Board of Scientific Advisors Cancer Centers Working Group

December 1, 2015

Co-Chairs

Chi Dang*, M.D., Ph.D., Abramson Comprehensive Cancer Center
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Members

Mary Beckerle*, Ph.D., Huntsman Cancer Center
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Roy Jensen, M.D., University of Kansas Cancer Center
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Scott Lippman, M.D., Moores Cancer Center
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Timothy Ratliff, Ph.D., Purdue University Center for Cancer Research
Cheryl Willman, M.D., University New Mexico Cancer Research & Treatment Center

Designated Federal Official

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*** Members of NCAB WG (WG no longer active)**

NCI-Designated Cancer Centers are the Centerpiece of NCI's Mission

- The majority of NCI extramurally-funded research occurs at the 69 NCI-designated Cancer Centers
- Centers:
  - critical platform for NCI's clinical trials effort
  - precision medicine initiative
- Centers leveraging CCSG: institutional, state, philanthropic and foundation funding
- Cancer Centers promotes collaborations and team science, leading to higher quality applications for NCI research project grants

Purposes of this Working Group

- Consider and comment on the funding proposal that NCI presented
- Advise NCI on topics of interest for the next Directors' Meeting on May 2, 2016
- Help NCI develop compelling supplement opportunities to the P30
- "Serve as a sounding board and generator of ideas for NCI leadership" – in short, any topics the WG regards as important
- An NIH WG is not permanent; there is a standing NCAB subcommittee on Cancer Centers to bring extramural input to NCI

The Historical Problem of Cancer Center Support Grant Funding

- NCAB conclusions:
  - some Centers have been disadvantaged in CCSG funding by historical imbalances in CCSG awards, being:
    - newer
    - expanding dramatically during periods of flat NCI budgets
  - Current budget eligibility rule – 10% above the previous award – would forever lock these imbalances in place

What NCI Did With the NCAB Report

- Following acceptance of the NCAB WG report (February 2014), the Office of the Director (Office of Cancer Centers, Office of Budget and Finance, and Office of Grants Administration) began testing various models that incorporated the NCAB's recommendations (base award, merit award, and size award) into a formula
- NCI developed dozens of formulas internally and hired an outside consultant to test literally thousands of variations
- The difficulty NCI encountered with every formula was that some centers suffered **drastic decreases** in funding
- The WG doesn't think that this is the best approach for now

Concerns About Implementing a Formula That Reduces Some Awards

- The CCSG funds infrastructure –not amenable to fluctuations in funding
- NCI has invested billions of dollars in this infrastructure – dismantling it at some Centers to increase it at others isn't efficient
- The CCSG buys institutional commitment –reducing a Center's CCSG award might jeopardize its influence in its academic home and make it more difficult to leverage other sources of funding
- No Center has seen a significant increase in its CCSG award in several cycles – everyone has lost ground to biomedical inflation
- Because of these considerations, Doug Lowy called for a reassessment of the funding models and policy by NCI staff, presented to the WG

Principles of NCI's Reassessment

- Rather than correcting funding from the top down, the WG thinks it would be more productive to "rebalance" CCSG funding from the **bottom up**
- We think the best current approach is to leave the current funding levels of Centers intact, and to develop a way, based on the NCAB recommendations, to distribute the new money in the program to the most **meritorious** *and* **underfunded** Centers
- To achieve rebalancing, NCI proposes that the CCSG budget will grow ~ $40 million in total costs over the next few years (dependent on an increase in the NCI budget)
- Every center, regardless of its current funding, should have an opportunity to increase its award during the rebalancing period
- Whatever funding model is finally adopted, it must fit within the NCI budget

