



Robert Wood Johnson Foundation

Health Games Research

Advancing Effectiveness of
Interactive Games for Health



2007 Call for Proposals

Proposal Deadline

January 29, 2008

Program Overview

(Please refer to specific sections for complete detail.)

Purpose

Health Games Research: Advancing Effectiveness of Interactive Games for Health 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.

Eligibility Criteria (page 10)

- Applicants must be organizations such as universities, nonprofit organizations, 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 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.
- For-profit organizations may participate as subcontractors or consultants on the project team, but the applicant organization must be a university, nonprofit organization, government agency or other entity, and the principal investigator must be employed there more than 50-percent time.

Selection Criteria (page 11)

Complete selection criteria appear on page 11.

Total Awards

- Up to \$2 million will be available in this first round of funding.
- Up to 15 grants of between \$50,000 and \$200,000 each will be awarded to projects lasting up to two years.

Key Dates and Deadlines

- **December 7, 2007 (3 p.m. ET)** and **December 13, 2007 (4 p.m. ET)**—Optional Web conference calls for potential applicants.
- **January 29, 2008 (3 p.m. ET)**—Deadline for receipt of proposals.
- **May 1, 2008**—Grant start date.
- **May 6–7, 2008**—Annual program meeting, Baltimore, Md.
- **May 8–9, 2008**—Games for Health Conference, Baltimore, Md.

How to Apply (page 13)

All proposals must be submitted through the RWJF Grantmaking Online system. Please direct inquiries to:

Jennifer Dobossy, *program associate*
Robert Wood Johnson Foundation
Phone: (888) 635-7433
E-mail: HealthGamesResearch@rwjf.org

www.healthgamesresearch.org

Background

Playing interactive games is a popular activity in the United States and participation is increasing among a wide diversity of populations. Not only are interactive games engaging and fun, but a growing body of research is finding that they also provide powerful first-hand experiences that can motivate learning, skill rehearsal and behavior change. Consequently, there is rising interest in the use of interactive games to improve health behaviors.

The *Health Games Research* program was established to strengthen the evidence base related to health games that are delivered or supported by digital technology. Studies of several health games have already documented that a well-designed game focusing on a specific health topic and target population can, for example, intensify anti-smoking attitudes, improve prevention behaviors, influence dietary habits, increase physical activity, enhance self-care, strengthen adherence to one's medical treatment plan, or improve 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, communication 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 contribute to improving 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 will award grants for research that has 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 contributes to national conferences, presentations at professional meetings, and the widespread dissemination of research findings and resources related to 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 (dance pads, cameras pointed at players, motion-detecting remote controllers), robots, interactive television, virtual environments, electronic toys, context-sensitive programs (using sensors, physiological and health monitors, global positioning systems), or other emerging technologies that are becoming more affordable and accessible. A game is a rule-based activity that involves some degree of challenge to reach a goal. Health Games Research investigates how people respond to interactive games in order 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 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 to developing theory-based design and

implementation principles, the research supported by the Health Games Research program aims to:

- assess advantages and disadvantages of games as health interventions, compared to other health intervention methods, for particular health topics, technologies, environments and populations;
- identify potential limitations and negative effects of health game features, so that game designers can avoid them;
- increase the number of high quality, effective health games available to the public;
- promote interest and participation in the health games field by increasing public awareness; improving the public's ability to assess the quality of health games; and encouraging more game industry professionals, health experts and researchers to become involved in the development of health games; and
- provide validated research evidence and additional relevant information and data to 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.

Funding for Health Games Research focuses on interactive games that increase physical activity and improve self-care. *Physical activity games* include: (a) exergames, in which the player's physical movements and exertion are the inputs into the game (such as dance pad games, camera-based games, and console games using a motion-sensitive remote controller); and (b) mobile active games that use networked mobile devices (such as PDAs and cell phones)—and in some cases, sensors, health monitors and/or GPS systems—to support physically challenging games situated in the real-world environment. 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

individual health behaviors and outcomes related to lifestyle, prevention, self-care skills and practices, adherence to one's medical treatment plan and/or chronic disease self-management.

Health Games Research will award up to 30 grants in two rounds of funding. Up to \$2 million will be awarded in this first round in 2008 and, in a second round of funding, approximately \$2 million will be awarded in 2009. Grants of up to \$200,000 each will support projects lasting up to two years. After receiving an award, each grantee also is eligible to receive research technical assistance from the Health Games Research program, if needed.

We encourage proposals from investigators representing a diverse range of fields and backgrounds including, but not limited to, the health sciences, learning sciences, computer sciences, and social and behavioral sciences. The program welcomes proposals from early-career investigators and those with less experience in health games research who are now entering 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

Proposed research studies must do more than show that playing an interactive game has contributed to a desirable health outcome. The research must also demonstrate, with scientific rigor and theoretical grounding, how players respond—socially, emotionally and/or cognitively—to the game play experience, and how those responses influence the desired outcome. The findings must lead to a set of validated design principles that other health game designers could use in the future. Funded research projects must have a strong theoretical foundation and must test and validate health behavior change principles in one or more games.

The program has three targeted areas of interest:

1. Theory-based design principles;
2. Comparative analysis of games versus other health intervention methods;
3. Meeting the needs of specific target populations.

Health Games Research places primary emphasis on the first targeted area—developing theory-based design principles. **All proposals must address this first targeted area of interest.** In addition, applicants requesting larger grants (\$100,000 to \$200,000) must address the second and/or third targeted areas of interest to be considered for funding.

