Biomarker, Imaging and Quality of Life Studies Funding Program (BIQSFP) and Translational Science Funding for NCTN Trials

Meg Mooney, MD
Chief, Clinical Investigations Branch, CTEP

on behalf of the

Division of Cancer Treatment & Diagnosis:
and

Coordinating Center for Clinical Trials
Ray Petryshyn, PhD
Program Director, BIQSFP
Purpose of Biomarker, Imaging and Quality of Life Studies Funding Program (BIQSFP)

Recommended by the Clinical Trials Working Group in 2005

• A funding mechanism and prioritization process to ensure the most important, scientifically meritorious biomarker, imaging, quality of life (QOL), or cost-effectiveness analysis (CEA) studies can be initiated in a timely manner in clinical trials

• Targeted biological studies, imaging, and quality of life studies embedded in clinical trials should have the potential to modify standard of practice
Coordinating Center for Clinical Trials

Biomarker, Imaging and Quality of Life Studies Funding Program

Current 2014 Announcement

Overview

Funded National Clinical Trials Network (NCTN) and Community Clinical Oncology Program (CCOP) Research Bases are invited to apply for funding to support biomarker, imaging, and quality of life studies with or without Cost-Effectiveness Analysis (CEA) proposals which are associated with NCI clinical trial concepts.

Integral and/or integrated studies associated with Phase 3 treatment trials and cancer prevention trials are eligible. Only randomized Phase 3 clinical trials are eligible for CEA proposals. Support of Phase 2 clinical trials is limited to large (≥ 100 patients), randomized treatment trials with an integral and/or integrated biomarker or imaging study(ies). This is an "open competition" announcement with no specific receipt date for clinical concepts. The following resources are available to assist you with your Proposal Package:

- Complete 2014 Announcement (PDF) / FAQs
- Concept Checklists
- Form PHS 398 (Budget/Budget Justification)
- Reviewer Resources / Funded Studies
- Contacts / Glossary
Eligible Trials for BIQSFP Funding

- Trials in development that will be conducted by NCTN Groups and CCOP Network/NCORP

- Phase 3 treatment, prevention and QOL trials with integral or integrated biomarker (BM) or imaging studies (IM), and/or QOL studies *(initial eligibility, then extended as below)*

- Large (≥100 patients), randomized, phase 2 treatment trials with integral or integrated BM or IM

- For CEA, parent concept must be a randomized phase 3 clinical trial with a comparator arm

- Assays, tests, or tools that are standard of care and normally reimbursed by third-party payers are NOT eligible
## Major Components of BIQSFP

<table>
<thead>
<tr>
<th>Study Categories:</th>
<th>Biomarker</th>
<th>Imaging</th>
<th>QOL</th>
<th>CEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Types:</td>
<td>Integral</td>
<td>Integrated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Evaluation:</td>
<td>NCI Scientific Steering Committee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Funding Decision:</td>
<td>By NCI Clinical and Translational Research Operations Committee (CTROC) - meets 2 x/month</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY2013 Funding Level:</td>
<td>Approximately $10 million</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Definition Integral Studies

*Integral* studies: tests that must be performed in order for the trial to proceed

Inherent to the design of the trial from the onset & must be performed in real time for the conduct of the trial

Require a CLIA-certified lab

**Examples:**
- Test to establish patient eligibility or patient stratification
- Test to assign patient to treatment, including early response endpoints for assignment of treatment during a trial

*Integral studies have the highest funding priority*

*Funding exceptions to support on-going trials only possible for integral studies*
**Definition Integrated Studies**

*Integrated* studies: tests clearly identified as part of trial from the beginning; intended to identify or validate assays or BMs / imaging tests that are planned for use in future trials

Should be designed to test a hypothesis, not simply to generate hypotheses (*not focused on assay development*)

# assays/tests performed sufficient to obtain scientifically valid outcomes & include *complete* plans for specimen collection, lab measurements, cutpoints, & statistical analysis

**Example:**
- Use of an imaging test to detect biologic modification of the target but where image is not used as a primary study endpoint
BIQSFP Progress and Outcomes
BIQSFP Studies Funded FY2008 - FY2013

38 Studies Associated w/ 32 Clinical Trials Have Received BIQSFP Funding Totaling Approximately $42 Million
% Total BIQSFP Funding by Disease Area
FY2008 – FY2013

- Pediatric Cancers: 34%
- Breast: 24%
- Lung: 23%
- GI: 7%
- Head & Neck: 3%
- Brain: 3%
- GU: 3%
- Other: 3%
FY2008 – FY2013*

Average Total Cost/Funded BIQSFP Study by Integral vs Integrated Study Type

* partial year numbers in FY2013
Total BIQSFP Applications Submitted in FY2008

- In 1st year of program (FY2008), there was a short timeline for submission & applications were not evaluated by the NCI Scientific Steering Committees

- Groups/Research Bases were encouraged to submit correlative science studies associated with on-going phase 3 trials or those in development