Rebalancing Phases

- **Phase 1 (FY16):** Establish base awards by type of Center and bring all Centers up to the new base, as recommended by the NCAB
- **Phase 2 (FY17/18 – FY21/22):** Allocate new CCSG funds using the NCAB-recommended metrics of the size of the cancer-relevant research base of a Center and the merit achieved in the review of its next competitive application
- **Phase 3 (FY22/23):** Reconsider further rebalancing; continue the effort with more new money, and/or adopt a zero-based formula as recommended by the NCAB
- **Possible additional funding beyond Phase 2:** In principle, it could be added any time, even prior to FY22, if there were a sustained increase in the NCI budget

BASIC (2/7; 29%)

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

CLINICAL (12/17; 71%)

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

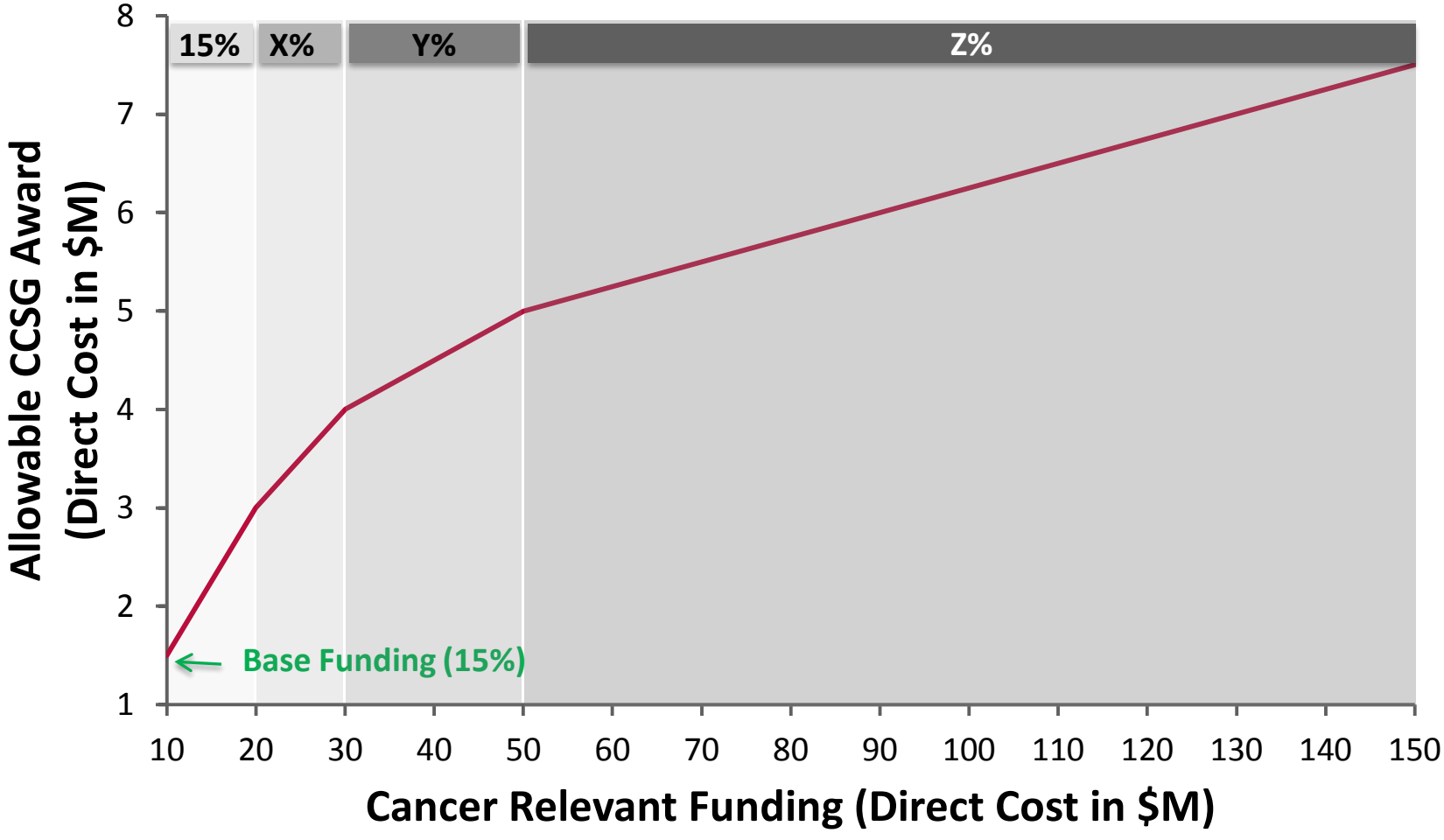
COMPREHENSIVE (7/45; 16%)

