ROVING NURSES HELP EASE THE LOAD IN WA EMERGENCY DEPARTMENTS

The use of roving nurses to treat elderly patients in aged care homes to prevent unnecessary transfers to hospital is helping reduce the burden on emergency departments.

These are the findings of research by the WA Institute for Medical Research’s Centre for Clinical Research in Emergency Medicine.

Associate Professor Glenn Arendts from the CCREM said there had been a drop in transfers of patients living in aged care facilities.

“Our study showed we could reduce the number of aged care patients arriving at emergency departments by 17 percent, with no impact on health outcomes, by sending an emergency department nurse out to the patient,” he said.

The research had three components. The team firstly examined how many patients were being transferred from aged care facilities to the emergency department and found 4.5 per cent of the ED workload in one major WA hospital was made up of aged care patients. Associate Professor Arendts said this number was quite high compared with findings of 1-2.5 per cent in studies in other parts of Australia and overseas.

Continued page 7

Revamped curriculum takes dentistry into the nano age

Dental students at the University of WA are being taught advanced technologies, some spurred by the space age, to prepare them for their future at the chairside.

Professor Paul Ichim, Director of Undergraduate Studies at the University of WA’s School of Dentistry, said many of the modern restorative materials were composites that could be bonded to the tooth, preventing the need to drill deeply.

Continued page 13
A new technology that will help in the quest to pinpoint the genetic causes of a wide range of diseases, including Alzheimer’s and cancer, is being introduced at a Faculty centre.

The first disease to be scrutinised with the screening tool at the WA Institute for Medical Research will be melanoma.

WAIMR senior researcher Dr Louise Winteringham said the technology allowed researchers to take a new approach.

Instead of sifting through the gene pool one by one to try to find genes that contributed to the development of diseases, they could select a particular disease and work backwards, looking for the genes responsible.

The technology could be used for a broad spectrum of diseases, including diabetes and neurological disorders, such as motor neurone disease.

It is known as genome wide shRNA screening – shRNAs, or short hairpin RNAs, are short sequences of RNA that structurally resemble a hairpin. They are also known as interfering RNAs because they are able to target specific genes to prevent them from making protein, resulting in physical changes to the cells.

Dr Winteringham said over the past five years, “libraries” of shRNAs had been constructed, covering genes in the genome that could be targeted. To date, about 8,000 to 10,000 of the total 30,000 genes had been included.

It allows researchers to target a particular phenotype – or characteristic of a disease.

“For example, we know that melanoma cells will migrate differently from normal cells,” she said. “So you can take melanoma cells, infect them with this “library” so that every cell gets one shRNA. This will prevent the targeted gene from being expressed.”

One gene is knocked down in each cell and once the cells are grown in the laboratory, it is possible to pick the cells with a changed phenotype and determine the gene responsible.

“The real key to this technology is that instead of doing this with individual genes we can analyse between 8,000 and 10,000 genes all at once,” Dr Winteringham said. “This means that you can identify whole networks of genes that are working together.”

The technology is also being used to determine if cells respond to particular medications.

“One of the main benefits of this screening technology is the prospect of discovering new, previously unconsidered targets that can be used to generate new medications,” Dr Winteringham said.

WAIMR acting director Winthrop Professor Peter Leadman said phenomics offered a significant advantage over other research strategies.

“Often traditional strategies start by looking at a specific gene with an unknown function – a phenomics approach searches for changes in the whole person and, from there, the cause is found,” he said.

“Because molecules involved in diseases generally interact with other molecules and the environment, phenomics is highly useful for looking at the big picture.”

This new technology will be used by researchers throughout Western Australia in the newly-formed WA Node of the Australian Phenomics Network (APN) based at the WAIMR Royal Perth Hospital campus. The APN was established in 2007 as part of the Federal Government’s National Collaborative Research Infrastructure Strategy and the WA Node was set up last December.
The Dean’s Desk

Internationalisation has been a major policy priority at UWA, seeking to strengthen and increase our collaborative links and enhance our reputation with overseas partner institutions, particularly universities in our immediate region. This internationalisation agenda has not just been outwardly focused. It has also seen a substantial increase in the number of international students studying at UWA. Within the Faculty of Medicine, Dentistry and Health Sciences this has resulted in a near doubling of the numbers of international students (from 61 to 110) who have enrolled in undergraduate and post graduate degree offerings over the period 2005 to 2010. These students came from some 13 countries in 2005 and from 26 countries in 2010 with the largest numbers from Singapore and Malaysia (providing approximately 30% and 20% of all our international students new to the Faculty this year respectively).

