center for Clinical Research at New York University College of Dentistry and Nigel Bunnett of Columbia University's Departments of Surgery and Pharmacology, a $3.7 million, five-year grant to study proteases and neuronal signaling responsible for oral cancer pain.

Schmidt and Bunnett seek to identify the proteases—or enzymes that catalyze the breakdown of proteins—and signaling pathways that initiate and sustain oral cancer pain. Bunnett and Schmidt collaboratively investigated the role of proteases in oral cancer pain in 2009 when they were faculty at the University of California San Francisco.

Schmidt moved to NYU Dentistry in 2010 and Bunnett moved to Monash University in Australia in 2011. In August, 2016, Bunnett accepted the position of Vice Chair of Research in Surgery and Professor of Surgery and Pharmacology at Columbia University; once again in the same city, Bunnett and Schmidt renewed their collaboration.

Bunnett is an expert on G protein-coupled receptors—over many years, he investigated how proteases and a specific GPCR termed protease-activated receptor 2, mediate neurogenic inflammation and pain.

PAR2 is a signaling receptor that can be activated on the surface of a cell. Bunnett's Nature Medicine publication in 2000 on the role of PAR2 and neurogenic inflammation set the stage for pioneering work that determined the role of PAR2 and TRPV in colitis, neurogenic inflammation, and pain. The role of PAR2 in cancer pain, however, remained unexplored.

Brian Schmidt

Nigel Bunnett

Bunnett investigated PAR2 and endosomal signaling. During the signaling process, an activated cell surface receptor, such as PAR2, is internalized within endosomes—small membrane-bound compartments within a cell. Bunnett and Schmidt now propose to delineate the mechanism by which proteases associated with oral cancer initiate pain signaling through cell surface receptors and subsequently through endosomal signaling.

Study finds cancer patients want to be asked to consider end-of-life care

A study published in JNCCN, Journal of the National Comprehensive Cancer Network, finds a vast majority of patients would like their doctor to ask them about their preferences for end-of-life care.

This is at odds with the fact that less than 10 percent had spoken with their physician about details such as where they would like to die, according to the survey. The researchers found that patients are more likely to spend their final days in a costly hospital environment, despite preferring to be at home or in a hospice facility.

The study was led by Amy Waller, of the Health Behavior Research Group at the University of Newcastle, in Australia. The researchers distributed a paper survey to patients in the waiting room of an oncology outpatient clinic. A total of 203 participants provided survey answers. Of those, 87 percent said they wanted their doctor to ask them about their end-of-life care location, while only 7 percent had actually had that conversation.

Forty-one percent of respondents had discussed their preferences with a support person. Forty-seven percent responded to the survey by stating they would wish to remain at home, 34 percent preferred a hospice/palliative care unit, and just 19 percent would prefer a hospital.

However, a multi-national study found that among cancer patients, between 12 percent and 57 percent spend their final moments at home, while between 22 percent and 78 percent are in hospitals.

Given the sensitive nature of any discussion around end-of-life care, questions remain as to how exactly doctors should start these types of conversations.

In the JNCCN article, the researchers recommend using communication tools such as question prompt lists and hypothetical scenarios to introduce various end-of-life settings as a way of jump-starting this important discussion. Complimentary access to the study, "The Right Place at the Right Time: Medical Oncology Outpatients' Perceptions of Location of End-of-Life Care" is available until March 11, 2018 at JNCCN.org.

Hale family gives $100 million to Brigham and Women's and Boston Children's

Karen and Rob Hale

Boston Children's Hospital and Brigham and Women's Hospital received gifts of $50 million each from Rob and Karen Hale and their family to support innovation and patient care.

Karen and Rob Hale are Boston-area philanthropists with ties to BWH and BCH. Karen serves on BWH's Cancer Advisory Board and Rob, who is CEO of Quincy-based Granite Telecommunications, serves as a chair of BWH's $1.5 billion Life.Giving.Breakthroughs. campaign, as well as on the Steering Committee for Boston Children's Dream, Dare, Deliver campaign.

In recognition of the gift, BWH will name their recently opened building the Hale Building for Transformative Medicine. The building houses the Ann Romney Center for Neurologic Diseases; the Evergrande Center for Immunologic Diseases; The Gillian Reny Stepping Strong Center for Trauma Innovation; The Neurosciences Center; the Orthopaedics and Arthritis Center; and the Brigham Innovation Hub.

The building is also home to an infusion suite and imaging center featuring technologies such as a 7 Tesla MRI, the first to be installed in a clinical setting in North America.

Mt. Sinai receives NIH grant for microscope that sees real-time cellular activity

The National Institutes of Health has awarded a $1.2 million grant to the Mount Sinai Microscopy Core for a state-of-the-art microscope with resolution capabilities that can show structures as small as viruses. The instrument will be used by research teams throughout Mount Sinai Health System.

The grant will fund the purchase of a Leica TCS SP8 STED 3X, a super-resolution microscope, the first at Mount Sinai Health System. This new microscope will allow researchers to perform fluorescence nanoscopy and the ability to see tiny cellular processes that have previously been impossible to see.