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

Phase 2 Concepts

- How should NCI determine how much a Center is eligible to apply for?
- How should NCI use the NCAB-recommended metrics of Center size and the merit score achieved in peer review to determine the ultimate CCSG award?
- Simple, transparent, quantitative, and fair

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



What Sources of Funding Should Be Used to Determine the Maximum Budget Eligibility?

There are three choices:

- NCI funding only
- **All NIH cancer-relevant funding**
- *Other peer-review funding sources*

Two things to keep in mind:

- This won't affect how centers compile Data Table 2
- Including more or fewer sources of funding won't change the amount a Center can apply for – we would simply have to change the proposed percentages

All NIH cancer-relevant funding

Pro

- Cancer-relevant funding from other NIH institutes is important to CC and covers most of a CC's funding
- Amenable to a uniform reporting date
- NCI can use NIH databases to limit it to cancer-relevant funding. This avoids pulling in grants that go to an academic institution but lie outside the CC

Con

- But, the database does not tell NCI how much of the grant is cancer relevant. For example, the CTSA is often coded by CC in DT2A as 10-20% cancer relevant, but NIH databases don't quantify in that way
- NCI doesn't have the expertise or the manpower to examine each grant in the CC portfolio to determine the percentage of cancer relevance
- Thus, an arbitrary percentage for cancer relevance of all grants from NIH other than NCI is the one possibility to compensate

