Planning Grants (P20) for the Development of SPOREs in Cancer Health Disparities

BSA Presentation

Center to Reduce Cancer Health Disparities
Translational Research Program/ DCTD
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P20 SPORE RFA Working Group

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Specialized Programs of Research Excellence (SPORE)

- SPOREs can focus any of the following:
  - An organ-specific cancer,
  - A group of highly related cancers, such as sarcoma, gastrointestinal, neuroendocrine, etc., and
  - Cancers related by common biological pathway mutations/alterations
  - Cross-cutting themes, such as pediatric cancers, virally-related cancers or cancer health disparities (CHDs).

- Regardless of the focus, SPOREs must propose translational research
  - **SPORE Definition:** Uses knowledge of human biology to develop and test the feasibility of cancer-relevant interventions in humans and/or determines the biological basis for observations made in individuals with cancer or in populations at risk for cancer
Translational Research Portfolio in CHDs: SPORE and NCI-Wide

- No active SPOREs are specifically focused on CHDs, at least three have individual disparity-related projects

<table>
<thead>
<tr>
<th>Organ Site</th>
<th># of SPORES</th>
<th># of CHD Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Breast</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>GI</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Lung</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Multiple Myeloma</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Cervical</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Liver</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26</strong></td>
<td><strong>3</strong></td>
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- Analysis of “cancer health disparities” active awards found few with a translational research focus (majority basic or population sciences)
NCI CHD P01/SPORE Development Workshop

- Held at the AACR Science of CHD Conference, September 2016
  - Hosted by CRCHD with trans-NCI participation
  - 49 extramural investigators attended

- Objectives of the workshop
  - Update investigators on NCI CHD research priorities
  - Provide tips on application development, submission, and review
  - Encourage collaboration with colleagues and NCI staff

- Evaluation results
  - 6 investigators considering a CHD SPORE; 20 considering a CHD P01
  - Concerns over P50 complexity and rigorous requirements

Workshop confirmed there is interest in CHD-focused SPOREs and there may be benefit from developing a P20 opportunity.
P20 CHD SPORE: Potential Outcomes

- Increase the NCI’s translational research portfolio in cancer health disparities

- Provide feasibility and planning support to enhance the applicant pool for CHD-focused P50 SPORE grants

- Increase the competitiveness of SPORE applications in CHD translational research.

- Foster collaborations between P20 and P50 awardees by integrating P20 PIs into SPORE community (e.g. monthly teleconferences, annual workshops).
## P20 vs P50 SPORE Comparison

<table>
<thead>
<tr>
<th></th>
<th>P20 SPORE</th>
<th>P50 SPORE</th>
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<tbody>
<tr>
<td>Minimum Number of Research Projects</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Minimum Research Base Investigators</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Required Cores</td>
<td>Admin and Biospecimen</td>
<td>Admin and Biospecimen</td>
</tr>
<tr>
<td>Developmental Research Program</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Career Enhancement Program</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>SPORE Director Minimum Effort</td>
<td>1.2 CM</td>
<td>2.4 CM</td>
</tr>
<tr>
<td>Annual Budget Per Award</td>
<td>$800K DC / 1.3M TC</td>
<td>$2.3M TC</td>
</tr>
<tr>
<td>Award Period</td>
<td>3 years</td>
<td>5 years</td>
</tr>
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**Anticipating 3 awards for P20**

All P20 applications must detail a clear transition plan for how the Program will evolve into a P50 SPORE Program within 3 years.
Examples for CHD-focused SPOREs

- **Focus on a single cancer, with different research questions**
  - **Example**: Clinically relevant projects focused on improving outcomes of Triple Negative Breast Cancer (TNBC) in African American (AA) patients
    - Precision medicine trial, sequencing actionable somatic mutations and targeting treatment in a basket design trial
    - Identifying noninvasive biomarker profiles to detect residual metastatic disease
Examples for CHD-focused SPOREs

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- **Focus on similar research questions, with different cancer sites or patient populations**
  - **Example:** Investigate immune profiles within tumor microenvironment (TME) of minority populations and track TME dynamics in cohorts undergoing treatment (numerous cancers)
  - **Example:** Investigate hormonally driven cancers with defined disparities (e.g. Prostate and breast cancers)
Evaluation of RFA

- Evaluation metrics include:
  - Success in stimulating CHD-related translational research.
  - Increased submissions and awards for full P50 SPORE grants (or other comparable funding mechanism) focused upon CHDs.
  - Integration of P20 awardees into the SPORE community.
  - Overall success of individual P20 SPOREs including:
    - translational goals achieved
    - proposed human endpoints reached
    - horizontal and vertical collaborations successfully utilized
    - specimens shared with other sites
    - number and quality of publications/scientific presentations
P20 CHD SPORE: Potential Applicant Pool

- **CHD P01/SPORE Development Workshop:**
  - Identified 6 potential competitive applicants

- **CHD Research at NCI Designated Cancer Centers (CCs):**
  - Of the 69 centers, **30** have a CHD-focused Institute, Office, Initiative, and/or Program
    - Examples: Dana-Farber/Harvard CC: Initiative to Eliminate Cancer Disparities, Karmanos Cancer Center: Population Studies & Disparities Research Program

- **Current and previous CHD Investigators:**
  - **Partnerships to Advance Cancer Health Equity (PACHE, U54/P20):**
    - The PACHE Program fosters/supports collaborations among Minority Serving Institutions and NCI CCs
    - Of research projects investigating breast, colon, or prostate (n=32), **50%** are focused on minority populations (n=16)
  - **Basic Research in CHD PARs (R21 and R01):**
    - Since 2010, 78 projects awarded (42 R21 and 36 U01/R01)
    - Active awards by cancer type:
      - 21 Prostate, 11 Breast, 4 Colon, 2 Cervical, 2 Liver, 1 Lung, 3 Leukemia, 1 Oral, 1 Endometrial.
P20 CHD SPORE RFA: Budget Request
$3.9M total costs per year

- Annual Request
  - Up to (3) P20 Cancer Health Disparity SPOREs will be awarded.
  - Each P20 award would be $1.3M TC per year
  - Total cost for (3) P20 awards is $3.9M TC per year

- Total Request for the full project period (3 years) is $11.7M