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PLAY YOUR WAY TO BETTER HEALTH

Health institutions and doctors are using games as light-hearted ways to spread awareness of topics that can be taboo, such as cancer



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When it comes to health, maybe people should "play-play". Health institutions in Singapore are turning to games and rewards to spread the word about illness and disease, and also to nudge people to pick up healthier habits.

Thanks to a locally made Web-based game, Ms Kong En Hui learnt ways to reduce her risk of getting cancer.

The 23-year-old Nanyang Technological University (NTU) undergraduate played NCIS Fights Cancer, which was launched by the National University Cancer Institute, Singapore (NCIS) to celebrate its 15th anniversary.

The game was available via the NCIS website for the last eight weeks of 2023. Players avoided in-game obstacles and collected objects to rack up points and compete for prizes such as movie ticket vouchers and supermarket vouchers.

Game play also revealed facts about cancer, with more chances to play if participants shared these facts with others.

Ms Kong shared cancer facts 52 times. She was surprised to learn that there are 40 carcinogens in cigarette smoke. "I knew that cigarettes were harmful, but I didn't know that the smoke contained so many cancer-causing substances," she says in an interview with The Straits Times.

She also knows now to eat less processed foods, since such foods increase the risk of developing cancer.

They managed to incorporate health facts into a game. I found

that new and interesting," she says. "I enjoyed playing the game and I also managed to gain new knowledge."

HEALTH EDUCATION

NCIS Fights Cancer was developed by local gamification marketing company Sqkii. About 1,300 people played it when it was online, says a spokeswoman for NCIS.

Many players accessed the game at least three times a day, according to NCIS executive director, adjunct associate professor Chee Cheng Ean. Around half the players shared cancer facts from the game as well.

There are no plans to revive the game, but it appears to have met its targets.

Prof Chee says via e-mail that the aim was to boost players' knowledge of cancer screening and prevention.

She adds that since Singapore has among the highest rates of smartphone ownership in the world, a Web-based mobile game was chosen to

engage young and old. "This is the first time NCIS is using gamification as a powerful catalyst for health promotion, which we hope will also translate to health interventions by nudging eligible people in the population to go for cancer screenings," Prof Chee says.

Dr Kenneth Sooi, senior resident at NCIS' department of haematology-oncology, worked with Sqkii to develop the game, a process that took 2½ months from concept to launch.

Gaming is a light-hearted way to learn about cancer, a topic that can

The hope is that our players will become more aware of cancer as a disease, observe healthy living habits – such as avoiding smoking – and go for relevant age-appropriate screening measures, such as mammograms.



DR KENNETH SOOI, senior resident at National University Cancer Institute, Singapore's department of haematology-oncology, on how games can help people learn about medical issues. He took 2½ months to develop NCIS Fights Cancer with local gamification marketing company Sqkii.



Ms Kong En Hui, 23, spent weeks on a locally made mobile game, NCIS Fights Cancer, that taught her new facts about cancer. ST PHOTO: GIN TAY



Retiree Sim Cheng Hoon, 72, trying out a game at the senior-friendly space Geritopia set up at a waiting area in Alexandra Hospital. ST PHOTO: NG SOR LUAN

be taboo for some, he says.

"Ultimately, the hope is that our players will become more aware of cancer as a disease, observe healthy living habits – such as avoiding smoking – and go for relevant age-appropriate screening measures, such as mammograms."

Alexandra Hospital's Healthy Ageing Programme team has also turned to games to improve health literacy about geriatric syndromes or age-related conditions such as frailty and falls.

A space outside the Healthy Ageing Clinic has been transformed since the last week of December into "Geritopia", a space with elder-friendly games and activities meant to engage waiting patients and their caregivers.

Information panels explain what each game or activity is meant for,

and the conditions they address. For example, there is a series of LED panels which light up in different sequences and must be tapped in the correct order. This activity boosts memory, movement and pattern recognition.

Panels of differently textured materials can be used to stimulate sight and touch, and also help with focus and concentration.

Retired businessman Peter Leow, 75, likes the fidget board made up of everyday objects such as locks, switches and a small shoe with laces.

"This is very practical," he says, adding that it allows older people with eyesight and coordination problems to practise turning the keys in locks and manipulating switches.

Retired secretary Sim Cheng

Hoon, 72, knows that she needs to build muscle strength after some unexplained falls.

After trying the pedal exerciser at the Geritopia corner, she asks a nearby nurse where she can buy one for herself. "I need to strengthen this," she says, patting her thigh.

However, she would like more stimulating mental activities than the LED panels, or stacking blocks of the same shape and colour.

Dr Preetha Venugopal Menon, consultant with the hospital's Healthy Ageing Programme, takes that feedback on board.

The senior-friendly game corner is a work-in-progress, she says, as the team learns more about users' needs and interests. "We don't want to infantilise it," she adds.

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FROM C1

Indeed, gamification of health is not child's play.

Junior doctors in SingHealth hospitals are being trained on "serious games" that have been developed by local experts to impart medical knowledge and experience through interactive game scenarios.

Dr Moy Wai Lun from Sengkang General Hospital (SKH) worked with his colleagues and Singapore-based technology company Playware Studios to develop three games, based on patients that doctors focusing on acute medicine might encounter.