International reputation
Thirty international students (approximately 12% of the total cohort) now enter first year medicine each year, five students enter dentistry, 4–10 students enrol in podiatric medicine, and two students enrol in a health science degree. At a graduate coursework level, we have a consistently large international cohort (15–20 students) of physiotherapists who enrol in a Masters in Manual Therapy, 4–8 dentists enrol in the Masters of Dental Public and Primary Health and six international students enrolled in our new masters of Nursing Science degree this year. These students have selected this Faculty for their undergraduate and postgraduate studies because UWA has an international reputation for the quality of its degrees and its research. The competition for the limited international places in medicine and dentistry is fierce as can be seen from the number of applicants for next year, broken down by country in the accompanying graph. This means we are able to recruit very bright and gifted students to our programs. However, these students do not come to UWA just to receive – they also come to give, and it is clear that expanding our international student numbers has contributed to the diversity of our student cohorts, helping grow the global perspective of our local students and facilitating our engagement with the region. At a more pragmatic level, international student fee income contributes significantly to the Faculty operating budget, having grown from 6% in 2005 to 12% this year, enhancing the quality of the teaching and learning environment able to be supported across the whole Faculty.

Under threat
Much of what has been achieved through our international education initiatives, however, may now be under threat. Changes to immigration policy settings, the pre-election anti-immigration sentiment, isolated incidents of racism and security issues for international students over the last 12 months, increasing bureaucracy with respect to the conditions necessary for obtaining a student visa, and decreasing competitiveness by Australian universities in international university rankings indices, have all combined to see recent predictions that international student numbers at Australian universities could halve by 2014. More worryingly, however, for medicine is the impact of our already increased domestic student numbers on the opportunity for our international students to obtain an internship placement on graduation. The more than doubling of domestic medical student numbers has meant that for the last two years the majority of our international graduands have been unable to secure an internship in WA, these only being guaranteed for local graduates. Without the successful completion of an internship in this country the students are denied the opportunity to achieve medical registration. We graduated 17 international students this year and next year it is expected to climb to 25. Of these 25 students, 23 would like to complete an internship in Western Australia. At the time of writing this editorial, only six had been offered an internship in WA, and the remaining 17 are yet to receive an offer anywhere in Australia and may have to return to their countries of origin. Investing in a medical education in WA (or anywhere else in Australia) is clearly going to be a less attractive proposition for international students into the future. Australia-wide international medical students represent 20% of the graduands from our 19 medical schools and the dilemma of no intern places for our graduates in WA is now a feature across the country.

High achievers
This is occurring at a time when federal and state governments invest millions of dollars importing and supporting 1500 international medical graduates into Australia each year. It is also occurring in a setting of strenuous government lobbying by Curtin University and Charles Sturt University for the creation of two further medical schools. Our international students are high achievers who have worked hard and whose families have invested heavily in their medical education, an education that has equipped them with local knowledge and skills in relation to our health system. The majority of them want to be given opportunities to continue to train in Australia. State and federal governments need to work with universities to make sure such opportunities are provided. They represent a readily available and well-trained resource for helping deal with our medical workforce shortages now and into the future. We have been very much enriched by our international alumni in the past and hopefully we will continue to be so into the future.

Jan B. Paddick
A study into fatigue in patients with a serious mental illness, including schizophrenia, major depressive disorder, bipolar and personality disorders, is to be conducted this year by a Faculty centre.

The study will also focus on sleep, bodily pain and general health. It is believed to be the first time such a survey has been undertaken.

Clinical Professor Daniel Rock, Co-Director of the Centre for Clinical Research in Neuropsychiatry in the School of Psychiatry and Clinical Neurosciences, said fatigue and tiredness were much more common in people with on-going or chronic health conditions, including mental health problems, and could complicate rehabilitation and the process of recovery.

The idea for the study sprang partly from research conducted at the CCRN on the co-ordination of cancer care for patients with serious mental illness, which found a key issue for cancer patients was fatigue. Up to 20% of patients who undergo chemotherapy experience fatigue for 4-5 years afterwards.

Clinical Professor Rock, who is also Co-Director of the Clinical Applications Unit, said enduring and pervasive fatigue was associated with many long-term medical conditions.