Other Peer-Review Funding Sources

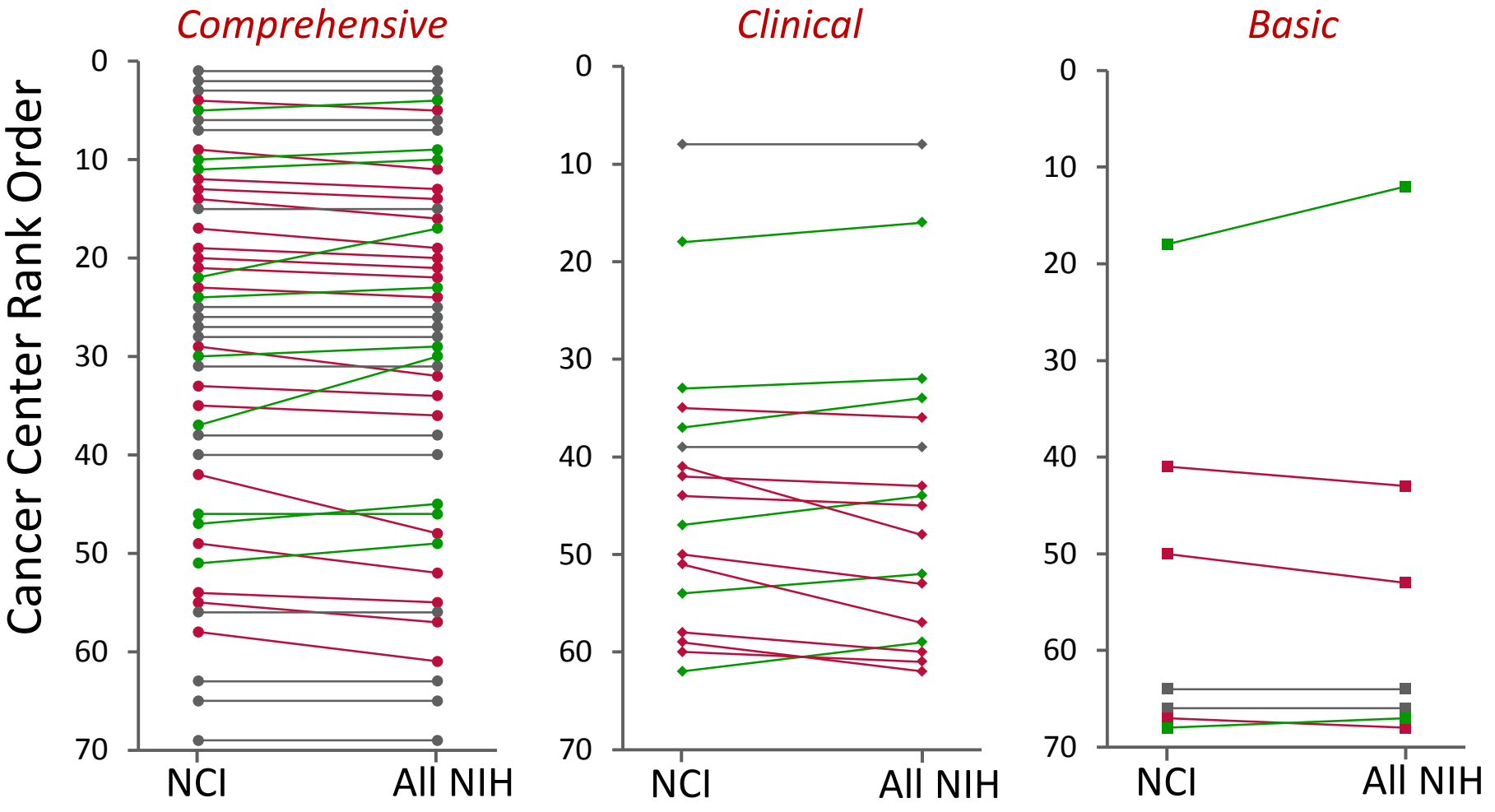
Pro

- Cancer-relevant funding from other Federal, state, and private sources is important to CC (**17%** of all funding reported by centers in FY14)

Con

- These sources (even Federal sources such as DOD) are not verifiable – there is no database available to NCI to confirm grants, funding levels, cancer relevance, or active dates
- Many of these sources are limited to centers within a state; CCSG funding should be based on cancer-relevant funding available to all centers

NCI Only Versus All NIH Cancer-Relevant Funding (Direct Costs)



