

NRG
ONCOLOGY

SUMMER
MEETING

July 21st-23rd *Chicago, IL*
July 18th-25th *Virtual*

NRG Oncology Overview

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Disclosures

Research Funding

- NCI, NIDCR, TRDRP, Varian, Amgen, GSK

Consulting/Advisory board

- Varian, BMS, Merck, Grail, Genentech/Roche, Coherus, Nanobiotics

DSMB

- Pfizer

Timeline of the NCTN System



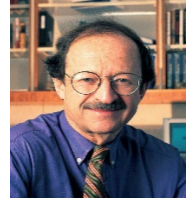
2001-2008

Development of Some NCI Centralized Resources:

- CIRB
- CTSU
- Steering Committees

Consolidation of the multiple Pediatric Cooperative Groups into COG.

2010



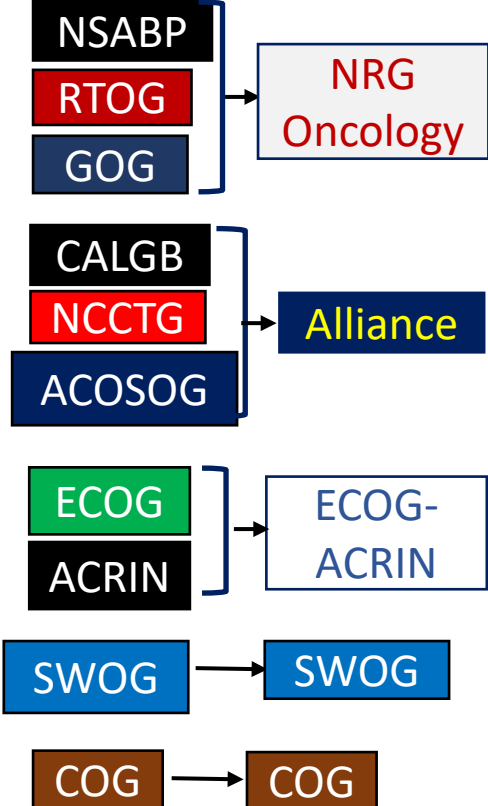
IMPLEMENTING A NATIONAL CANCER CLINICAL TRIALS SYSTEM FOR THE 21st CENTURY

Institute of Medicine: Proposed Restructure of (and *increased support for*) the Group System.

2012

NCI RFA: 'Dissolve' the Groups and plan for 4 'new' adult Groups as part of a new Network

2013



Groups Funded

2017-18

Assessment of the NCTN and Call for Competitive Renewal Applications

2019

The 5 Groups renewed for 6-year funding cycle.

Request for Application (RFA)
U10 Cooperative Agreement for NCI Clinical Trials Network



Goals of the NCTN (Cooperative Group) System

- Perform late-stage cancer trials that define standards of care for the U.S. and the world.
 - Available to broad constituency of diverse patients & investigators
 - Ensure all results (regardless of outcome) are published timely and objectively.
- Maintain high quality data repositories : clinical, imaging, biospecimen.
- Complement the research by non-N. American groups & industry

Some Facts about the NCTN Groups

- >2,000 participating sites in U.S./Canada + some international members -> >14,000 investigators.
 - ~17,000 patients / year enrolled.
 - ~\$171 million / year budget.
- } ~\$10,000 investment per patient
- ~100 publications per year per Group.
 - Proposed Group trials are rigorously reviewed (*and approved or rejected*) by NCI-sponsored Disease Steering Committees.

Population Diversity in Large Clinical Trials

% Under-represented minority patients in several studies of common cancers.

Study #	Disease/Stage	Total # Pts	% Black/ African American	% Latino
NRG RTOG 0534 (NCTN)	Postop Salvage Prostate	1,716	12.8%	4.3%
ARCHES (Enza-Pfizer/Astellas)	Met. HS Prostate	1,151	1.4%	Not stated
NRG NSABP B39/RTOG 0413 (NCTN)	Early breast CA	4,216	7%	4%
KEYNOTE-355 (Merck)	Advanced TNBC	847	4.5%	Not stated
NRG RTOG 0617 (NCTN)	Stage III Lung	465	11%	3%
PACIFIC (Astra Zeneca)	Stage III Lung	713	2%	Not stated