“It is not simply a manifestation of depression or dysphoria, people just feel bodily tired,” he said.

An Australian survey reported that 70 per cent of patients who reported prolonged fatigue also had a psychological disorder. Fatigue is particularly common in major depressive disorder and up to 97 per cent of people in a major depressive episode experience fatigue.

“Removing the psychiatric lens - fatigue may go by another name

The overlap between depressive symptoms and the physical, cognitive and emotional dimensions of fatigue is substantial - for example, psychomotor slowing, diminished ability to concentrate and diminished interest in activities are common to both depression and fatigue.

Another prompt for the study is research by neuropsychologist Associate Professor Flavie Waters, of CCRN, on the relationship between patterns of sleep and severity of psychosis, which is highlighting the importance of sleep.

One of the common complaints of people with fatigue was that they felt tired but had difficulty sleeping, Professor Rock said.

This led to his decision to look into whether people with long-term mental illness, in particular schizophrenia, might be suffering from fatigue. A literature search revealed that it had not previously been studied.

“We are so used to seeing mental illness, particularly schizophrenia, through the psychiatric prism or lens we apply to it, that what really may be ordinary fatigue we may see as anhedonia or akinesia,” he said.

“So if we took away the psychiatric lens and took a normal view of this group of people, we might start to say they might be fatigued and tired because they have a long-term condition.”

“And they certainly might have sleep problems - in fact, we know they do.”

“Tying in with this is the fact that one of the most common causes of poor sleep is back pain. And preliminary research by CAU suggests that 20-30 per cent of in-patients with mental illness have clinically discernible back problems.

The first phase of the project will involve up to 250 Graylands Hospital in-patients, working with hospital clinicians and particularly nursing staff to undertake the data collection via a survey.

The survey will be self-administered by each patient and will assess fatigue, sleep quality, sleep interruptions, pain, and general health.

The aim is to then expand the study to include patients in the community, including those attending mental health clinics and hostel residents. Up to 1,000 people in the community may be studied.

The research will be headed by neuropsychologist Dr Deb Faulkner of CAU.

- By Cathy Saunders
Winthrop Professor George Yeoh’s first taste of research during a vacation scholarship was enough for him to swap his career firmly in that direction.

“It is exploring the unknown,” said the Associate Dean (Research) in the Faculty. “That is what has been driving me.”

As a young medical student, he started on the path of research when he was awarded a National Heart Foundation vacation scholarship in 1968 and was supervised by Professor Wilfred Simmonds, Foundation Professor in Physiology.

“I went into the lab to work on lipids and metabolism,” Professor Yeoh said. He enjoyed the research so much that he ended up switching to a science degree so that he could focus purely on it.

“My parents disowned me, of course,” he said. But his newly chosen career has led to his world-wide reputation in the field of research, particularly in liver carcinogenesis, liver stem cells and liver regeneration.

Professor Yeoh later married Valerie, who was Professor Simmonds’ laboratory technician.

And in a neat twist, final year medical student Philippe Giguere-Simmonds, who is the grandson of Professor Simmonds, spent 2008 completing a Bachelor of Medical Science degree in Professor Yeoh’s laboratory.

Mr Giguere-Simmonds said he embarked on a year of research with a BMedSc because he was a bit fatigued from his medical studies but did not want to take a year off altogether.

“It was a good decision because I learnt a lot about science and laboratory research and nitty gritty things like interacting with colleagues, statistical analysis, cell culture and laboratory experiments,” he said. “I also learnt scientific writing, how to read and write and organise it.”

He is “almost 100 per cent” certain he wants to do future laboratory research and has his eye on training as a physician and then going into haematology because it is a heavily research-oriented specialty.

Mr Giguere-Simmonds said he did not know his grandfather as well as he would have liked but his father, grandfather and he shared the same sense of humour and the same interests, including science fiction and history.

His father is Supreme Court justice Ralph Simmonds, who is a UWA law graduate.

Professor Yeoh, who believes the BMedSc degree is a great way for medical students to get involved with research, said Mr Giguere-Simmonds and he had published a paper together on liver stem cells.

“We tried to prepare human liver stem cells from human liver samples,” Professor Yeoh said. “The only liver samples we could get from adults were when they were doing resections for hepatocarcinoma and cut an extra bit of liver to make sure they got all of the cancer.