Using the CCSG Merit Score to Determine the Ultimate Direct Cost Award

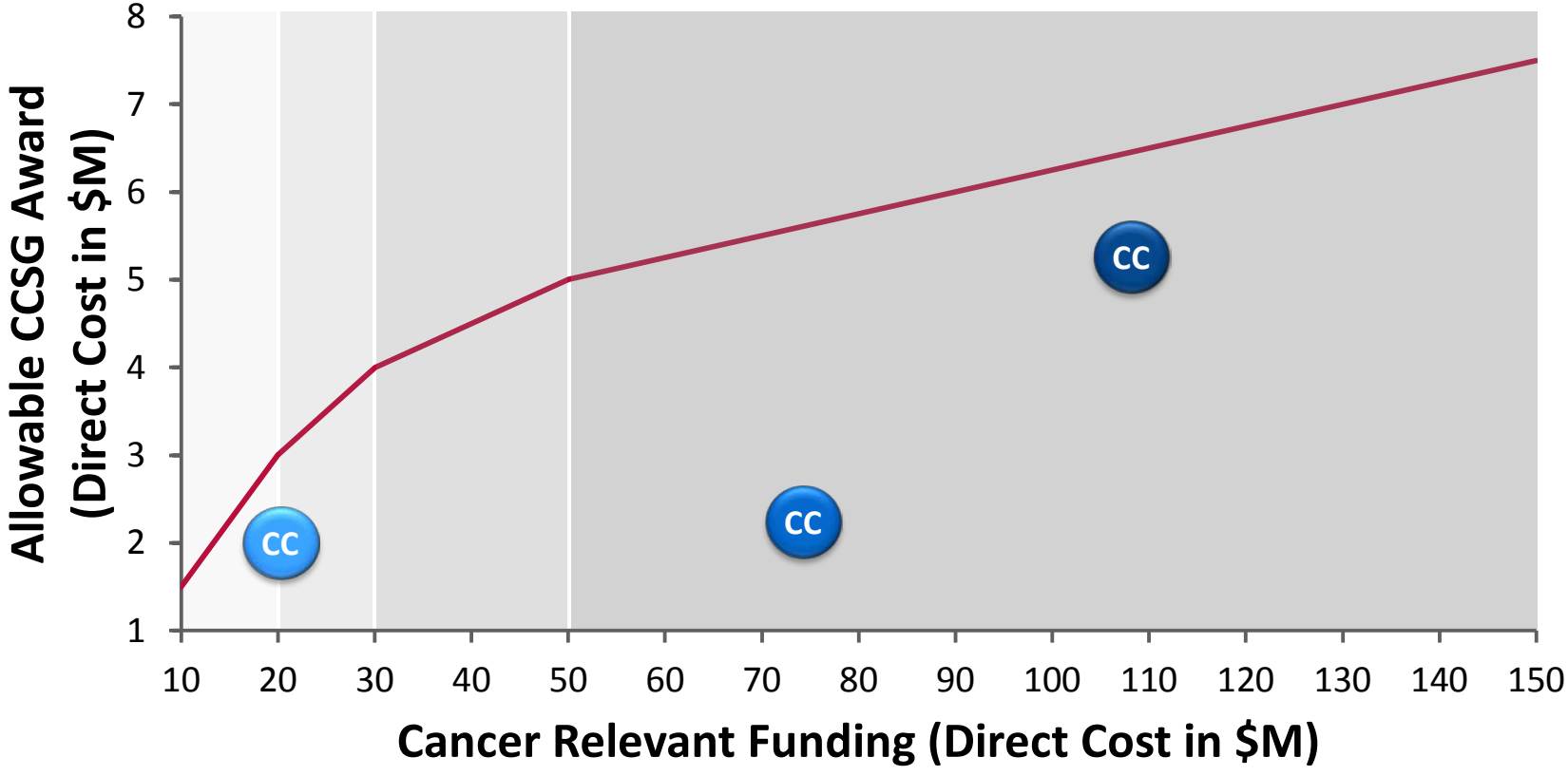
Merit Score	% of requested increase	Merit Score	% of requested increase
10	100%	26	20%
11	95%	27	15%
12	90%	28	10%
13	85%	29	5%
14	80%	30	0 (no change)
15	75%	31	0 (no change)
16	70%	32	0 (no change)
17	65%	33	0 (no change)
18	60%	34	0 (no change)
19	55%	35	0 (no change)
20	50%	36	-10% from current award
21	45%	37	-20%
22	40%	38	-30%
23	35%	39	-40%
24	30%	40	Diet
25	25%	40+	Diet

