

National Cancer Institute

Clinical Trial Design in the Era of Genomic Medicine

NCI Community Oncology Research Program (NCORP)

Worta McCaskill-Stevens, M.D., M.S.
Chief, Community Oncology and Prevention Trials Research Group
Division of Cancer Prevention

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

Today's Discussion

- NCI Community Oncology Research Program (NCORP)
- How will NCORP influence clinical trials ?
- How will NCORP influence the community?

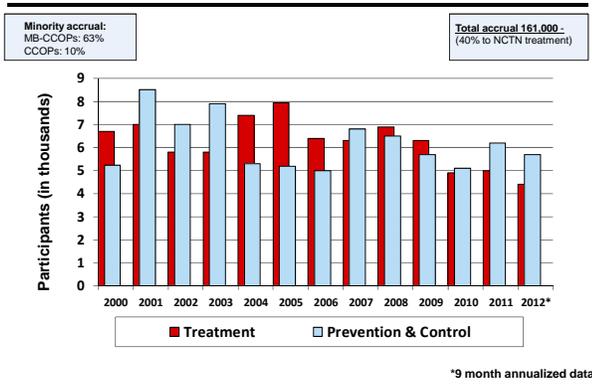
NCI Supported Clinical Trials in the Community

- 1983—NCI creates the Community Clinical Oncology Program (CCOP) to support accrual to cancer treatment trials
- 1987—NCI establishes CCOP Research Bases to design and manage cancer control and prevention trials, supported by accrual from CCOP Community sites and academic centers
- 1989—Program expands to include Minority-Based CCOPs (MB-CCOPs) which provide underserved populations access to clinical trials

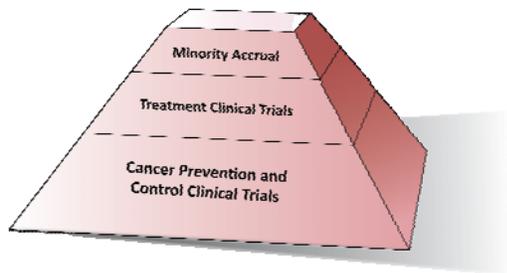
Selected Major Accomplishments from Cancer Prevention and Control Trials

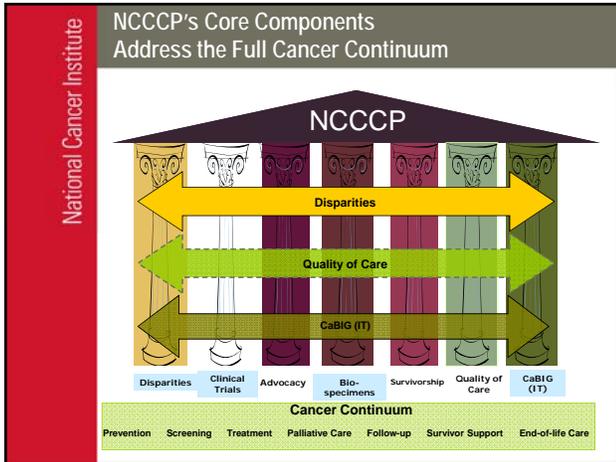
- **Chemoprevention**
 - **BCPT, STAR:** Breast Cancer Prevention Trials
 - **PCPT, SELECT:** Prostate Prevention Trials
 - Large, clinically annotated biorepositories for use in research
- **Symptom Management**
 - **CALGB 170601:** Pain reduction in chemotherapy induced peripheral neuropathy
 - **NCCTG:** Non-hormonal reduction of vasomotor symptoms (gabapentin & venlafaxine)
- **Health Related Quality of Life**
 - **RTOG 0214:** Prophylactic cranial irradiation results in memory decline; reduced brain metastasis; no survival benefit

NCI Community Clinical Oncology Program Network Accrual 2000 – 2012



CCOP/MBCCOP Clinical Trials Foundation





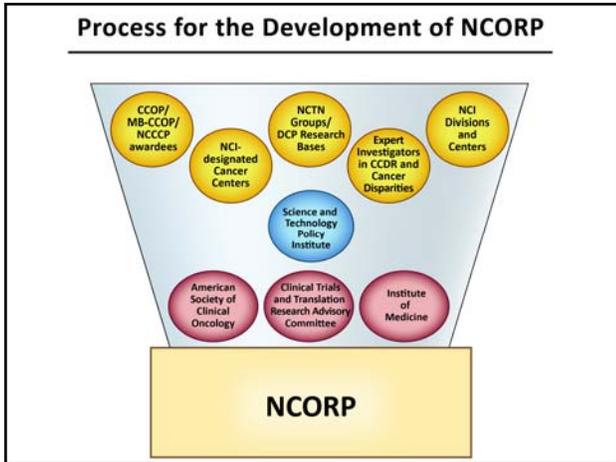
NCORP Vision: Preserve & Enhance Cancer Research in the Community