“So we grew up stem cells from the normal tissue. But of interest is that the stem cells are tumorigenic. The story going around is that in liver cancer, the normal tissue is also infiltrated with cancer stem cells and what we found supported that idea.”

Professor Yeoh is currently working with colleagues at the WA Institute for Medical Research on a protein known as TWEAK that significantly increases the growth rate of liver progenitor cells, the stem cells involved in liver repair.

In results published in the journal Hepatology, they showed that by adding TWEAK to liver progenitor cells growing in culture, the cells grew twice as fast as normal.

The researchers are hopeful that TWEAK could be injected directly into a patient’s damaged liver to help it repair itself by growing new healthy cells at a much faster rate.

Professor Yeoh said the finding could be of great help for patients with liver disease by helping to regenerate their existing liver quickly, potentially doing away with the need for transplants.

“I want to know everything that tickles my favourite cell,” he said.

- By Cathy Saunders
Overcoming barriers in Vietnam – helping doctors to teach in the clinical setting

**Clinicians in Vietnam** will become “local champions” fostering teaching among health professionals in their country, if a Faculty Professor and colleagues have their way. Winthrop Professor Fiona Lake, Eric Saint Professor of Medicine in the School of Medicine and Pharmacology, is part of a team that also hopes to help improve the clinical aspects of a key hospital, the Da Nang Hospital, in Vietnam.

Professor Lake, who has worked in Da Nang on a voluntary basis, has applied to AusAID for funding through the Australian Leadership Awards (ALA) Fellowships Program to fund eight Fellows for a Clinical Education Leaders Project.

Her colleagues in the project are Ms Jenny Gough, an educator at the University of Melbourne, Dr Hoang Tran, a paediatrician from Da Nang undertaking her PhD at the University of Melbourne, and anaesthetist Dr Ian McPhee linked to Sydney University, who is working in Vietnam through Hoc Mai, a Sydney University group established to link with Vietnam.

### Driving force

Professor Lake says Dr Tran has been a driving force behind much of the project. “She is wonderful to work with, and dedicated to her home town of Da Nang.”

Developing clinical leaders with educational knowledge and skills within health services is very important, according to Professor Lake.

“In Da Nang, health is challenged by limited resources, a heavy workload and limited opportunity to observe and learn from clinical colleagues,” she says. “Da Nang sits in the middle of Vietnam and does not attract funding or support as is seen in Hanoi and Ho Chi Minh City. Postgraduate training is not well structured and the potential of non-academic clinicians to contribute to teaching peers and trainees has not been realised.”

For the project, the team has selected a group of clinical leaders working in a hospital setting in Vietnam to gain skills in teaching, fostering learning and educating others to promote introduction of new clinical services, from the bedside to the clinic.

“By creating a culture of learning with and from colleagues, led by the Clinical Education Leaders, Da Nang hospital will be better able to train health professionals and encourage service improvement in a sustainable fashion,” Professor Lake says.

In order to effectively bring about changes, it is considered important to be receptive to what the local people want. By listening to local clinicians, their priorities can be gauged.

“For example, the Da Nang Hospital ranges from having no resources on the respiratory ward to having an MRI scanner,” Professor Lake says. “We wished the leaders to identify their own projects in terms of clinical and educational change that could be achieved with the current resources.”

### Barriers

Two main barriers to doctors in Da Nang gaining skills in teaching and learning in the clinical setting have been identified.

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Continued from page 1

"In our study, we looked at how many of those were unnecessary presentations," Associate Professor Glenn Arendts said. "We determined about one third of the 4.5 per cent could have been treated in the aged care facility." This amounted to about 700 patients each year.

"For many of the conditions being treated in these patients, there was no improved outcome from being taken to the emergency department," Associate Professor Glenn Arendts said. Most involved minor injury or illness, including falls, simple lacerations, urinary tract infections or displaced catheters.

The second part of the research was looking at why the patients were being sent to ED and how it could be prevented.

"There were many reasons but, in summary, there is a lack of staffing in the facilities and also a pressure, whether it be real or perceived, of family members wanting the patient to be transferred to hospital," Associate Professor Glenn Arendts said. In addition, some aged care facilities did not want to take on the risk of not sending the patient to hospital.

In the third leg of the research, the team implemented a pilot program which involved experienced ED nurses travelling out to aged care facilities in an emergency instead of the patients being transferred to hospital.

