

HPB PARTNERS REPUBLIC POLYTECHNIC TO SET UP JOINT INNOVATION LAB IN PHYSICAL ACTIVITY

*Collaboration to span research, testing and development of
innovative technologies to drive the future of health promotion*

Singapore, 30 January 2013: The Health Promotion Board's Physical Activity Centre of Excellence (HPB-PACE) and Republic Polytechnic (RP) today launched a joint Innovation Lab in Physical Activity to foster research and development of intellectual property and technologies to enhance health promotion efforts in the community.

2. The facility, which is located within the RP School of Sports, Health and Leisure, will see a mix of student and staff-based projects in collaboration with industry partners. It will act as a research and test-bedding centre to incubate promising solutions to address key public health concerns such as diabetes, obesity and healthy ageing.

3. The collaboration spans three key areas:

- Research Centre: Dedicated to experimental studies to improve physical fitness validation, ways to decrease sedentary behaviour and physical activity for diabetes prevention;
- Test Bedding Centre: To collaborate with industry partners to test and develop new applications, technologies and physical activities for greater accessibility within local communities;
- Knowledge-Sharing Centre: Conduct seminars and workshops on physical activity and technology for industry and community; provide advanced diploma and certification programmes.

4. Pilot projects currently under way include a wrist device with enhanced functionalities such as the integrated Diet and Activity Tracker (iDAT) and the ability to send an automatic text alert to a

caregiver if the person wearing the watch should fall or sustain movement-related injuries. This could cut response times and aid faster treatment. It would complement HPB's current efforts for falls prevention through functional assessment and screenings at the community level.

5. Mr. Ang Hak Seng, CEO, HPB, said: "Living a healthy lifestyle is a personal responsibility, but we can support this choice and reduce the barriers through the use of the technology. Firstly, it can be leveraged to help to create an instant positive feedback loop. The iDAT application on the wrist device not only helps to give you immediate feedback on how far you have run and how many calories you have burned, you can also share this information with friends who will help to inspire and encourage you to stay the course. Secondly, we recognise seniors' safety is of utmost concern when engaging in physical activity. The wrist device that we have developed can give seniors an assurance that even if they fall during an activity, the device will automatically help alert others so that an immediate response can be activated. The HPB-RP Innovation Lab will serve not only as a model for thought-leadership but the living lab will support the design, development and deployment of evidence-based tools and solutions to address local health concerns. The collaboration with RP is in line with our long-term vision to continually innovate the ways in which we approach behaviour modification and lifestyle change as we see the potential in such private-public partnership to drive home-grown innovation to advance the science of health promotion. Moving forward, we will continue to collaborate with the industry to develop solutions that not only demonstrate innovation but would enable the public especially the elderly to exercise in a safe manner."

6. Among the projects the lab is currently studying is an equation to calculate the resting metabolic rate of Asians. This could help design customised diets and products that are better suited to local needs and would even allow for development of a localised equation for Singaporeans. Another interesting project is exploring the potential health benefits that older adults may reap from playing Movement-Based Video Games using devices such as the Kinect XBox.

7. Mr Yeo Li Pheow, Principal/CEO, RP said: "We are proud to be partnering with HPB as it is leading health promotion efforts in the region and has been recognised by the World Health Organisation as a collaborating centre. This, along with the access to industry partners, gives our students a very unique opportunity to study and develop solutions to real world problems that can impact the health and quality of life of Singaporeans."

8. The RP-HPB Innovation Lab will be helmed by Dr Robert Sloan, Head, HPB-PACE and Dr Alex Ong at RP who will work together on IT, research, development, and continuing education projects.

9. The lab is currently working with four companies – iActive Pte Ltd, Icon Books & Multimedia Pte Ltd, Biofit Technology & Services and Bodygreen (Asia) Pte Ltd – on test-bedding and developing new healthcare tools. Diploma students are involved in evaluative testing of tools via their final year projects. HPB-PACE will collaborate with RP on assessment and supervision of final year projects and provide at least 12 RP internship placements each year to facilitate the collaborative activities. The first batch of Diploma in Healthcare Management and Promotion (DHMP) students is set to graduate in May 2013.