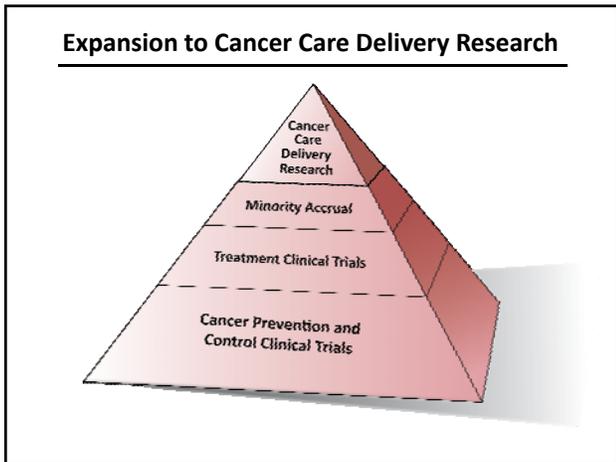
- Build upon clinical trial success of the Community Clinical Oncology Program (CCOP) and Minority-Based CCOP (MB-CCOP) network
 - Development and conduct of cancer prevention and control trials
 - Accrual to National Clinical Trials Network (NCTN) treatment and imaging trials
 - Enrollment of minorities into clinical trials
- Expand to include cancer care delivery research (CCDR)
- Enhance focus on disparities questions in clinical trials and CCDR studies

OVERARCHING GOAL
Bring state-of-the art cancer prevention, control, treatment, and imaging trials, as well as CCDR and disparities studies, to individuals in their own communities

Why Support Cancer Research in the Community Setting?

- Majority of cancer care is provided in the community
- Access to larger, more diverse patient populations
- Access to "real world" healthcare delivery settings
- Tests feasibility of implementing new interventions and processes
- Accelerates the uptake of new interventions and processes into routine practice
- Enhances potential that outcomes will be broadly applicable in practice





- ### Future Research Agenda for Cancer Prevention and Control Trials
- Molecularly targeted agents
 - Post-treatment surveillance
 - Overdiagnosis and underdiagnosis
 - Management of precancerous lesions
 - Mechanisms of cancer-related symptoms
 - Biomarkers of risk for treatment-related toxicities
 - Enhance accrual of racial/ethnic and other under-represented populations

Why Support Cancer Care Delivery Research in the Community Setting?

- Precision medicine increasingly complicates care
- Rapidly changing health care system
 - Affordable Care Act
 - Accountable Care Organizations
 - Merging of practices
 - Diverse, often fragmented provision of care
- Urgent need for evidence about how these changes influence:
 - Patient outcomes
 - Disparities in care

Dynamic healthcare environment demands a better understanding of routine oncology care delivery

CCOP, MB-CCOP and Research Bases Geographic and Organizational Diversity



NCORP Cancer Care Delivery Potential Research Agenda

- Observational studies
 - Patterns of care or service utilization data
 - Alternate organizational structures (e.g., integrated healthcare systems versus free-standing hospitals)
 - Alternate models for implementing multidisciplinary care planning (e.g. tumor boards versus multi-disciplinary clinics)
- Interventional studies
 - Implementation of new technologies (e.g., decision-making tools)
 - Incorporation of patient reported information into clinical decision-making
 - Implementation of new supportive/palliative care models
 - Introduction of patient navigators targeted at an underserved population

Why Focus on Cancer Disparities Research in NCORP?

- Persistent disparities
 - Cancer incidence, mortality, and quality of life
 - Access to and quality of care
- Increase in the number of underserved/underrepresented populations
- Determinants of disparities (social factors, health care systems, co-morbidities) disproportionately affect outcomes for underserved populations
- Challenging to fully and equitably implement new technologies and targeted therapies for the underserved

Need for further research to reduce disparities and improve outcomes for underserved populations across the continuum of care

Synergy of Clinical Trials, Care Delivery, and Disparities Research - Cardiotoxicity

- Acute and long-term cardiovascular adverse effects from therapy
- CCOP/MB-CCOP prospective studies
 - Cardiac biomarker study to predict anthracycline cardiac toxicities (BNP, troponin, ECHO, exam) - MD Anderson Research Base
 - ACE versus blocker/placebo study to prevent trastuzumab LV dysfunction/CHF - Sun Coast Research Base
- DCCPS epidemiological studies
 - Population-based, retrospective cohort study of risk of CHF from anthracycline and trastuzumab