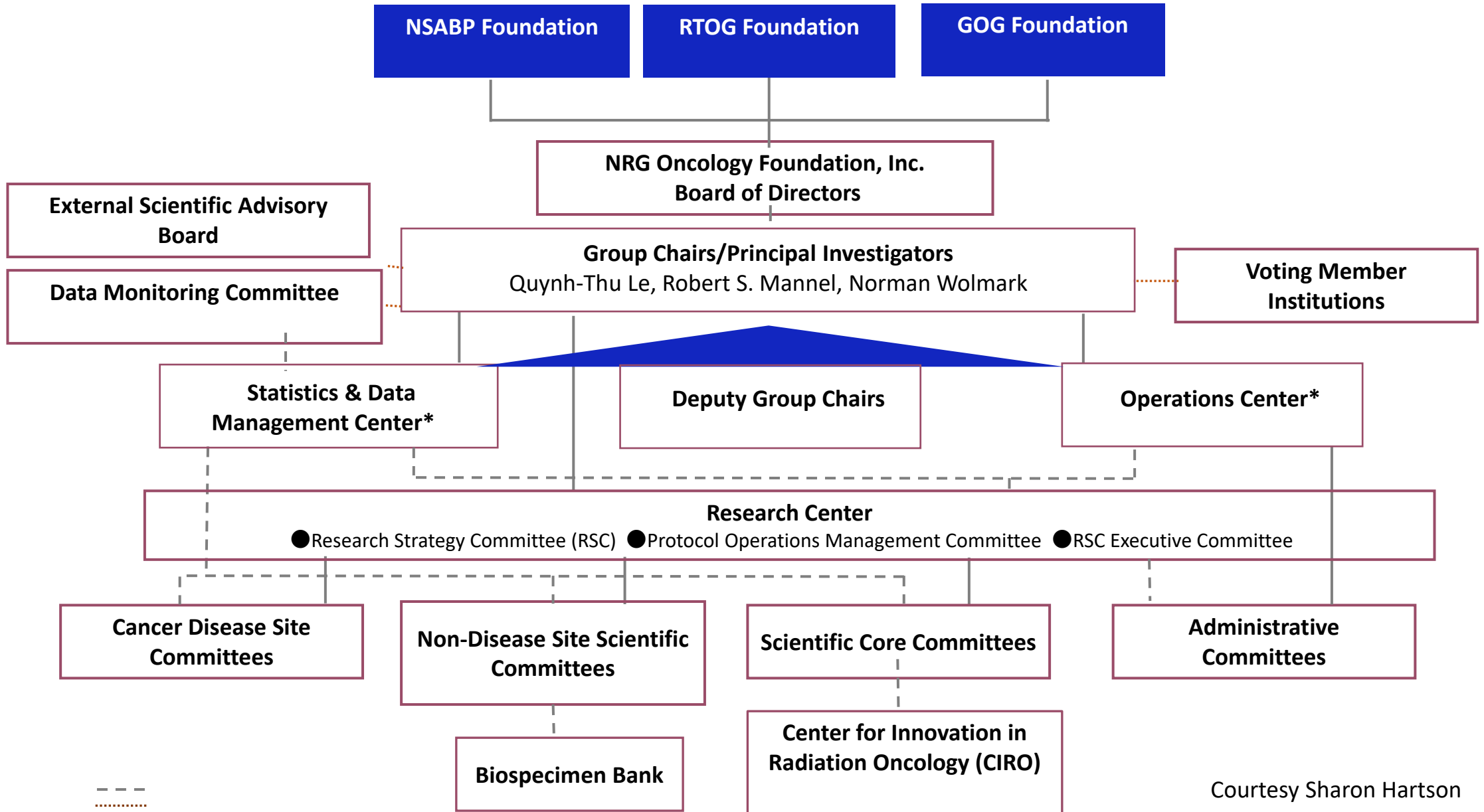
Courtesy Mitch Machtay

Analysis of NCTN Impact on Life Years Added



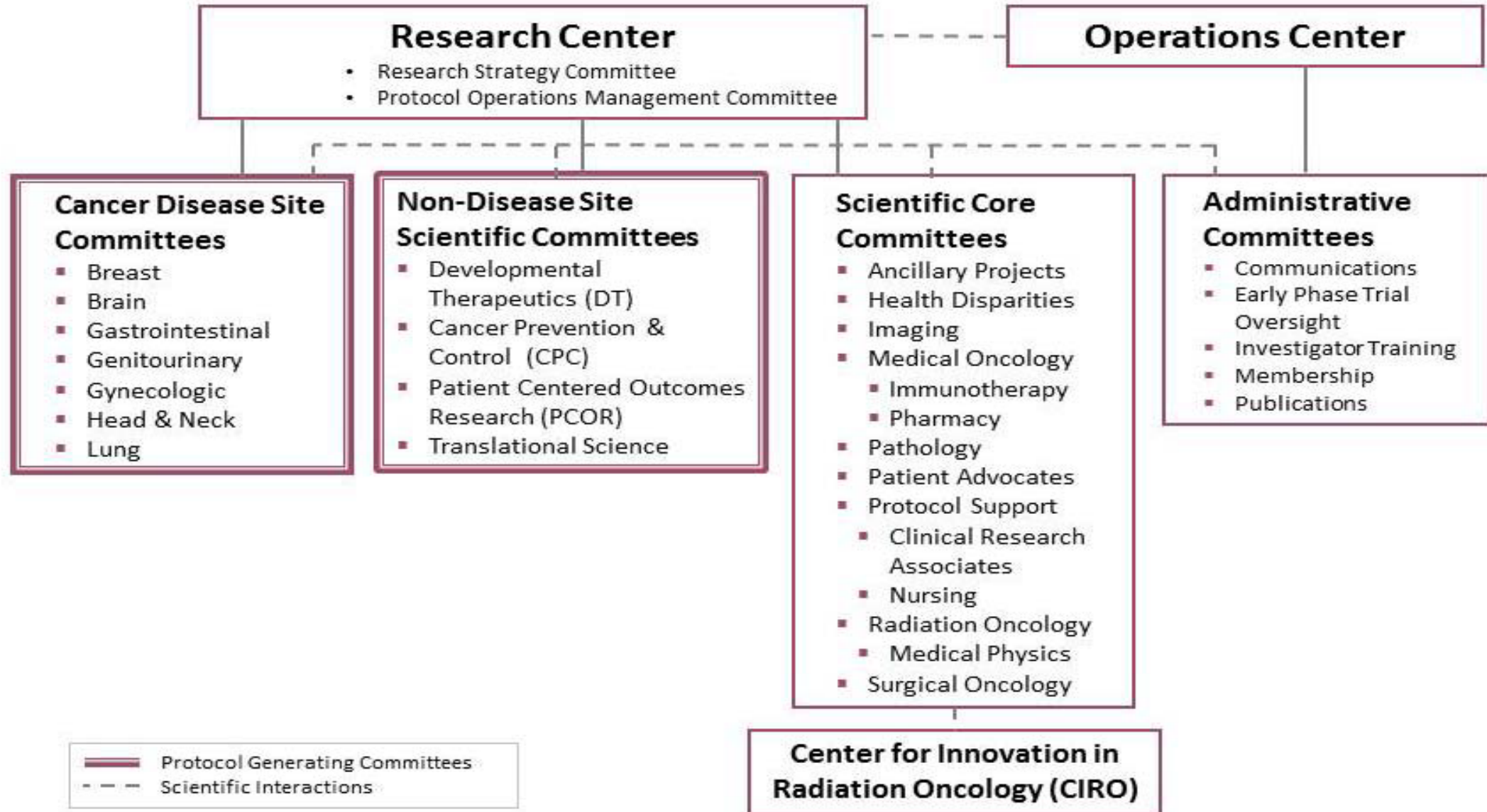
- Unger et al. analyzed 163 ‘positive’ NCTN trials published 1980-2019.
 - Represents ~30% of completed NCTN trials
 - Includes 108,102 patients
 - Most common trials: Breast (33); GYN(28); Lung(15); Prostate(12).
- Model estimates that NCTN trials have added **14 million life years** into U.S.
- Projection of 2030 estimate - 23 million life years saved.

NRG Oncology



Courtesy Sharon Hartson

NRG Oncology Committees



NRG Oncology Scope

- Largest of the NCTN groups.
 - 1,900+ Participating members
 - 145 Main Member sites
 - 30 Lead Academic Participating Sites (LAPS)
 - 42 NCORPs + NCORP Mus
- Clinical trial portfolio
 - 45 trials activated / open to enrollment in the last funding cycle (3/14-2/19)
 - 45 trials activated / open to enrollment in the current funding cycle (3/19-6/22)

NRG Oncology past accomplishments

- Combined Modality superior to RT alone; usually worth the ↑ toxicity.
- IMRT and SBRT are feasible in multicenter studies & may improve outcome.
- Outcomes beyond OS, DFS, LRC and CTC-graded toxicity are essential.
- Addition of biologic agents to RT or chemoRT is generally safe.
- Treatment de-intensification is feasible for certain cancers (breast, head and neck)
- Sparing of critical regions is feasible and can improve function and QOL in patients (hippocampal sparing in brain mets)
- Recognition of molecular biomarkers as important in study design and outcomes.

NRG Oncology accomplishments in the last grant cycle

- Activated 34% of total number of 4 NCTN adult groups
- Enter 15,945 patients (33% of all entries) onto NCTN trials
 - 12.7% patients were African descent & 8.0% Latino or Hispanics