1. **Design principles:** 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 study completion, grantees will be required to provide a list and description of the design principles demonstrated and validated in their research, the theories on which the principles are based, and data supporting the research results.
2. **Comparative analysis of games versus other health intervention methods:** Proposals should describe the benefits and drawbacks of using an interactive game to bring about the health behavior changes or clinical outcomes the research will investigate, pertaining to the study's health topic, intervention goals and target population. If there are other health media or face-to-face interventions that are known to be effective in bringing about the same health behavior changes, the proposal must provide evidence showing the relative advantages and disadvantages of using a game versus the other intervention methods. Beyond analyzing existing data, studies should include quantitative measures that will provide further empirical evidence.

3. **Meeting the needs of specific target populations:** Proposals must focus clearly on a target population and use an approach that meets that group's needs, abilities and preferences. More than one group may be included in the study as long as either: (1) the game experience is tailored to each population (for example, a game could be modified into two versions for two age groups or cultural groups); or (2) the study is intended to identify optimal ways to design future versions of the game for each population.

Junior investigators, or those who are new to the health games field, may want to propose a smaller project as a way to get started in the field. Health Games Research welcomes and encourages these types of smaller-scale studies. It is expected that up to six smaller projects (\$50,000 to \$100,000), and up to nine larger projects (\$100,000 to \$200,000), will be funded during this first round.

Following are additional requirements for all projects funded by Health Games Research:

- Grant resources should 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 technologies that will be used in the study. The remaining funding should be used to pay for research-related activities. Studies that receive funding from other sources for prototype development or technology development are welcome and encouraged, as long as the Health Games Research contribution primarily supports research activities.
- The project should study 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 behaviors and outcomes related to lifestyle, prevention, self-care skills and practices, adherence to medical treatment plans and/or chronic disease self-management.

- Proposed studies should 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 advisers or 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 will be developed, game technology and software development.
- Proposals should 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. Investigators are strongly encouraged to submit at least one scientific research article to a high-quality, peer-reviewed academic journal for publication.
- The principal investigator (required) and one other research team member (optional) must attend an annual grantee meeting during each year that their grant is active. The first will be held in May 2008 in Baltimore, Md.

Eligibility Criteria

Eligible Types of Lead Organizations

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

Applicants must be organizations such as universities, nonprofit organizations, 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 its 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 a researcher employed at the applicant organization at more than 50-percent time. For-profit organizations may participate as subcontractors or consultants on the project team, but the applicant organization must meet the Internal Revenue Code requirements listed above.

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 show promise that study findings will help improve the state of knowledge and practice related to health game design.

Proposals will be reviewed and evaluated by an interdisciplinary national advisory committee (NAC) of experts, with additional participation by national program (NPO) staff, RWJF staff and other expert 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 social, emotional and/or cognitive processing of game experiences.
- Investigation of health promotion principles that are based on well-established theory and research evidence, presented clearly within the context of relevant current literature. The research must discover and validate new health promotion strategies to use in interactive health games, or must validate new ways to deliver existing strategies in a game environment. Originality of the research concept is essential, and replications of prior research will not be funded.
- Specificity and justification of project goals, hypotheses, methods and outcomes.
- 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 appropriate expertise of team members, team advisers and subcontractors, as relevant.
- Clear focus on one or more target populations and an approach that is ultimately designed to meet each group's needs, abilities and preferences.

- A study of one or more games delivered or supported by technology and software that are easy-to-use and have features that 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. At the close of each grant, the principal investigator will provide a written report on the project 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. The staff also will work with grantees to communicate the results of funded projects to scientific and medical audiences; health advocacy groups; media; leaders in software, games and technology industries; policy-makers; educational institutions; the general public; and other audiences.

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 carry out the research 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.

Grant resources should be used primarily to conduct research. No more than 25 percent of a project's funding may be used, if needed, to develop prototypes, game software or game technologies that will be used in the study. The remaining funding should be used to pay for research-related activities. Studies that receive funding or in-kind contributions from other sources for prototype, game or technology development are welcome and encouraged to apply to this program for funding, as long as the Health Games Research contribution primarily supports research 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, go to <http://grantmaking.rwjf.org/gfb>.

Optional Web conference calls will be held on Friday, December 7th (3 p.m. ET) and Thursday, December 13th (4 p.m. ET), to provide information and to answer questions for potential applicants. Registration is required. For complete details and to register, visit www.healthgamesresearch.org.

Please direct questions about the Health Games Research program and its proposal requirements to HealthGamesResearch@rwjf.org.

All proposals will be reviewed by RWJF staff and NPO staff at the University of California, Santa Barbara, as well as by members of the program's NAC. All funding decisions are made by RWJF. RWJF and the NPO do not provide individual 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.

Responsible staff members at the NPO are:

- Debra Lieberman, Ph.D., *program director*

Program partner:

- Ben Sawyer, *cofounder and president, Digitalmill, Inc., and co-director, Games for Health Project.*

Responsible staff members at the Robert Wood Johnson Foundation are:

- Chinwe Onyekere, M.P.H., *program officer*
- Robert Hughes, Ph.D., *chief learning officer*
- Claire Gibbons, Ph.D., *program officer*
- Susan Promislo, M.A., *communications officer*
- Jennifer Dobossy, *program associate, national program affairs*
- Sofia Kounelias, *grants administrator*

Timetable

■ December 7, 2007 (3 p.m. ET)

■ December 13, 2007 (4 p.m. ET)

Optional Web conference calls for potential applicants. For complete details and to register visit www.healthgamesresearch.org.

■ January 29, 2008 (3 p.m. ET)

Deadline for receipt of proposals.*

■ April 2008

Award announcements sent to applicants.

■ May 1, 2008

Grant start date.

■ May 6–7, 2008

Annual program meeting, Baltimore, Md.

■ May 8–9, 2008

Games for Health Conference, Baltimore, Md.

* 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.

Sign up to receive e-mail alerts on upcoming calls for proposals at
www.rwjf.org/services.



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Foundation

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