

**Development, Application, and Evaluation of  
Prediction Models for Cancer Risk and  
Prognosis (R01/R21)****NATIONAL CANCER INSTITUTE**

<http://grants.nih.gov/grants/guide/pa-files/PA-07-021.html> and  
<http://grants.nih.gov/grants/guide/pa-files/PA-07-022.html>

**OVERVIEW**

Accurate assessment of cancer risk in average and high-risk individuals and cancer prognosis in patients is crucial to controlling the suffering and death due to cancer. Cancer prediction models provide an important approach to assessing risk and prognosis by identifying individuals at high risk, facilitating the design and planning of clinical cancer trials, and enabling the development of benefit-risk indices and estimates of the population burden and cost of cancer. Models also may aid in the evaluation of treatments and interventions. This initiative aims to encourage clinicians and researchers to improve existing models for cancer risk and prognosis by developing innovative research projects that use existing data to develop new models for cancer risk and prognosis as well as to validate these models and evaluate their utility in research and clinic settings. The emphasis is on the use of existing data but it is understood that some new data may need to be generated to expand the utility of existing data.

Both the R01 and R21 award mechanisms will be supported by two partner Program Announcements. R21 applicants may request a project period of 2 years with a combined budget for direct costs of up to \$275,000 (no more than \$200,000 in any single year). R01 applications have no dollar limit; the project period may not exceed 5 years. Both PAs expire Jan. 3, 2010.

**RESEARCH TOPICS**

Research topics may include but are not limited to:

Model Development

- Developing new breast cancer risk and prognostic models
- Developing new risk and prognostic models for cancers other than breast cancer
- Developing risk and prognostic models with cancer and non-cancer outcomes
- Developing models that accurately predict the effectiveness of chemopreventive agents, chemotherapeutic agents or lifestyle changes, and that provide intermediate markers of the effectiveness of risk-change interventions.
- Extending existing models by incorporating new data sources
- Improving efforts to build and refine models for use in clinical decision-making

Data Collection

- Expanding the collection of high-quality data on relative and attributable risks for cancer in various racial and ethnic groups
- Obtaining accurate data on baseline rates for non-cancer events from diverse representative populations

Model Validation

- Developing innovative new statistical methods for validating and evaluating models.
- Using existing data or generating supplemental data from screening, intervention, and treatment programs to evaluate the usefulness of prediction models for risk assessment, prognosis, and response to therapy

## ELIGIBILITY REQUIREMENTS

Applicants may be from:

- Public, state, and private institutions of higher education
- Small businesses
- Nonprofit organizations
- For profit organizations (other than small businesses)
- Foreign organizations

### For R01 applications:

Applicants must submit applications electronically using the SF424 (R&R) forms and instructions available at <http://grants.gov/Apply>. Applications must include a D&B Data Universal Numbering System (DUNS) number.

### For R21 applications:

Applicants must submit applications electronically using the SF424 (R&R) forms and instructions available at <http://grants.gov/Apply>. Applicants should use only the forms package directly attached to this PA. No other SF424 forms will be accepted.

### For further assistance, contact:

GrantsInfo  
Tel. (301) 435-0714  
Email: [GrantsInfo@nih.gov](mailto:GrantsInfo@nih.gov)

### Application Submission Dates

<http://grants.nih.gov/grants/funding/submissionschedule.htm>

### For the full text for these PAs, visit:

<http://grants.nih.gov/grants/guide/pa-files/PA-07-021.html> (R01) and

<http://grants.nih.gov/grants/guide/pa-files/PA-07-022.html> (R21)

## REVIEW

Applications submitted for these two PAs will be assigned to NIH Institutes and Centers (ICs) on the basis of established PHS referral guidelines.

Appropriate scientific review groups convened in accordance with the standard NIH peer review procedures will evaluate applications for scientific and technical merit.

### CONTACT INFORMATION

For information about models for cancer risk and behavioral and applied interventions please contact:

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For information about cancer risk epidemiology and genetic susceptibility, please contact:

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For information about models for prognosis or response to treatment, please contact:

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