

Ngee Ann Unveils PDA System For Nursing Students

~ Polytechnic also sets up \$1.4m Patient Simulation Centre to complement clinical attachments

Singapore, 30 July 2007 – Nursing education in Singapore is in for a radical transformation when Ngee Ann Polytechnic (NP) rolls out its new personal digital assistant (PDA) programme in August 2007.

The \$387,000 initiative was funded partly by a \$200,000 contribution from the Lien Foundation, with the polytechnic picking up the tab for the rest. A total of 220 PDAs have been purchased for the polytechnic's School of Health Sciences, which conducts the Diploma in Health Sciences (Nursing) course.

"We believe this PDA initiative is the first of its kind for nursing students in Asia," said Dr Phang Chiew Hun, the Director of Ngee Ann's School of Health Sciences.

"These handy devices will enhance the students' learning experience during their clinical attachments and boost the image of the nursing profession. Packed with user-friendly features, it will revolutionise the mode of nursing education. We hope this interesting high-tech approach will induce more young Singaporeans to take up nursing as a career, thus easing the manpower shortage in this area," she added.

For the Lien Foundation, this initiative follows the successful deployment of its mobile medical information solution last year for the HCA Hospice Care and the Home Nursing Foundation, whereby nurses are able to create, access, update, manage and synchronise patients' health records via PDAs. This eliminated thick medical files and needless paperwork which translated into enhanced productivity and better patient care.

"The foundation is moving upstream into nursing education to foster a new generation of tech-savvy nurses. We targeted nurses as they form the bedrock in health service, constituting the largest and most visible group of staff. As convener and catalyst for this initiative, we hope it will dramatically reshape how nursing education is delivered and advance the use of IT by health practitioners," said Mr Lee Poh Wah, the programme director of the Lien Foundation.

The PDAs will be on loan to all the 155 final-year nursing students from August till they complete their studies at Ngee Ann in February 2008. After this pilot run, a review will be conducted to fine-tune the system before extending the PDA scheme to students in all the three levels.

The PDA features were demonstrated to the press at a media briefing held at the School of Health Sciences' **\$1.4 million Patient Simulation Centre** this morning.

Designed to complement the students' clinical attachments at healthcare establishments, the centre is aimed at giving the students the opportunity to practise their nursing skills using the very equipment they will handle in an actual setting.

Said Dr Phang: "The Patient Simulation Centre is a vital component of our nursing curriculum. We can simulate all kinds of scenarios, including rare situations which the students may not encounter during their clinical attachments. With the Patient Simulation Centre, the possibilities are tremendous."

The state-of-the-art facilities include two intensive care units, two emergency rooms, four manikins costing \$80,000 each, an operating theatre complete with the gases used in surgeries, a gerontology unit, and a neonatal intensive care unit.

"The manikins are life-like, they can do everything except eat and sweat. In perfecting their skills on these 'patients', our students will get over any fears of handling different medical conditions, including critical ones such as respiratory failure and cardiac arrest," said Dr Phang.

In a typical classroom scenario, some students will be in the ICU or emergency room to engage in role play, monitoring the "patient's" condition. The patient's medical condition will change and students will exercise clinical judgment and make decisions on how best to care, treat and save the "patient". The "patient" will then respond to the nursing care given. Their vital signs, such as blood pressure, respiratory rate and oxygen level, can change accordingly.

Other students who are not involved in the simulation exercise will be seated in a viewing gallery outside to observe the proceedings and take part in the debriefing at the end of the session. Filming facilities are also available to identify the learning points.

MORE ON THE PDA

With the ability to convert study materials securely to PDA-friendly format, students will be able to access their course materials anywhere, anytime without the need to lug bulky files and textbooks around. Thanks to the rich animation and video potential of the digital media, they can look forward to more vivid illustrations and explanations of complicated concepts and processes. The PDA is a useful productivity tool which allows the students to access information and connect with others through email. The students will be self-driven, tech-savvy and more efficient.

The PDA features were included with the technical assistance of PulseSync Pte Ltd.

Key Features of the PDA:

i) Mobile Translator

- Developed in-house by the polytechnic, the mobile translator allows students to check the correct pronunciation for commonly used words and phrases in Mandarin, Hokkien, Cantonese and Malay. Students listen to the soundbites recorded by their lecturers before speaking to their patients. This will improve their communication skills. Good communication with patients will translate into quality patient care.

ii) Mobile Clinical Reference

▪ Health Assessment

This feature allows students to check the step-by-step procedures needed to perform physical checks for various health conditions of patients. Diagrams and pictures have also been incorporated into the PDA to give a clearer picture. All this information is available at the quick touch of a button.

▪ Disease Database

Students will also be able to get instantaneous information on various diseases. This will enable them to gain a better understanding of the rationale behind each treatment and why patients are managed differently.

▪ Drug Database

Students can tap into the drug database to find out more about the drugs prescribed by doctors in terms of their dosage, indications, which drugs should not be mixed, and so on. Students can also doublecheck the medication prescribed to prevent medication errors in case the doctor's order is unclear.

iii) Mobile Nursing Assessment

▪ Electronic Pre-test

Students will be pre-tested using the PDA before performing tasks, such as inserting a nasogastric tube into the stomach, during their clinical attachments. They take pre-loaded quizzes on the PDA and are marked instantly. This is to ensure that they are sufficiently knowledgeable before performing their nursing skills on the patients.

▪ Electronic Logbook

During clinical attachments, students are given logbooks to keep track of the skills they have mastered. When an acceptable level of competency is achieved, the logbook will be updated accordingly to record their achievements.

The logbooks are an important form of documentation because they have to be submitted to the Singapore Nursing Board before the students can be registered as nurses. The logbooks are also needed by potential employers.

With the PDA, instead of manually updating the logbook, these achievements are captured electronically and updated in the polytechnic's server. This means that even if the logbooks go missing, the information can still be retrieved from the server.

▪ Electronic Learning Journal

Students are required to input their learning objectives before each clinical attachment. Instead of recording these objectives in a notebook, they will key this information into the PDA for the lecturer to identify their learning needs and provide the relevant opportunities for the students during their clinical attachments. The ability to synchronize such

notes with the lecturer's PDA will allow the lecturers to have a quick understanding of the students' learning needs. The students can also use the PDAs to keep digital journals of what they have learnt.

What Next?

- **More Reference Materials to be Uploaded in the Future**

Plans are in the pipeline to incorporate topics and lectures covered in the third year into the PDA as a quick reference for the students. The School of Health Sciences intends to work with an external organisation to come up with a database of commonly used medication in the local context.