"This study gives weight to a program in operation, the Residential Care Line, which has a number of facets to help treat aged care residents where they live rather than in the emergency departments," Associate Professor Glenn Arendts said.

The Residential Care Line program is a 24-hour, seven-day-a-week telephone triage service for aged care workers to provide advice and assistance.

Associate Professor Glenn Arendts said the program had been in evolution for a while but the research had helped change the way it operated. "In the past, the Residential Care Line was purely an advice line so now they have decided to expand the role, provide additional funding and where appropriate, someone will go out to the facility," he said.

The program, funded by the WA Health Department, has committed $1.09 million annually, employing 7.5 nurses to provide clinical advice, education and visits to more than 140 facilities across Perth. Referrals to the service can be made by GP, facility or hospital staff.

The results of the research, which was a collaboration between CCREM, the Faculty’s School of Primary, Aboriginal and Rural Health Care, South Metropolitan Area Health Service, Fremantle GP Network, and Fremantle Hospital and Health Service, were published online in the Australasian Journal on Ageing in June.

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"Firstly, learning in the clinical environment requires a special approach which most staff development programs do not address," Professor Lake says. "The second is the limited fluency in English for many, making resources and ideas from English speaking countries un-reachable."

The group has received a donation from Wilderness Equipment and the Garth Kelsey Family Trust which has been used to fund 10 doctors and other health professionals to undergo an intensive English language course in Da Nang.

The aim of the Fellowships is to extend the current work by providing an intensive clinical and educational attachment for eight of those on the English language course who have reached a level of language competence that would allow them to learn in the Australian clinical setting.

"If we can get some AusAID funding, then I think the project will really fly," Professor Lake says.

The group of collaborators on the project have been running educational workshops, translated into Vietnamese, in Da Nang for 2-3 years to great acclaim. The booklet Teaching On the Run: Tips for clinical teachers has been translated into Vietnamese and was launched at a recent paediatric meeting in Da Nang. Ongoing educational sessions are delivered via Skype.

Five year plan

The Clinical Education Leaders Project is a five year plan. The Fellowship program is the second step in the plan, which started with English language tutoring for the selected “champions” of clinical education.

Subsequent stages include having existing educational resources, including the full Teaching On The Run program, translated into Vietnamese, continuing visits from external staff to Da Nang Hospital to provide input into their clinical and educational programs and ultimately the employment of a Medical Education Officer.

The group would like to see a memorandum of understanding signed between the University of WA, Da Nang Hospital, Da Nang University, Sir Charles Gairdner Hospital, Hoc Mai, and the University of Sydney.

“I think a memorandum of understanding will be useful because we can build on it and do some student exchange and other projects,” Professor Lake said.

The successful applicants to AusAID will be notified in November.

Part of the team including Dr Hoang Tran (far left), Winthrop Professor Fiona Lake (third from left), Ms Jenny Gough (fourth left) and interpreters.

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Every patient who came through the doors of the Palestinian Happy Child Centre (PHCC) brought with them stories of childhoods lost, family members killed and an education disrupted by war and bloodshed.

It manifested itself in the way the children behaved, the stories they wrote and the pictures they drew.

This description comes from final-year medical student Emmanuel Anthony, who visited Palestine for his elective over the summer break. He was a joint winner of the Alan Charters Elective Prize this year.

The other was Ms Sarah Newman who reported on her “Observations on Aboriginal Health in the Dampier Peninsula: The Good, the Bad and the Ugly”. They each were awarded $750.

Mr Anthony, whose presentation was titled “Caught in the crossfire: The impact of conflict on healthcare in Israel”, said Children’s Peace Prize recipient Dr Jumana Odeh, a developmental paediatrician born in Palestine and educated in Israel, set up the PHCC to deal with the increasing rates of developmental delay, post traumatic stress disorder and disability in Palestinian children.

With the help of donations, the Centre is the main provider of paediatric healthcare in the occupied territories with families coming from far away. The Centre focuses on early childhood interventions, specifically treating disabilities in order to get children as ready for school as possible.

“One of the programs I was involved in was art therapy,” Mr Anthony said. “Many traumatised children who present to PHCC and refuse to speak are initially ‘challenged’ – we place a crayon and a blank sheet in front of them.

“Although pictures of violence may appear bleak it is very important as it is often the first time these children have had the chance to express their thoughts and emotions.”