- Only 3 applications that met the criteria of integral/integrated studies were funded:
  2 Integrated QOL studies associated with treatment trials
  1 Integral Biomarker associated with a treatment trial
Total BIQSFP Applications Submitted FY2009 – FY2013

85 Applications Submitted Associated with 58 Concepts:

15 Primary Cancer Control - QOL Studies (26%)
43 Primary Treatment Trials (74%)

Biomarker (n=54)  QOL (n=14)
Imaging (n=11)  CEA (n=6)
### Preliminary Analysis of Success Rate of BIQSFP Applications Submitted FY2009 – FY2013

<table>
<thead>
<tr>
<th>Category BIQSFP Application (*)</th>
<th>Submitted #</th>
<th>Parent Trial Disapproved, Parent/BIQSFP Withdrawn, or Non-Responsive</th>
<th># Fully Evaluated</th>
<th># Approved</th>
<th>Approval Rate for Applications &amp; Concepts Fully Evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomarker</td>
<td>54</td>
<td>19</td>
<td>35</td>
<td>29</td>
<td>83%</td>
</tr>
<tr>
<td>Imaging</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>71%</td>
</tr>
<tr>
<td>QOL</td>
<td>14</td>
<td>6</td>
<td>8</td>
<td>1</td>
<td>13%</td>
</tr>
<tr>
<td>CEA</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total # Applications</strong></td>
<td>85</td>
<td>32</td>
<td>53</td>
<td>35</td>
<td>66%</td>
</tr>
<tr>
<td><strong>Total # Concepts Represented</strong></td>
<td>58</td>
<td>25</td>
<td>34</td>
<td>29</td>
<td>85%</td>
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</tbody>
</table>

(*) Integral studies are counted separately from integrated studies in each category

(**) 2 BIQSFP applications covered > 1 concept/trial, but counted as 1 concept
## Funded SWOG BIQSFP Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Description</th>
<th>Biomarker</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1007</td>
<td>Phase 3 Trial Adjuvant EndocrineTherapy +/- Chemotx in Patients with 1-3 Positive Nodes, HR &amp; HER2-negative Breast Cancer according to Recurrence Score (RS)</td>
<td>Integral Biomarker</td>
</tr>
<tr>
<td>S0819</td>
<td>Phase 3 Study Comparing Carboplatin/Paclitaxel/Bevacizumab +/- Concurrent Cetuximab in Pts with Advanced NSCLC</td>
<td>Integral and Integrated Biomarkers</td>
</tr>
<tr>
<td>S1201</td>
<td>Randomized Phase 2 Study Assigning Tx Based on ERCC1 for Advanced/Met Gastric Cancer or GEJ Cancer</td>
<td>Integral and Integrated Biomarkers</td>
</tr>
<tr>
<td>S1300</td>
<td>Randomized Phase 2 Trial of Crizotinib + Pemetrexed vs Pemetrexed Monotherapy in ALK-Positive Non-Squamous NSCLC Pts who have Progressed Systemically after Previous Clinical Benefit from Crizotinib Monotherapy</td>
<td>Integral Biomarker</td>
</tr>
<tr>
<td>S1314</td>
<td>Randomized Phase 2 Study of CO-eXpression ExtrapolationN (COXEN)-Directed Neoadjuvant Chemotx for Localized, Muscle-Invasive Bladder Cancer</td>
<td>Integral and Integrated Biomarkers</td>
</tr>
</tbody>
</table>

**Total Funding**  $7,965,043
Of the 32 trials associated with the 38 BIQSFP studies funded:

- 6 trials closed-out via completion of accrual or completion of required BIQSFP assays
- 18 were still accruing at the end of FY2013
- 2 trials may not complete accrual in the initially projected timelines
- 6 trials are in protocol development and expected to open in 2014
### Trends in BIQSFP Study Applications

<table>
<thead>
<tr>
<th>Phase Type</th>
<th>2011</th>
<th>2012</th>
<th>2013*</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>Phase II</td>
<td>2</td>
<td>7</td>
<td>7</td>
<td>16</td>
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<tr>
<td>Phase III</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>Phase II/III</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>QOL</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>8</td>
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</table>

<table>
<thead>
<tr>
<th>BIQSFP Type</th>
<th>2011</th>
<th>2012</th>
<th>2013*</th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td>Integral only</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Integrated only</td>
<td>2</td>
<td>12</td>
<td>11</td>
<td>25</td>
</tr>
<tr>
<td>Integral &amp; integrated</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>16</td>
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</table>

*partial year numbers
Key Changes in FY2014 Announcement

• Change to cover the new NCTN effective March 1, 2014

• INTEGRAL studies must still come in with the evaluation of the trial concept, but INTEGRATED studies applications can only be submitted after parent concept approval & must be received within 4 months of notification of parent concept approval. (decisions on integrated studies may be held till close to end of FY)

• Integrated studies will no longer be eligible for consideration as exceptions (only integral studies)

• Investigators encouraged to explore options for reducing cost of assays / tests to be supported; cost sharing with other funders will have a positive impact on the evaluation

• For all applications, signature of institutional business official no longer required at time of initial submission of composite budgets