Conclusions

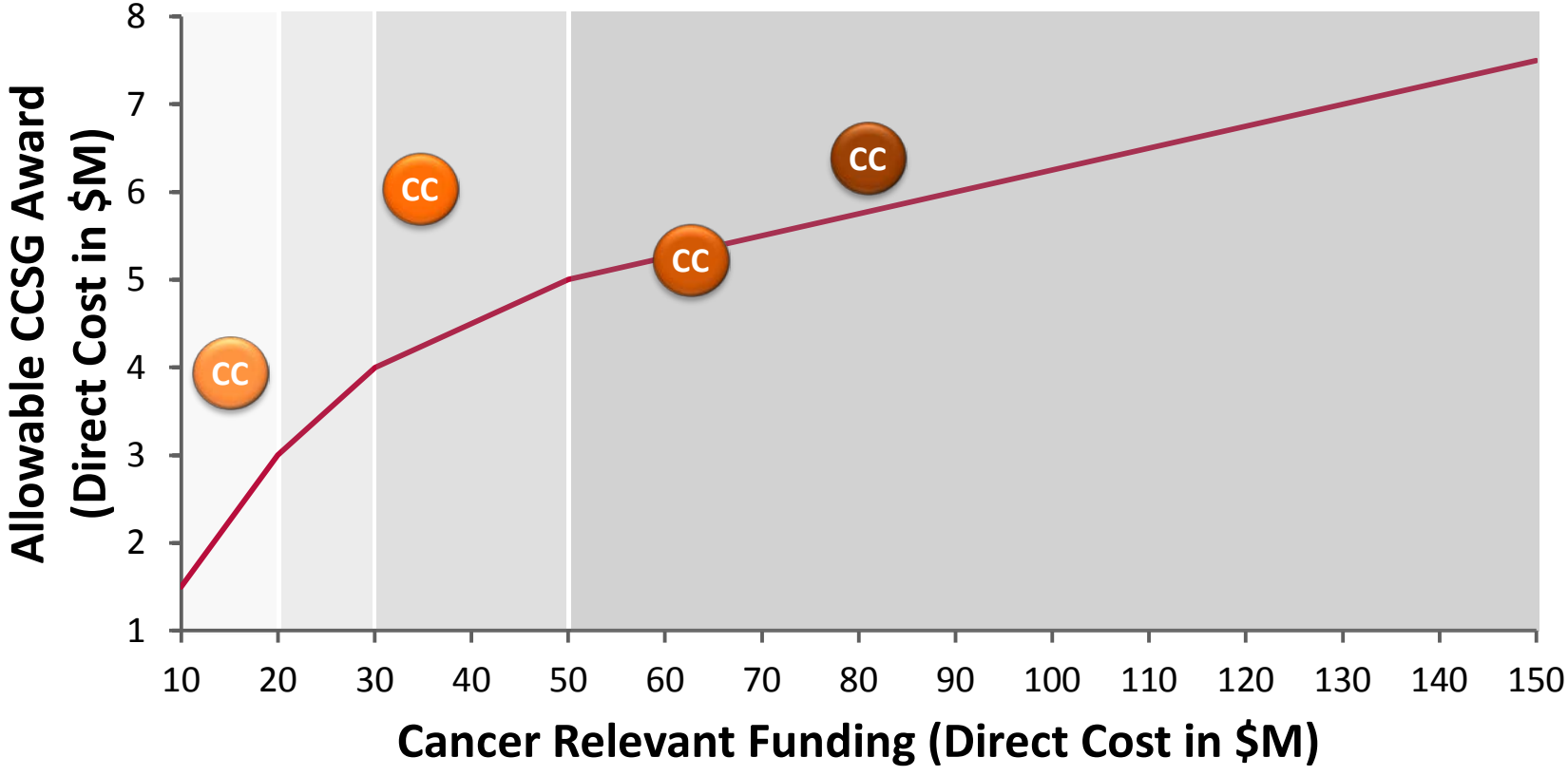
- The WG supports the implementation of Phase 1
- The WG supports incorporating Phase 2 into the CCSG funding plan contingent on NCI funding and use of total cancer related NIH funding to define the benchmark funding curve with the sliding scale proposed
- The WG encourages ongoing attention to Phase 3 and beyond and consideration to other issues of importance to the cancer centers including supplement awards