Mr Anthony said it was through drama, art, music and play that children at the Centre expressed themselves and coped with the difficult situation they were going through. “This is how we hope to channel their hatred, fear and anger into something constructive for their future,” he said.

The Centre also had made huge inroads into the epilepsy epidemic in Palestine. More than 25,000 children had epilepsy, making it one of the major causes of paediatric mortality and morbidity.

“However, the doctors and the general public require education on how to recognise the signs of this disease and how to manage it,” Mr Anthony said. “The PHCC does this as well as advocating on behalf of patients.”

The Alan Charters Elective Prize runner-up was Miss Sarah-Jane Kelley who went to Zambia and wrote about “Ku Gwiriza Kulingalira” (Holding on to hope: A Zambian Story. She was awarded $500.

The Alan Charters Award judges look for the presenter who demonstrates an understanding of the social and public health issues beyond the strictly “medical”, among other things.

The sponsors were Dr Miles Beaman of Western Diagnostic Pathology (shared first prize) and Pip Browne of MDA National (runner-up prize).
A recent UWA medical graduate has been awarded a prestigious Fellowship to study at Harvard University and has chosen public health, a discipline which he sees as sharing the qualities of volunteer work.

Last month Dr Timothy Cheong took up a Frank Knox Memorial Fellowship to study for a Master of Public Health.

“For dramatic improvement to occur in health status, whether in Australia or internationally, I believe that changes need to be initiated and followed through by trained health care professionals, especially those in management and executive levels,” he said.

“I aspire to be such a leader and the training I will receive by completing the Harvard MPH will be excellent preparation for the challenges that I hope to tackle in future.

“The discipline of public health shares many similarities to volunteer and charity work, which is something I feel strongly about and have been involved in for a long time. Both strive to act selflessly, to protect the vulnerable, and work to create a brighter future for everyone. “

Dr Cheong said he could not pass up the chance to study public health at Harvard before pursuing further clinical training.

He graduated in MBBS with Honours in 2008 and after completing his internship at Fremantle Hospital, worked as a resident at Royal Perth Hospital.

He said he would return to Australia mid next year after completing the MPH and pursue training in a clinical specialty.

“Ophthalmology is of particular interest to me because of its strong medical emphasis in conjunction with the need for meticulous surgical prowess,” he said. “Moreover, the timely and effective treatment of ocular conditions can prevent or significantly reduce resulting morbidity, especially in the paediatric population.

“These opportunities where I can potentially make a significant difference in my patients’ lives captivate me. “

Dr Cheong said he was very grateful to Faculty Dean Winthrop Professor Ian Puddey for his generosity of time and support.

Two Faculty members were among six staff members from UWA who were paid tribute for their outstanding and sustained contribution to student learning at a ceremony last month.

Winthrop Professor Lawrie Beilin, of the School of Medicine and Pharmacology, and Winthrop Professor John Campbell Murdoch, of the Rural Clinical School, were awarded an Australian Learning and Teaching Council national citation for 2010.

Professor Beilin’s award was given on the basis of 30 years of exemplary leadership in teaching and learning while Professor Murdoch was recognised for heading the team which developed the first rural medicine curriculum in the State.

UWA Vice-Chancellor Professor Alan Robson said the dedication and commitment to teaching and learning demonstrated by university staff on a daily basis, as part of a team effort, contributed to the university’s strong national reputation in the field.

The national awards are presented to academic and professional staff who have demonstrated sustained dedication to improving the quality of student learning. They are valued at $10,000 each.
By SHMRC organising committee

The best research completed by students of the Faculty was showcased at the fourth annual Students in Health and Medical Research Conference (SHMRC) on 15 September, which was attended by medical students and Faculty staff.

The SHMRC is the first conference designed exclusively to raise the profile of research by students within the Faculty.

The night started with an address from SHMRC patron Winthrop Professor Fiona Wood, who emphasised the importance of clinician-led research as an effective means of advancing medicine answering the “unanswered questions” that clinicians come across in everyday practice.

The level of competition at SHMRC was high, with nine students selected to speak from a field of 32 entrants. The presentations covered topics as diverse as the cost-effectiveness of telemedicine, health issues for pregnant women transported by aeroplane and anti-venom for “jack jumper” ant bites. The evening ended with the awarding of prizes and a closing address from acting Dean Winthrop Professor John Newnham who pointed to research as the key feature that distinguished high quality medical faculties. WA fosters a strong research culture, beginning from undergraduate learning. Student research is supported by UWA and many research organisations, which encourage students to undertake research as part of a university degree, for work or electively part-time through scholarships.

