



Robert Wood Johnson Foundation

## **Health Games Research**

Advancing Effectiveness of  
Interactive Games for Health



**2009 Call for Proposals—Round 2**

**Proposal Deadline**

April 8, 2009

## Program Overview

(Please refer to specific sections for complete detail.)

### Purpose

*Health Games Research* is a national program of the Robert Wood Johnson Foundation (RWJF) that funds research to enhance the quality and impact of interactive games that are used to improve health. The goal of the program is to advance the innovation, design and effectiveness of health games and game technologies so that they help people improve their health-related behaviors and, as a result, achieve significantly better health outcomes. In this round of funding, approximately \$2 million will be available to support outstanding research projects that study one or more games designed to increase physical activity and/or improve self-care.

### Eligibility Criteria (page 10)

- Applicants must be nonprofit organizations such as universities, medical centers, government agencies and other entities that are tax-exempt under Section 501(c)(3) of the Internal Revenue Code and are not private foundations as defined under Section 509(a).
- For-profit organizations may participate as subcontractors or consultants on a project team but may not be the applicant organization.
- Applicant organizations must be based in the U.S. or its territories.
- The focus of this program is the United States. Studies to be conducted in other countries will be considered only if they have the potential to improve the health of U.S. citizens.
- The principal investigator must be employed at the applicant organization at more than 50-percent time.

### Selection Criteria (page 11)

Complete selection criteria appear on page 11.

### Total Awards

- Health Games Research will award up to \$2 million in this second round of funding.
- Up to 15 research grants of between \$100,000 and \$300,000 will be awarded for projects lasting one to two years.

### Key Dates and Deadlines

- **February 11, 2009 (3 p.m. ET) and February 19, 2009 (4 p.m. ET)**—Optional Web conference calls for potential applicants.
- **April 8, 2009 (3 p.m. ET)**—Deadline for receipt of proposals.
- **September 1, 2009**—Grant start date.
- **October 15-16, 2009**—Annual program meeting for grantees.

### How to Apply (page 13)

All proposals must be submitted through the RWJF Grantmaking Online system.

Please direct inquiries to:

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## Background

Playing interactive games is a popular activity in the U.S. and participation is increasing among a diverse range of populations. Not only are interactive games engaging and fun, but a growing body of research is finding that games also provide powerful first-hand experiences that have the potential to motivate and improve learning, attitude change, self-concepts, skill development and many other factors known to lead to desirable health behaviors and outcomes. Consequently, there is rising interest in the use of interactive games to foster and support health behavior change.

Studies of several health games have already documented that well-designed games focusing on specific health topics and target populations have, for example, intensified anti-smoking attitudes, improved prevention behaviors, influenced dietary habits, increased physical activity, enhanced self-care, strengthened adherence to one's medical treatment plan and improved chronic disease self-management. In each of these areas, the research demonstrated that a health game improved players' behavioral and/or clinical outcomes. Some of the studies tested theories of learning, behavior change, communication, health psychology and/or health promotion to help explain how and why those outcomes occurred. This groundbreaking research has helped set the field in motion, but much more research is needed to help establish a solid base of theory and evidence that can significantly improve the design and implementation of health games.

## The Program

*Health Games Research* is an \$8.25-million national program of the Robert Wood Johnson Foundation's (RWJF) Pioneer Portfolio, which supports innovative ideas and projects that may lead to breakthroughs in the future of health and health care. Health Games Research awards research grants that have the potential to advance the design and effectiveness of interactive games and game technologies aimed at improving health. To build this emerging field, the program also conducts research, disseminates research findings, shares information about the field and its resources, contributes to national conferences and professional meetings, and works with decision-makers in a variety of fields who are interested in developing or using health games.

The program focuses on interactive games that are delivered or supported by digital technology. Game platforms and formats of interest to the program range from traditional video games on game consoles, handheld game players, arcade machines, computers, Web sites and multiplayer online worlds, to new kinds of games delivered, for example, by mobile networked computing, exertion interfaces (e.g., dance pads, cameras pointed at players, motion-detecting remote controllers), robots, interactive television, virtual environments, electronic toys, context-sensitive programs (e.g., using sensors, physiological and health monitors, global positioning systems), or other emerging technologies that are becoming more affordable and accessible. Games, defined broadly, are rule-based activities that involve some degree of challenge to reach a goal and provide performance feedback to the player. Health Games Research investigates people's responses to various design features of interactive games and their social interactions while playing games. Drawing on theories from the fields of health promotion, behavioral health, psychology, communication, interactive media, game design, human-computer interaction, education and other areas, the program aims to develop highly effective and beneficial ways to design and use games to improve health.