Discussion

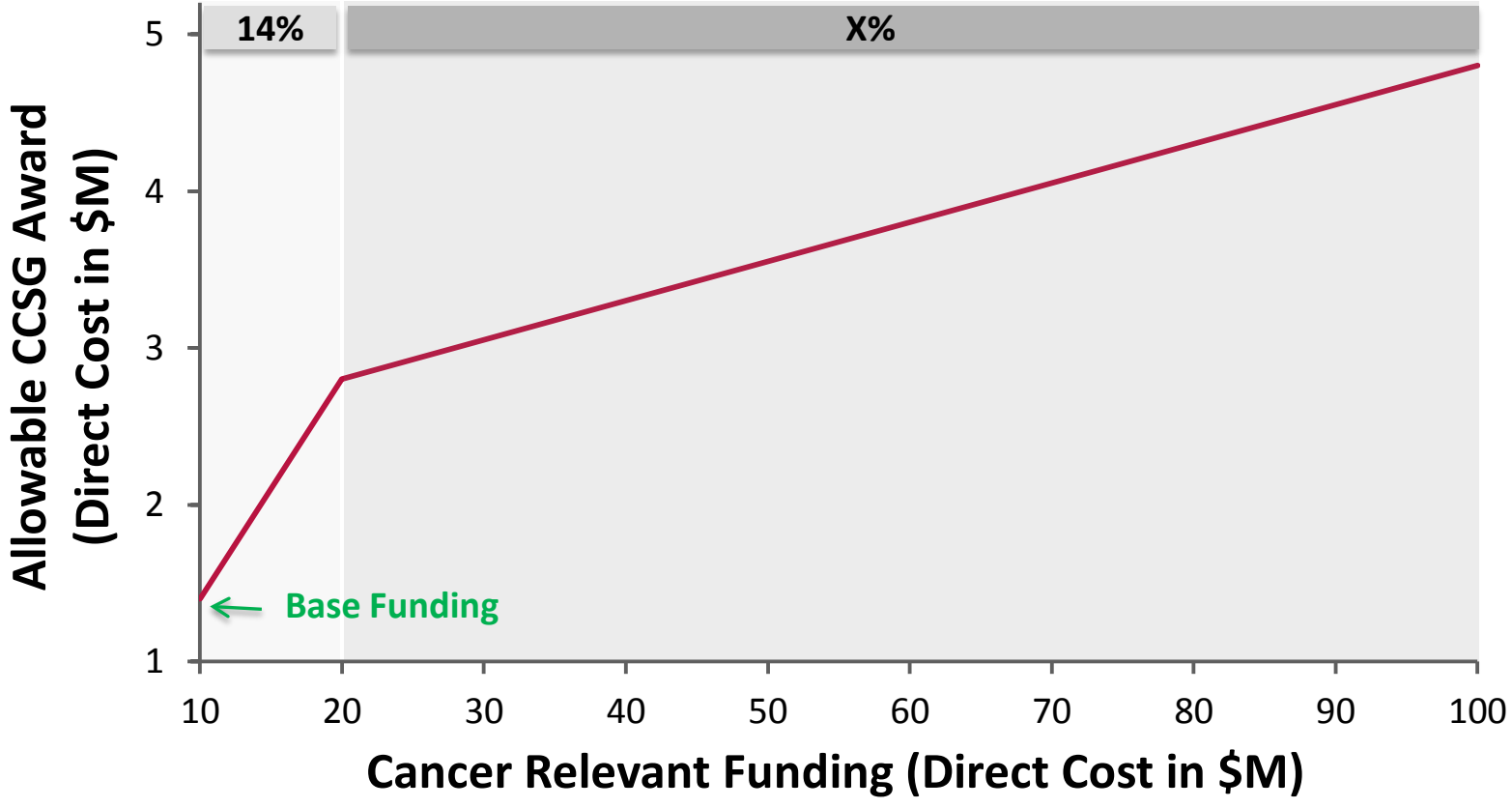
How Will Centers Fare Under the New Benchmark?