Until recently, however, there was no conference designed exclusively to recognise the contribution of undergraduates to medical, dental and health research in WA. With this in mind, the SHMRC was a WA Medical Students’ Society initiative in 2007 to encourage and reward undergraduate health research at the University of Western Australia.

The SHMRC offers an opportunity for these researchers to be recognised and become a part of the wider research community in WA. It is also hoped that other health students can take inspiration from their work and get involved in the world of research.

The selection of speakers at SHMRC is representative of a small fraction of the undergraduate student research going on today. The SHMRC convener for 2010 was sixth year medical student Tabitha Mok.

The prize winners were:

Research Deemed to Have Most Clinical Significance: Ben Silbert
WAGPET General Practice and Primary Care Award: Claire McGerr
Best Young Investigator: Natalie Akl
Most Significant Multidisciplinary Research: Claire Meyerkort

Get your nominations in

Students and staff are being asked to fire up their laptops and send in nominations for the Faculty’s Excellence in Teaching Awards.

The awards are a means of paying tribute to staff who have done an outstanding job in teaching, supervising research, supporting students and developing programs.

The three categories are Teaching Excellence, Outstanding Contribution to Student Learning and Programs that Enhance Student Learning.

Nominations close 31 October.

See the Faculty website for details:
http://www.meddent.uwa.edu.au/staff/teaching/awards
Taking research a degree further

Students from a range of disciplines are being attracted to the Faculty's Health Professional Education courses, with about 30 students now in various stages of their studies.

Christine Smith, a registered nurse working in the School of Population Health who recently submitted her Masters’ thesis, said her research highlighted the personal and professional journey of overseas trained nurses in WA.

“I wanted to explore the lived experiences of female non English-speaking-background overseas-qualified nurses as they integrate into the Western Australian metropolitan hospital workplace,” she said.

“A feature of the outcomes of this study has been the participants’ resilience… in terms of their willingness and determination not only to adapt and to learn from the new country and work practice, but also to maintain their integrity as unique professional individuals practising nursing.”

She will present a section of her research at the first International Conference on Qualitative Research in Nursing and Health in Chiang Rai, Thailand in December.

Dr Li Ping Chung, a Faculty medical graduate who is in her second year of a PhD with the Lung Institute of Western Australia, says she decided early in her specialist training that she wanted to pursue a career path that combined clinical practice with teaching and research.

“Studying has given me the opportunity to learn and explore the connection between teaching and learning within the specialty practice of hand therapy,” she said. “I have found the blending of the social science education perspective with the medical model to be enlightening and interesting, and believe that this course holds a lot of opportunity for a wide range of health professionals.”

Dr Katrina Calvert, who specialised in obstetrics and gynaecology, has spent the past three years working as a part time lecturer in the School of Women’s and Infants’ Health. She is working towards the final unit of a Certificate in Health Professional Education and plans to go on to complete the Masters by Research.

“The course has really opened my eyes to the enormous amount of theory and research behind current teaching practice,” she said. “The students on the course come from many different areas of healthcare but for most of us this has been our first experience with learning about educational theory and practice and the students are very supportive of each other.” She said she had already adjusted some of her teaching activities in the light of new knowledge she has gained on the course and feels confident that enrolling in the certificate has improved the learning experience she offers medical undergraduate students.

Information about the Certificate, Graduate Diploma and Masters in Health Professional Education will be presented at the Postgraduate and Honours Expo 2010 on 20 October from 4-8pm at the University Club. For further details about the courses or Expo please contact Associate Professor Sandra Carr (sandra.carr@uwa.edu.au) or Ms Caroline Martin (caroline.martin@uwa.edu.au).

Pathway to a work life balance

A WA respiratory physician who wants to strike a good life-work balance as she brings up her young son has opted for a PhD to help her achieve her goal.

Dr Li Ping Chung, a Faculty medical graduate who is in her second year of a PhD with the Lung Institute of Western Australia, says she decided early in her specialist training that she wanted to pursue a career path that combined clinical practice with teaching and research.

One of the attractions to this particular mix is that it is likely to provide a more stable career than clinical work alone, which often involves heavy on-call rosters, she says.