A major goal of the program is to gain deeper understanding of fundamental social, emotional, physiological and cognitive processing of game play experiences related to health, in order to develop theoretically grounded, evidence-based strategies—or principles—for designing and implementing health games successfully. In addition, the research supported by Health Games Research is intended to:

- assess advantages and disadvantages of games as health interventions, compared to other health intervention methods, for particular health topics, technologies, environments and populations;
- discover the interests and abilities of specific target populations so that games can be designed to engage them and best meet their needs;
- identify potential negative effects of interactive game features, so that game designers can minimize or avoid them;
- increase the number of high quality, effective health games available to the public;
- provide validated research evidence and additional useful information and data to health educators, medical practitioners, public health officials, insurers, health and disease associations, business leaders, policy-makers, game publishers, government agencies and other decision-makers who create, buy, recommend or fund health games;
- promote interest and participation in the health games field and demonstrate the value and benefits of evidence-based game design.

Approximately \$2 million was awarded to 12 grantees in the first round of funding in 2008. This second round of funding will award approximately \$2 million more, providing research grants of between \$100,000 and \$300,000 each for studies lasting one to two years. Each grantee will also be eligible to receive research technical assistance from the Health Games Research program, if needed.

We encourage proposals from investigators with a strong record of health games research or research in a related field. The program also welcomes proposals from early-career investigators and those with less experience in health games research who seek to enter the field. Investigators at all levels of expertise and experience are encouraged to submit new, creative research ideas to improve health game theory, design principles, and behavioral and clinical outcomes.

### ***Project Requirements***

Funding for Health Games Research focuses on the study of interactive games that increase physical activity and/or improve self-care. *Physical activity games* include: (a) *exergames*, in which the player's physical movements and exertion are the inputs into the game (e.g., dance pad games, camera-based games, and console games that use a motion-sensitive remote controller); and (b) *mobile active games* that use networked mobile devices (e.g., PDAs and cell phones) to support physically challenging games situated in real-world environments and, in some cases, that also use sensors, health monitors and/or GPS systems. Both exergames and mobile active games require physical activity in order to play. *Self-care games* are interactive games of any genre, delivered by any technology platform, that improve individuals' health-related skills, behaviors and outcomes related to lifestyle, prevention, self-care, adherence to one's medical treatment plan, and/or self-management of chronic disease.

Since people of all ages and other demographic categories play health games, applicants are welcome to propose research that will be conducted with any population(s) they choose.

Proposed research studies must do more than show that playing an interactive game has contributed to a desirable health skill, behavior or outcome. The research must also demonstrate, with scientific rigor and theoretical grounding, how players respond

cognitively, emotionally, physiologically and/or socially to game play experiences and how those responses help influence the desired outcome. The hypotheses presented in the proposal—and, ultimately, the research findings—should lead to a substantial set of evidence-based design principles that other health game designers could use in the future.

To be competitive for funding, research projects must use one or more health games to investigate theory-based design principles that could potentially change players' health-related skills, behaviors and/or outcomes. Applicants requesting smaller grants (\$100,000 to \$150,000) must hypothesize and test design principles. Applicants requesting larger grants (\$150,001 to \$300,000) must address all three of the program's targeted interest areas:

1. design principles;
2. comparative study of the effectiveness of a health game versus another health intervention method;
3. meeting the needs of specific target populations.

### ***Targeted Interest Areas***

1. *Design principles*: All proposals must explain how, for whom, and in what contexts each game design principle investigated in the study is expected to be effective. More than measuring outcomes, it is essential to test theory-based health promotion and health communication strategies that help explain how the game contributes to changes in health behaviors. Upon completion, each project receiving an award will provide a list of the design principles supported by its research, the theories on which they are based and the data substantiating the research results.
2. *Comparative study of a health game versus another health intervention method*: Proposals for larger grants of \$150,001 to \$300,000 must describe the benefits and drawbacks of using an interactive game to bring about the health-related skills, behavior changes and outcomes the research will investigate, in relation

to the study's health topic, intervention goals and target population. They must describe how the study will gather evidence showing the relative advantages and disadvantages of using a game versus using a well-validated non-game intervention method (e.g., a method using print materials, electronic media, online media, and/or face-to-face interactions in classrooms, clinics or support groups) that is known to be effective in bringing about the intended health-related skills, behaviors and outcomes. Proposals should present relevant findings from existing studies and then propose a research plan to gather quantitative measures that will test new research questions with appropriate empirical evidence.

3. *Meeting the needs of specific target populations:* Proposals for larger grants also must focus clearly on at least one target population and use an approach that meets that group's needs, interests and abilities. More than one target population may be included in the study provided that either: (1) the game or the way the game is played in the study is modified, where needed, to serve each population optimally (e.g., modified into two versions that best serve two age groups); or (2) the game is not modified because the study is intended to explore and identify optimal ways to design future versions of the game for each population.