The microscope will enable researchers to learn about several cellular processes, by, for example, observing a virus infecting the body, or seeing the molecular changes that occur when a tumor progresses to metastasis. The microscope's super-resolution abilities will allow researchers to make gains in the study of viral infection, neurodegenerative disease progression, developmental brain disorders, metastasis, glaucoma, stress, and depression.

The microscope is set for installation in mid-December and will be accessible to all researchers in various areas of medicine throughout the health system.

NCCN Imaging Appropriate Use Criteria endorsed by Intermountain Healthcare

Intermountain Healthcare has endorsed the NCCN Imaging Appropriate Use Criteria.

NCCN and Intermountain are both recognized by Centers for Medicare & Medicaid Services as approved provider-led entities for development of imaging AUC. Intermountain will aggregate the NCCN AUC for lung cancer with its own AUC and utilize the content for decision support.

Intermountain is one of the largest hospital systems in the United States, serving patients across Utah, Southeastern Idaho, and the surrounding area.

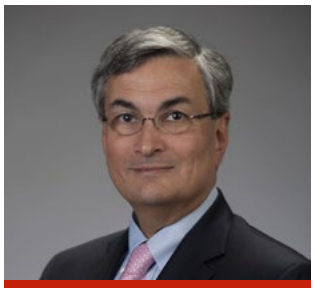
"This agreement with Intermountain helps ensure patients throughout the mountain region are receiving the best, most up-to-date treatment," said Robert Carlson, CEO of NCCN. "The NCCN Imaging AUC is designed as a reference that can be integrated into the appropriate use criteria already in place at Intermountain. By working with a system that includes both large hospitals and community health clinics, we can make sure that the best care is available to patients regardless of location or circumstances."

Derived from the NCCN Clinical Practice Guidelines in Oncology, the NCCN Imaging AUC supports clinical decision-making around the use of imaging in patients with cancer by outlining all imaging procedures recommended in the NCCN Guidelines®, including radiographs, computed tomography scans, magnetic resonance imaging, functional nuclear medicine imaging, and ultrasound.

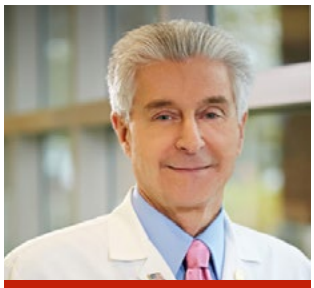
THE CLINICAL CANCER LETTER

TRIALS & TRIBULATIONS

Hybrid cancer centers exploring links with NCI-designated institutions



Derek Raghavan
President, Levine Cancer Institute at Carolinas HealthCare System



Nicholas Petrelli
Bank of America endowed medical director, Helen F. Graham Cancer Center and Research Institute at Christiana Care Health System

Donald L. Trump
CEO and executive director, Inova Schar Cancer Institute

Despite the many advances in oncology, important problems continue to beset the field, including rapidly rising costs, uneven patterns of care, and poor access to (and participation in) cancer trials. A model that has been recently developed and tested to address these issues is the so-called academic hybrid community cancer center.

Although there are variations on this theme, the general concept involves the creation of a community-based oncology center with a multiple hub-and-spoke model that is geographically distributed throughout the community, not tied specifically to a major university program, and which facilitates access to trials, collection of bio-specimens at multiple sites, and creates mechanisms to assess adherence to standards of care and to lower costs compared to centers based solely at major academic centers.

Each center has been developed with central or institutional IRB control over trials, centralized clinical trial opera-

tions, an extensive menu of conventional and molecular tumor boards, and electronic or computer-based tools to allow symmetrical distribution of physician support across the system.

Three instances of this approach are provided by the Helen F Graham Cancer Center/Christiana Care Health System, the Levine Cancer Institute/Carolinas HealthCare System and the Inova Schar Cancer Institute. Each center has arisen in a multi-site healthcare system with large patient numbers, and despite loose associations with a university for training and other educational purposes, each has been focused on care delivery, translational research and clinically related activities and less on classical university functions, such as basic science research, general medical student and resident training and the focus on publication to achieve promotion.

One of the unique characteristics of these centers has been the recruitment of internationally and nationally prominent leaders in medical, surgical, radiation and supportive oncology, as well as faculty members from university-based cancer centers who are clinician-investigators or translational researchers. These recruits have been incorporated into clinical teams integrated with established community oncologists. Thus management and trial menus, in addition to evidence-based clinical management pathways, have been or are being created by integrated tumor-specific teams, comprised of oncologists with both a community practice as well as university cancer center experience.

These teams have been linked electronically, facilitating active participation by more isolated members of the team. In parallel, all academic activities, conventional and molecular tumor boards, research meetings, protocol review sessions, and lectures are electronically accessible using tools like Skype and other electronic conferencing facilities.