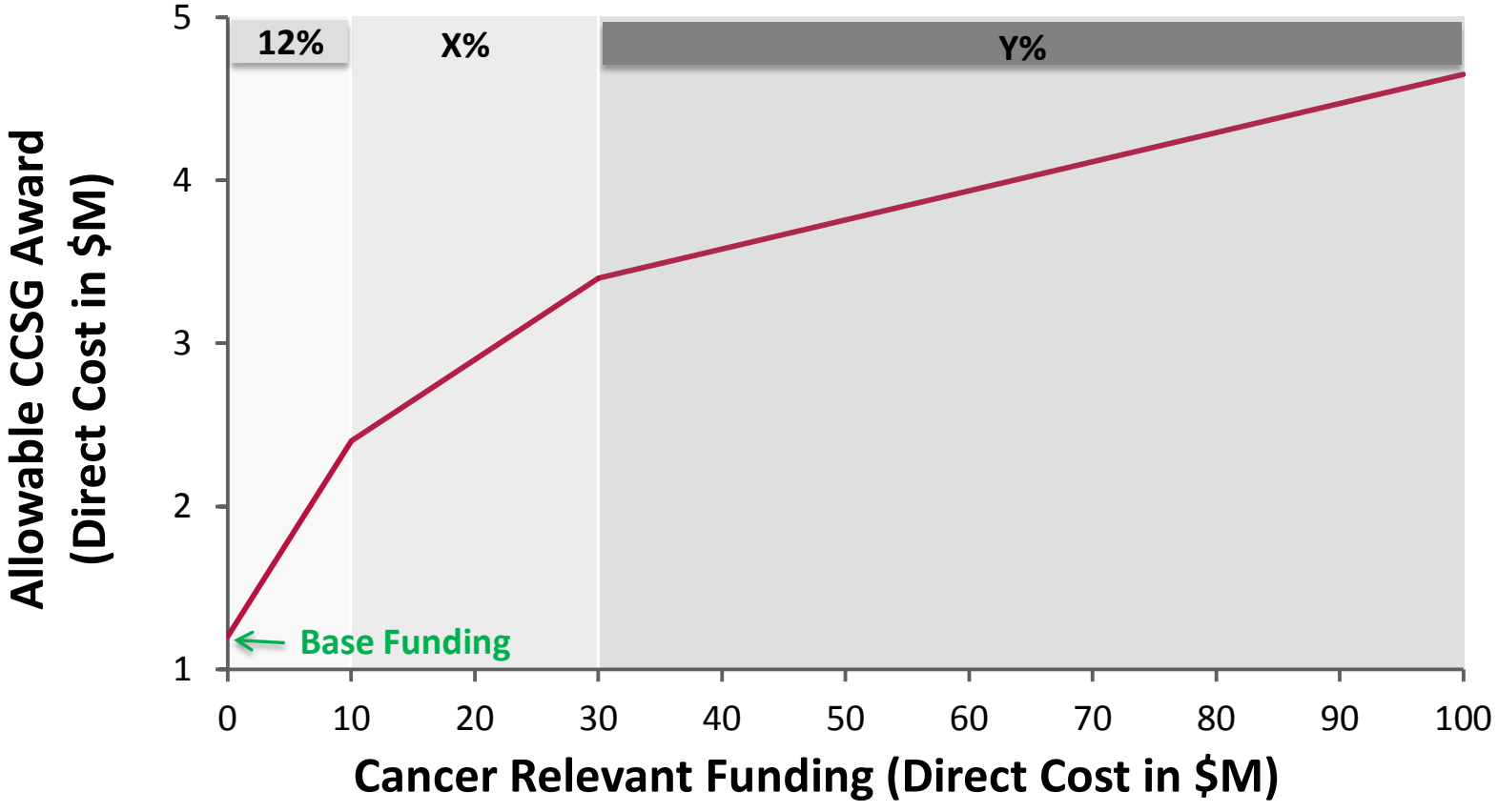
What If a Center Is Near or Above The Benchmark?



Hypothetical Benchmark Ratio: Determining a Clinical Cancer Center's Maximum Award



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



NCI Funding Only

Pro

- Consistent with the previous benchmark ratio
- The CCSG is NCI dollars – it should be based on NCI research funding
- It is 100% cancer relevant – the only type of funding of which we are completely sure
- It is easy to set a uniform reporting date. This is important – all Centers competing across 3 cycles in a single year should have a level playing field. To establish a this, we will have to establish a time frame for eligible grants to be included. For NCI funding, we would use the previous FY

Con

- Other sources of funding are increasingly important to Centers