#### *Additional Requirements*

- Grant resources must be used primarily to conduct research. No more than 25 percent of a project's funding may be used, if needed, to develop prototype game software or technology that will be tested in the study, or to modify an existing game or technology for use in the study. The remaining funding must be used to pay for research-related activities. Studies that have already received funding from other sources that will support more extensive prototype software or technology development are welcomed and encouraged, as long as at least 75 percent of the Health Games Research funding will support research activities.

- The project must study the processes and effects that occur when people play one or more health games classified as either a physical activity game or a self-care game, or a hybrid blend of the two. The game(s) investigated in the project should have the potential to enhance people's health status and quality of life by sparking—and sustaining—changes in their health skills, behaviors and outcomes related to lifestyle, prevention, self-care, adherence and/or chronic disease self-management.
- The proposed study must mainly use quantitative research methods and statistical analyses. To supplement the quantitative research, qualitative methods may also be used, such as ethnographic methods, case studies and user testing protocols.
- Applicants are encouraged to bring together a strong multidisciplinary team of researchers and outside consultants with expertise in: (1) health promotion; (2) interactive media research; (3) game design; (4) clinical practice in the health areas addressed in the study; and, (5) if a prototype or game modification will be developed, game software and technology development.
- Proposals must include a plan for communicating and disseminating research findings to the research community and to other stakeholders through academic publications, trade press, conference presentations and other outlets. At least one scientific research article must be written and submitted to a high-quality, peer-reviewed academic journal for publication.
- The principal investigator and one other research team member are expected to attend an annual meeting of Health Games Research grantees during each year of their project's funding period, which will last up to two years. The next grantee meeting will be held in October 2009.

## Eligibility Criteria

### *Eligible Types of Lead Organizations*

To help build a multidisciplinary field of research, proposals are invited from a broad range of disciplines in the health sciences, learning sciences, computer sciences and the social and behavioral sciences. Proposals should draw upon theories of human behavior change and learning from the perspective of each investigator's areas of specialization.

Applicants must be nonprofit organizations such as universities, medical centers, government agencies and other entities that are tax-exempt under Section 501(c)(3) of the Internal Revenue Code and are not private foundations as defined under Section 509(a).

Applicant organizations must be based in the U.S. or U.S. territories. The focus of this program is the United States. Proposals for studies to be conducted in other countries will be considered only if they have the potential to improve the health of U.S. citizens.

### *Eligible Investigators*

The principal investigator must be employed at the applicant organization for more than 50-percent time. This individual should have a strong record of research accomplishment in a relevant field. A well-rounded team of experts should be included as senior investigators and advisers for the study, with expertise in relevant technical, medical, health communication and health behavior change areas.

Junior or early-career investigators, or those who are new to the study of health games, are welcomed and encouraged to apply for smaller, more focused projects (\$100,000 to \$150,000) as a way to get started in the field. They should show promise, potential and interest in health games research. Smaller and larger projects will have an equal opportunity for funding.

For-profit organizations may participate as subcontractors or consultants on a Health Games Research grant, but the applicant organization

must be a nonprofit entity such as a university, medical center, nonprofit research organization or government agency.

## Selection Criteria

Proposals must present a well-designed research plan that will lead to better understanding of the way people experience, process and respond to specific features of health games. Proposals must also demonstrate that study findings will help improve the state of knowledge and practice related to health game design and implementation.

Proposals will be reviewed and evaluated by an interdisciplinary national advisory committee of experts, with additional participation by RWJF staff and other reviewers. Proposals will be evaluated according to the following quality standards:

- An innovative approach to improving the effectiveness of interactive health games, through theory-based research focusing on cognitive, emotional, physiological and/or social processing of game experiences.
- Implementation of well-established behavior change principles, presented clearly within the context of relevant research literature. The proposed research must investigate new behavior change strategies to use in interactive health games, or must investigate new ways to deliver existing strategies in a game environment. Originality of research is essential, and straightforward replications of prior research will not be funded.
- Specificity and justification of project goals, hypotheses, methods and outcome measures.
- Use of a clear theory-based framework, conceptual model or rationale.
- Scientific rigor of proposed research and analytic methods, including quality of measurements and data.
- Research qualifications and experience of investigator(s) and relevant expertise of team members, team advisers and subcontractors.

- Clear focus on one or more target populations and a research approach that tests study participants appropriately according to their ability to play certain games and their ability to respond to research measures and questions.
- A study of one or more games delivered or supported by software or technologies that are easy to use and are currently, or soon-to-be, widely available.
- A feasible technical approach, if a game prototype will be developed for the study.
- Potential impact on the design of health games and on the field of health games research.