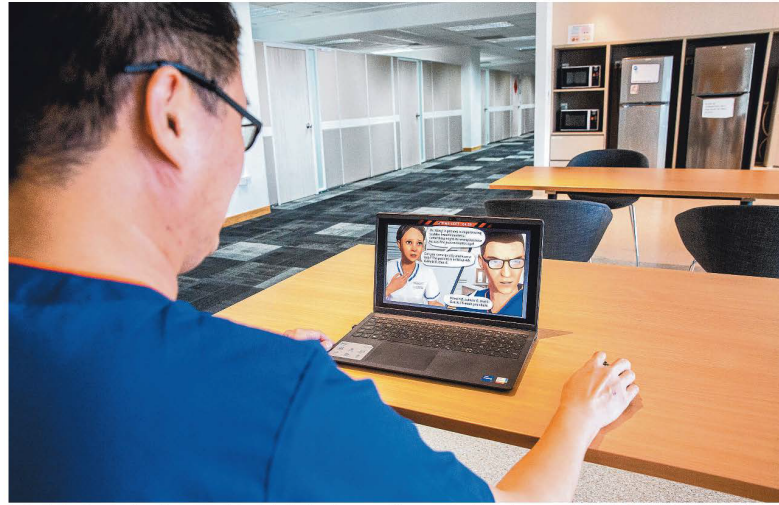
Can't Catch A Breather involves managing a patient experiencing respiratory distress, Thicker Than Water focuses on managing a patient with dangerously low blood pressure and Rumbunctious Rhythm is about managing a patient with a critical cardiac condition, says Dr Moy, who is a clinical assistant professor and senior consultant in internal medicine at SKH.

The games were developed with Dr Azman Johan, senior consultant at SKH's department of respiratory medicine; Dr Liou Wei Lun, consultant at Singapore General Hospital's department of gastroenterology and hepatology; and Dr Mohammed Rizwan Amanullah, consultant at NHCS Cardiology @ SKH, a collaboration between SKH and National Heart Centre Singapore (NHCS).

Two cohorts of junior doctors have participated in the games and their feedback suggests increased confidence in managing medical emergencies, says Dr Moy.

"The interactive nature of the games has proven to be especially effective in simulating real-life acute medical scenarios encountered during on-call duties," he says.

"The games create a safe environment for the junior doctors to identify their learning needs through their mistakes, alleviating performance pressure and preventing feelings of discouragement and demotivation."



Dr Moy Wai Lun from Sengkang General Hospital worked with his colleagues and Singapore-based technology company Playware Studios to create games to train junior doctors by simulating real-life scenarios. PHOTO: SENGKANG GENERAL HOSPITAL

Gamification offers insights into real-life cases

REWARDS FOR HEALTH

Leaning into what users already do is part of the design process when gamifying healthy habits or health education.

Adding rewards and challenges increases user engagement and can improve behaviour patterns, as the

Health Promotion Board (HPB) has found with its Healthy 365 app, which was launched in 2015.

For example, moving, eating and sleeping are everyday activities.

The Healthy 365 app gets users to improve on these by awarding points for hitting a healthy target.

Users get points in the app for

taking 5,000 steps daily and for clocking 10 to 30 minutes of moderate to vigorous physical activity daily. Both are part of the National Steps Challenge.

They can also scan QR codes to prove they are buying healthier food and drinks under the Eat, Drink, Shop Healthy Challenge.

From October to December 2023, users could also get points based on their sleep habits.

Points can be exchanged for rewards such as supermarket vouchers. Users can also book spots for exercise activities or health-related seminars through the app.

The Healthy 365 app was rolled

out to implement the National Steps Challenge, a nationwide challenge launched in 2015 to inspire people to be more physically active. The challenge has since attracted 1.8 million participants.

Ms Joanna Chan, group director of programmes at HPB, says tying rewards into the challenge has led to an increased daily step count clocked by participants – from 4,500 steps daily in 2015 to over 8,000 steps by 2019.

She adds that more than 700,000 people a month use the app to participate in various programmes, including physical activity challenges.

The app also now provides digital "nudges" or messages to participants to encourage them to sustain their level of physical activity or to eat healthily.

"We envision such digital nudges to be more and more customised in the future, where individuals are engaged with relevant messages," says Ms Chan.

She adds that future upgrades will allow users to take part in more gamification challenges to achieve personal health goals.

"By turning healthy living into engaging and rewarding experiences, we hope to get residents to be more conscious about their lifestyle choices and increase awareness of healthier practices that they can adopt," she says.

"The idea is to encourage them to overcome the inertia to take action for their health and sustain these behaviours into lifestyle habits," she adds.

The rewards system in the Healthy 365 app has made NTU student Ms Kong eat healthier. She now deliberately looks for healthier groceries when shopping.

She scans the QR codes accompanying her purchases in order to accumulate points that can be exchanged for rewards in the app.

"I visit supermarkets often and it's easy to scan the QR codes," she says.

She also plays popular mobile game Pokemon Go, which helps her track her steps and stay active. "I guess games are making me healthier," she says.

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