- 302 NRG peer-reviewed manuscripts - 52 contain practice-changing or practice-defining observations
- Received the best score on the competitive renewal

NRG Oncology's Specific Patient Cohorts

- Patients with common or rare **gender-specific malignancies**, including **gynecologic, prostate, or breast** cancers, and/or
- Patients with **localized or locally advanced malignancies** including other **GU** malignancies or those originating in other sites, including the **lungs, head and neck region, brain, or GI tract**

NRG Oncology Specific Aims

- Investigate novel developments in medical technology, including radiation oncology, imaging, and surgery, for opportunities to test such developments in its multi-institutional clinical trials.
- Inform the design and execution of its phase II and III trials with employment of biomarker- and biologic pathway-defined approaches to risk stratification, investigational therapy assignment, and clinical trial decision-making.
- Apply the emerging knowledge in precision oncology and in immunoncology to the design and execution of its translational and clinical research efforts.

Future directions

Continue to expand on current themes but focusing on

- Theragnostics – combining imaging & therapy for new solid tumors with better dosimetric precision.
- Explore further hypofractionation in other disease sites.
- Define the role of proton beam therapy in solid tumors.
- Apply machine learning and artificial intelligence to RT planning, QA, and biomarker developments.
- Conduct more biomarker driven trials, especially using markers of minimal residual disease to guide therapy.
- Conduct more trials in precision oncology via the Combo-Match platform.
- Define now best to integrate immune oncology with local therapy (RT, surgery) and other systemic therapy (chemotherapy, targeted therapy)