*_*_*

Annex 1 Factsheet on RP-HPB Innovation Lab in Physical Activity

Annex 2 Factsheet on Current Research Projects

Annex 1 - Factsheet on RP-HPB Innovation Lab in Physical Activity

The RP-HPB IL was set up for translational research and development and provides a strong support for existing programmes such as the Diploma in Health Management and Promotion (DHMP).

It also aims to provide state-of-the-art facilities, such as laboratories and equipment, as well as highly-trained staff and students to create a conducive environment for commissioned and funded research projects.

The DHMP is a three-year diploma programme. Currently, there are 58 students who are in their third year (first batch). The number of graduating students from this first batch of DHMP students will be 54.

The jobs they are eligible for are (not limited to):

- Corporate Wellness Programme Executive
- Allied Educator in MOE schools (to support teachers in health promotion and wellness programmes and CCAs)
- Health Research Assistant
- Health and Wellness Educator
- Health Promotion Executive
- Public Health Programme Executive
- Work Place Health Executive

*_*_*

Annex 2 - Factsheet on Current Research Projects

Below is a list of key projects in the three areas of collaboration; i.e. Research Centre, Test Bedding Centre and Knowledge-Sharing Centre.

Research Centre

1. Health Qigong VO2 Study – A study to validate the intensity level of Health Qigong and determine if Health Qigong fits the recommended weekly 150-minute guideline as a moderate-intensity physical activity for older adults. A VO2 analyser will measure the oxygen consumption of the participants, which is the gold standard measure for intensity of activity.

Project start date: early 2013

Project end date: end 2013

2. Resting Metabolic Rate for Asians – A study to validate the equation for calculating the resting metabolic rate of Asians that helps to customise the dietary needs of Singaporeans based on the baseline calorie requirement to be determined from the resting metabolic rate. Using the dual-energy X-ray absorptiometry (DEXA) machine, various parameters such as lean body mass, will be measured to develop a localised equation for Singaporeans.

Project start date: early 2013

Project end date: end 2013

3. Kinect Xbox Study – To investigate the potential health benefits that older adults may reap from playing Movement-Based Video Games (MBVG). This study engages MBVG as a potential fun and healthy alternative for older adults to stay active indoors. The study will also aim to determine if MBVG meets the intensity criteria for the recommended weekly 150-minute guideline. Health markers will be assessed in various domains including but not restricted to cardiovascular fitness, psychosocial health and motor coordination.

Project start date: early 2013

Project end date: end 2013

Test Bedding Centre

1. Health Watch – A first of its kind, the health watch is a wrist device that detects and monitors physiological changes of the body, e.g. changes in heart rate, number of steps taken, falling over, etc. It allows an individual to easily monitor their exercise intensity and better attain

specific fitness or weight management goals. It combines integrated sensors with an advanced algorithm to accurately detect physiological changes in the body.

Project start date: mid 2012

Project end date: end 2013

2. Fall Alert Function in HPB's mobile application, integrated Diet and Activity Tracker (iDAT) – Combines the functionalities of Health Watch and iDAT to automatically alert the caregivers of Health Watch users should they fall over or incur movement-related injuries. This function reduces fatalities through shortened response times as a result of rapid and seamless alert notification.

The Health Watch is able to sense real falls which immediately sends out an alert via Bluetooth/GPRS to caregivers on their iDAT app. (For information on iDAT, see www.hpb.gov.sg/iDAT)

Project start date: early 2013

Project end date: mid 2014

3. Isokinetic Machines – To test the practicality and validity of placing isokinetic machines in the void decks of HDB flats. This test will determine if these machines are effective, safe and easy to use. This project will benefit the public community, especially the elderly and those who have no access to gyms.

Project start date: early 2013

Project end date: early 2014

Knowledge-Sharing Centre

1. Physical Activity Advise Tool (PAAT) – An online tool that helps physicians concisely and accurately determine the fitness status of patients. Physicians can provide tailored guidance for patients on how to improve weight, cholesterol, diabetes, blood pressure or fitness level. It uses an algorithm which includes the National Physical Activity and MOH clinical practice guidelines to generate a tailored report for patients. This project will greatly benefit the adults and older adults in Singapore. The PAAT will be further vetted through the test bedding centre to determine its applicability for use by other qualified allied health and fitness professionals.

Project start date: 2013

Project end date: 2014

*_*_*