University of Delaware College of Health Sciences
Student Research Competition

Request for Applications: *Undergraduate Research Grants – Developing Innovative Approaches to Health Care and Healthy Living*

Purpose: To enable undergraduate students or student teams to identify important challenges in health care and develop innovative solutions that address challenging health problems.

Important Dates:

Project Proposal Due Date:	September 27, 2013
Project Proposal Award Date:	October 11, 2013
Written Project Report Due Date:	March 14, 2014
Oral/PowerPoint Project Result Presentations:	March 21, 2014
Awards symposium for outstanding projects:	April 25, 2014

Overview: The College of Health Sciences undergraduate students or student teams to identify important challenges in health care and develop innovative solutions that address challenging health problems. Students will prepare a proposal application that focuses on an important aspect of health care, develop a potential solution to that problem, and present their solution for review. CHS will provide $500 funding to each of the top 20 applications to identify a health care problem and articulate a potential

solution to that problem. The students will have 6 months to develop their solutions, which could be policies, applications, devices or best practices, but not limited to those categories. Written reports and oral presentations of the student's or team's results and solution will be evaluated by a faculty committee. All students will be invited to present their solutions at a public symposium in the form of a poster, where the top 3 students/teams will give short oral presentations, and cash prizes of $1500, $1000 and
$500 will be awarded to the top three students or teams. Students and teams will be connected with experts to develop a dialogue about the merits of their ideas and how they may move forward to pursue and further develop their ideas. If students develop applications or devices that they feel warrant consideration as intellectual property or patent protection, they should communicate this fact to their faculty advisor two months in advance of the symposium presentation (February 5, 2013) so that appropriate paperwork can be filled out to protect their ideas or inventions.

Examples of projects include but are not limited to: biomedical research, medical practice, health advocacy, health policy, health management, health informatics, community-based research or related health areas. The solutions may be devices or products, business models, organizations, policies, or processes or procedures that improve health care or healthy living.

Possible approaches include developing new health care policies, inventing a device, outlining a change in best practices, or developing new and better ways to evaluate outcomes. In addition, some ideas might be developed as intellectual property or small start-up businesses. For example, here are some ideas that some new biotech companies are pursuing:

- Bon'App: website and mobile app that allows users to learn about the nutritional value of the food they're eating "through simplistic language and graphical displays," according to the company, ideally leading to healthier choices.
- GeckoCap: a cap that fits over existing asthma inhalers to monitor usage and send data to the web, helping parents and healthcare professionals better manage a child's asthma. GeckoCap took the top prize in an MIT Media Lab hackathon earlier this year that focused on healthcare.
- Software that runs on a tablet computer and uses text, video, and animation to help physicians better explain a specific medical condition to patients. Information can also be e-mailed directly to patients for later reference.
- Aavya Health: software that presents lab results to patients "in an intuitive and engaging format," according to the company. Patients can see how changes in their lifestyle and behaviors would alter their risk for future problems, like a heart attack. Aavya was a runner-up earlier this year in the Health 2.0 "Boston Big Data Code-A- Thon."
- iQuartic: collects and organizes real-time data from medical records across different systems. Allows hospitals and health systems to better analyze

doctor performance and patient trends.

- Abiogenix: developing the uBox, a smart pill container that will prompt patients to take their meds. The box can alert pharmacies when the user needs a refill.
- Delivery: tackling unhealthy eating by delivering meal ingredients, recipes, and short instructional videos to consumers.
- Yosko: developing an iPad app to give doctors on-the-go access to patient info.
- Scheduling: creating software to predict whether a patient will show up for his next appointment, with a goal of reducing no-show rates for primary care physicians (and decreasing wait times for patients).
- Gweepi Medical: a disposable patch that helps nursing homes monitor patients with incontinence problems.

Project Application Process: Students or student teams will develop a 3–5-page application that identifies a health care challenge and articulates a plan to develop a solution to that problem. The application should be organized as follows:

1. Summarize the challenge to be addressed and the type of solution to be developed.
2. Provide some background on this challenge and why it is important.
3. Indicate current approaches being used and why these approaches are not satisfactory.
4. Develop a plan to address these challenges.
5. State the qualifications and background of the student or the team.
6. Estimate the funds needed to develop this plan (up to $500) and justify why these funds are needed.

Eligibility: All registered undergraduate students at the University of Delaware are eligible.

Award Process: Applications should be submitted to the College of Health Sciences Dean's Office via email (chs-info@udel.edu) by 5:00 pm, **September 27, 2013**. Proposals will be reviewed by a committee of 5 faculty members for merit, and the top 20 students or student teams will be awarded up to $500 to pursue their ideas. Students will be assigned a faculty project advisor and will meet with the advisor monthly to review progress. Awardees will be notified on **October 11, 2013**.

Use of Funds: Funds may be used to purchase resource information, travel, expenses related to interviews of patients, and expenses associated with team meetings or other uses related to the development of the project solution. Funds may not be used for enrollment fees, salaries or personal living expenses.

Completion of Project: A 3-5 page report will be provided to the Associate Dean for Research by 5:00 pm, **March 14, 2014**, and students will be responsible for (a) preparing their report in the form of a poster (CHS will assist) and creating a 10-minute PowerPoint presentation that summarizes the research health challenge they addressed, the reason the problem is significant, current approaches, and the suggested new approach. These reports will be evaluated by the awards committee to prepare the committee for oral presentations.

Presentation of Results: The students will also present their results in the form of a PowerPoint presentation to the review committee for evaluation (**March 21, 2014**). Projects will be reviewed based on (a) the significance of the problem to be addressed, (b) innovation, and (c) practical ability to develop the idea and apply the solution to real-world problems. The committee will rank the top 3 projects based on the review criteria and the quality of their written and oral presentations.

Symposium: All presentations will be prepared as posters and displayed at a public symposium on **April 25, 2014**. The top 3 projects will be invited to summarize their results at the symposium and prizes will be awarded for 1st place ($1500), 2nd place ($1000) and 3rd place ($500) to the winning student or team. The symposium will take place at a venue that will provide dinner for students and teams, faculty participants and invited guests.

Follow-up: After the awards are made, the winning students/teams will be directed to interact with experts in their area of study to increase their understanding of how their idea might be implemented and applied. Students may elect to develop their ideas in undergraduate or graduate research training programs or in the private sector.