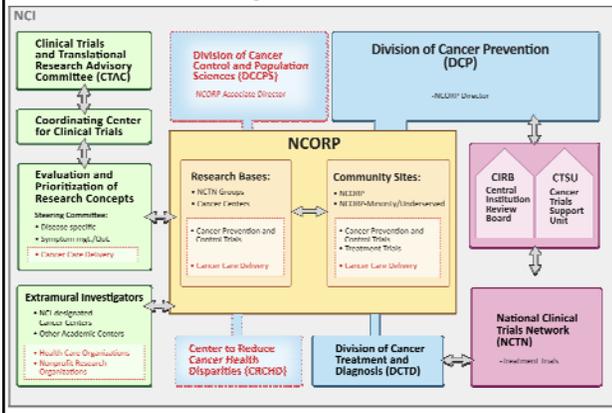
NCORP Cardiotoxicity Research Future Directions

- Clinical trials investigating mechanisms, pathways, genomic and other biomarkers, imaging/diagnostic tools
- Longitudinal cohort studies of patients in routine care
- Cancer disparities studies to assess differential adverse effects in populations with a higher inherent risk of cardiovascular disease

NCORP Component Characteristics

- **Research Bases**
 - Scientifically strong and feasible research agenda
 - Scientific and statistical leadership
 - Operational processes and personnel
 - Collaboration across Research Bases for clinical trials, CCDR research priorities and data standards
- **Community Sites**
 - Minimum of 80 accruals annually
 - Recruitment and retention plan
 - Clinical research leadership and operations team
 - Capacity to support CCDR studies
- **Minority/Underserved Sites**
 - 30% of cancer patients and accrual from racial/ethnic minority or other underserved population
 - Potential to contribute data on disparities in outcomes and care

NCORP Organizational Structure



FOAs and Estimated # Grants

| Network Component | Mechanism (Duration) | Est. Max. # Grants | Frequency New Application Accepted? | Multiple PI Option? |
|----------------------------|----------------------|--------------------|-------------------------------------|---------------------|
| NCORP Research Base | U10 (5 Yrs) | Up to 7 | Every 5 Years | Yes |
| NCORP Community Site | U10 (5 Yrs) | Up to 40 | Every 5 Years | Yes |
| NCORP Minority/Underserved | U10 (5 Yrs) | Up to 14 | Every 5 Years | Yes |

Annual Funding Request
NCI Community Oncology Research Program (NCORP)

| NCORP Component | No. of Sites | Clinical Trials \$ Millions | No. of Sites | CCDR Funding \$Millions | Total Annual Funding |
|---------------------------|--------------|-----------------------------|--------------|-------------------------|----------------------|
| NCORP Sites | 40 | \$35.4 | 40 | \$5.4 | \$40.8 |
| NCORP-M/U Sites: Subtotal | 14 | \$7.3 | 14 | \$2.0 | \$9.3 |
| SUBTOTAL: | 54 | \$42.7 | 54 | \$7.4 | \$50.1 |
| | | | | | |
| NCORP Research Bases | 7 | \$38.3 | 7 | \$4.6 | \$42.9 |
| | | | | | |
| Total RFA Funding | | \$81.0 | | \$12.0 | \$93.0* |

* The 5-Year Total Grant Funding Request for NCORP for FY 2014 to FY 2018 is \$465 Million.
 Clinical Trial Funding: NCORP and NCORP-M/U Sites - \$280,000 Infrastructure funding + \$2,500/accrual for sites with < 200 accruals annually or + \$4,000/accrual for sites with >200 accruals annually.
 CCDR Funding for NCORP & NCORP M/U Sites: Standard funding at \$100K per award and enhanced funding at \$300K per award on average.

- NCORP Vision for Cancer Research in the Community**
- **Build upon clinical trial success** of the Community Clinical Oncology Program (CCOP) and Minority-Based CCOP (MB-CCOP) network
 - **Expand to include cancer care delivery research**
 - **Enhance focus on disparities research** (both stand-alone and integrated studies) with clinical trials and CCDR
 - **Capitalize on synergies** between clinical trials, CCDR, and disparities research questions

- NCORP Status**
- **Approved by the Board of Scientific Advisors: June 2013**
 - **Funding Announcement Posted: November 8, 2013**
 - **Letters of Intent: December 8, 2013**
 - **Receipt Date: January 8, 2014**
 - **Scientific Merit Review: March-April 2014**
 - **5-year NCORP Awards Date: September 2014**

**Researchers Reaching the Community
Funding Realities**

- These are difficult times!
- Hypothesis driven ideas and interventions are critical for successful applications

Challenges:

- Fewer clinical trials but increased complexity of trials and the institution's conducting them
- Engaging populations on the fringes into all cancer research