### Evaluation and Monitoring

An independent research group selected and funded by RWJF will conduct an evaluation of the Health Games Research program. As a condition of accepting RWJF funds, grantees will be required to participate in the evaluation.

Grantees are expected to meet RWJF requirements for the submission of narrative and financial reports, as well as periodic information needed for overall project performance monitoring and management. We may ask project directors to participate in periodic meetings and give progress reports on their grants. At the close of each grant, the principal investigator will provide a written report about the research and its findings, suitable for wide distribution.

Health Games Research staff and consultants will be available to provide technical assistance to grantees as needed to ensure the success of the project. Technical assistance involves help with research methods and measures, locating needed resources, sharing information among grantees and assisting with dissemination of findings. The staff will work with grantees to communicate their research results to scientific and medical audiences; health advocacy groups; media; leaders in game,

software and technology industries; policy-makers; educational institutions; the general public; and other stakeholders and opinion leaders in the field.

### Use of Grant Funds

Grant funds may be used for project staff salaries, consultant fees, data collection and analysis, meetings, supplies, project-related travel and other direct expenses, including a limited amount of equipment essential to the project. In keeping with RWJF policy, grant funds may *not* be used to subsidize individuals for the costs of their health care, to support clinical trials of unapproved drugs or devices, to construct or renovate facilities, for lobbying, or as a substitute for funds currently being used to support similar activities.

### How to Apply

All proposals for this program must be submitted only through the RWJF Grantmaking Online system. For detailed instructions and to submit a proposal, please visit <http://grantmaking.rwjf.org/gfb2>.

Optional Web conference calls will be held on Wednesday, February 11, 2009 (3 p.m. ET) and Thursday, February 19, 2009 (4 p.m. ET), to provide potential applicants with further information and to answer their questions. Registration is required. For complete details and to register, please visit [www.healthgamesresearch.org](http://www.healthgamesresearch.org).

Please e-mail your questions about the Health Games Research national program and its proposal requirements to [healthgamesresearch@rwjf.org](mailto:healthgamesresearch@rwjf.org).

All proposals will be reviewed by the program's national advisory committee and by RWJF staff. All funding decisions will be made by RWJF on the basis of reviewers' recommendations. Neither RWJF nor the Health Games Research national program will provide critiques of proposals submitted.

## Program Direction

Direction and technical assistance for this program are provided by the Health Games Research national program office located at the University of California, Santa Barbara.

Main phone number: (805) 893-7787  
E-mail: [healthgamesresearch@isber.ucsb.edu](mailto:healthgamesresearch@isber.ucsb.edu)  
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Responsible staff members at the national program office are:

- Debra Lieberman, Ph.D., *director*
- Maria Chesley Fisk, Ph.D., *deputy director*

Program partner:

- Ben Sawyer, *co-director, Games for Health Project*

Responsible staff members at the Robert Wood Johnson Foundation:

- Paul Tarini, M.A., *senior program officer*
- Robert Hughes, Ph.D., *chief learning officer*
- Claire Gibbons, Ph.D., *program officer*
- Susan Promislo, M.A., *communications officer*
- Jennifer Dobossy, M.P.A., *program associate*
- Sofia Kounelias, *grants administrator*

## Timetable

### ■ February 11, 2009 (3 p.m. ET) and February 19, 2009 (4 p.m. ET)

Optional Web conference calls for potential applicants. For complete details and to register, visit [www.healthgamesresearch.org](http://www.healthgamesresearch.org).

### ■ April 8, 2009 (3 p.m. ET)

Deadline for receipt of proposals.\*

### ■ July 2009

Notification of finalists.

### ■ September 1, 2009

Grant start date.

### ■ October 15-16, 2009

Health Games Research Annual Program Meeting.

\* All proposals must be submitted only through the RWJF Grantmaking Online system. All applicants should log in to the system and familiarize themselves with the online submission requirements well before the submission deadline. Program staff may not be able to assist all applicants in the final 24 hours before the submission deadline. In fairness to all applicants, the program will not accept late proposals.

## About the Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation focuses on the pressing health and health care issues facing our country. As the nation's largest philanthropy devoted exclusively to improving the health and health care of all Americans, we work with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful and timely change.

For more than 35 years we've brought experience, commitment and a rigorous, balanced approach to the problems that affect the health and health care of those we serve. When it comes to helping Americans lead healthier lives and get the care they need, we expect to make a difference in your lifetime.

For more information visit [www.rwjf.org](http://www.rwjf.org).

Sign up to receive e-mail alerts on upcoming calls for proposals at [www.rwjf.org/services](http://www.rwjf.org/services).



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