The issue of rising costs of care has been addressed, in part, by the creation of multiple outreach programs that provide access to IRB-approved cancer trials, allowing structured research to be conducted in an office setting. This reduces the overhead costs per patient dramatically, while still providing many of the services available in a conventional quaternary referral center. Because the academic hybrid centers have not distinguished between uninsured, inadequately insured and well insured patients, they have served as safety net organizations and are thus able to leverage 340B drug pricing.

In turn, this has facilitated the provision of a broad range of ancillary services, such as genetic counseling, complementary and integrative cancer medicine, and extensive supportive medicine services that are often not available in standard community practices because of the time commitments involved, expense and the complexities of administering them. Furthermore, the widespread distribution of these centers has substantially reduced the need for travel by patients and families, as well as time away from work, further reducing costs of care. Because of active integration of cancer trials into treatment algorithms, free medications are often available, a major benefit in an era of expensive targeted therapy.

Community-wide geographical distribution facilitates addressing the issue of disparities of care. Under-served populations, including African American, Asian, Hispanic patient communities, the elderly and geographically isolated, and rural poor can be managed close to home in this distributed system, once again gaining access to resources that would often require substantial travel.

To date, this model seems to be gaining traction and working effectively. At each center, high patient satisfaction scores have been recorded, cancer trial accruals have increased dramatically, clinician engagement and alignment have increased, and increased numbers of under-served populations have been offered screening, education and treatment and have gained access to cancer trials.

Having established this paradigm, and having shown efficacy in cancer trial recruitment, improved access to care, broader distribution of supportive oncology facilities and resources, and a range of cancer education and prevention activities, these centers are now exploring whether it is feasible to link with established NCI-designated cancer centers, to broaden the impact of NCI funding and make NCI-based resources more accessible to the community at large. One of these centers, as the next step in its evolution, has established a partnership with an NCI-designated basic science center as a new model.

The other two centers are involved in negotiations to assess whether formal relationships with nearby NCI-designated cancer centers will strengthen the model and be of mutual benefit for the centers and the local community by further increasing community access to the resources of the larger centers. Whether it would be feasible for the NCI to become directly involved in this model, and to offer funding independent of quaternary referral centers will be up to the leadership of the NCI.

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CLINICAL ROUNDUP

Opdivo-Yervoy combination demonstrates clinical activity in previously treated metastatic colorectal cancer

Bristol-Myers Squibb Co. announced new data from a cohort of the phase II CheckMate -142 trial evaluating Opdivo (nivolumab) and Yervoy (ipilimumab) for the treatment of patients with DNA mismatch repair deficient or microsatellite instability-high metastatic colorectal cancer.

With a median of 13.4 months of follow-up, the primary endpoint of objective response rate per investigator assessment was 55% (95% CI: 45.2 to 63.8). Responses were durable, with median duration of response not yet reached and 94% of responses ongoing at time of data cutoff.

The overall survival rate at one year was 85% (95% CI: 77.0 to 90.2), and median OS was not yet reached. Grade III-IV treatment-related adverse events occurred in 32% of patients receiving the Opdivo plus Yervoy combination. Patients received mCRC combination dosing of Opdivo (3 mg/kg) plus Yervoy (1 mg/kg) every three weeks for four doses, followed by Opdivo (3 mg/kg) every two weeks until disease progression, death, or unacceptable toxicity.

CheckMate-142 is an international phase II, multi-cohort, open-label, non-comparative trial of Opdivo, or Opdivo combinations, in recurrent and metastatic microsatellite instability-high and non-MSI-H colorectal cancer.

The primary endpoint is investigator-assessed objective response rate using the Response Evaluation Criteria In Solid Tumors version 1.1. Other key endpoints include duration of response, overall survival, progression-free survival, disease control rate, ORR per blinded independent central review, patient reported outcomes and safety.

The Opdivo plus Yervoy combination cohort included 119 patients with a median follow-up of 13.4 months. At the time of data cutoff (July 2017) median PFS was not yet reached, the 12-month PFS rate was 71% (95% CI: 61.4 to 78.7) and the rate of disease control lasting at least 12 weeks was 80%. Investigator-assessed responses were observed irrespective of tumor BRAF or KRAS mutation status, tumor PD-L1 expression or clinical history of Lynch syndrome. Statistically significant and clinically meaningful improvements were observed in key patient reported outcomes, including symptoms, functioning and quality of life.

Treatment-related adverse events of any grade occurred in 73% of patients, with the most common being diarrhea (22%), fatigue (18%), and pruritus (17%).

Select TRAEs of potential immunologic etiology resolved in most patients (range, 71%–96%), except for endocrine TRAEs, which resolved in 40% of patients. No new safety signals or treatment-related deaths were reported. Study drug-related adverse events led to a 13% discontinuation rate, and among these patients the ORR was 63%, which was consistent with that of the overall population.

Opdivo as a single agent is indicated for the treatment of patients with BRAF V600 mutation-positive unresectable or metastatic melanoma.

This indication is approved under accelerated approval based on progression-free survival. Continued approval for this indication may be contingent upon verification and description of clinical benefit in the confirmatory trials.