She urges other clinicians to consider how working in research can benefit them.

Heather MacLaren is an occupational therapist focusing on hand therapy and recently began the research thesis component in the Masters program, after completing four coursework units.

“Being involved in medical research gives you much better understanding of what you read in medical journals to see if you need to change your practice,” she says. “It enhances your ability to read them critically and keeps you up to date with latest developments in disease management such that you are better informed for the benefits of your patients.”

LIWA Director Winthrop Professor Philip Thompson says the Institute provides a range of educational research scholarships for students, young doctors and scientists, and senior research staff are happy to discuss research opportunities.

“PhD scholarships are just one step in demonstrating our continued support to help individuals who wish to pursue a career in research and to promote research excellence in all areas of lung disease,” he says.

Please go to www.liwa.uwa.edu.au for more information.
The former administration block of the Claremont Hospital for the Insane - still standing on Heritage Lane, Mount Claremont.

Photo by Marc Russo

Claremont Hospital for the Insane has a shadowy past

Claremont Hospital for the Insane, the original name of the Claremont Mental Hospital, was planned as a state-of-the-art mental hospital – a “one stop shop” where WA’s mentally ill patients could be housed, cared for, treated and hopefully discharged.

Built on a hilltop to the north of Claremont, it had sweeping views towards Perth and the Indian Ocean, and had its own water supply, generators, farm, in-house laundry, workshops, and stables.

Originally built in 1903, it replaced the overcrowded and dilapidated Fremantle Lunatic Asylum, which closed in 1909, and for decades it was WA’s principal long-stay psychiatric hospital.

Dr Philippa Martyr, who works at the Centre for Clinical Research in Neuropsychiatry, a joint UWA/Department of Health research centre based at Graylands Hospital, is researching the history of Claremont Hospital and its successors, Swanbourne and Graylands Hospitals.

She says despite the initial ambitions of the Claremont Hospital for the Insane, with each passing year the recoveries were relatively few, and more and more long-stay patients gradually filled up the remaining beds. By the First World War, the hospital was already overcrowded and was well on the way to becoming every bit as disreputable as Fremantle Asylum.

Instead of praising the new hospital, local newspapers began to focus on allegations of bad management, violence, escapes and unrest among the staff. By the 1950s, there had been seven major government investigations involving Claremont Hospital and its administration: in 1918, 1919, 1921, 1922, 1935, 1938 and 1950.

“Historical research into mental health care in Western Australia is absolutely amazing, because it tells you how and why the system developed the way it did – and why we are still doing things in a particular way, decades later”, Dr Martyr says.

“It’s really like archaeology – you brush away the dust, and you can see the skeleton underneath that holds the whole system in place.”

Claremont Hospital was a place that outsiders avoided and which was largely mysterious and shut off from the general public, she says. There are official written records available, such as annual reports, but these only tell a very limited part of the hospital’s story.

“I’ve been given very broad access to archival material in the State Records Office, which has helped to open this institution’s history up considerably for me,” she says. “It’s fascinating to be able to compile accurate statistics on the lengths of stay, for example.”

Dr Martyr has found some surprising things in the admissions registers.

“The data show that many patients each year were admitted with physical illness such as tertiary syphilis and senile dementia, and other conditions which cause delirium such as kidney disease, rather than what we understand today as ‘mental’ illnesses,” she says. “This probably accounts for the very high death rate of patients within a year of their admission.”

The hospital was effectively used as a psycho-geriatric facility long before this was acknowledged as a separate discipline in need of specialised facilities. Developmentally-disabled children also formed a separate population within the hospital.

“It’s hard to avoid the impression of a ‘dumping ground’ for chronically ill bed-blocking patients from mainstream hospitals, especially those experiencing delirium or other problematic behaviours,” Dr Martyr says.

“This is a shame, because the hospital was originally built to try to help people with mental illnesses to recover and be discharged.”

The overcrowding led authorities to try to slow the admissions rate by opening Heathcote Reception Home in 1929, for observation, short-term care and early discharge of patients who had a better chance of recovery.

“Although this was better for many patients, it actually made the problem at
Claremont worse,” Dr Martyr says. “The hospital then received only severely incapacitated people and the recovery rate vanished to almost nothing. Being sent to Claremont really did become like being sent to prison.”

In the inter-war years, desperate state government authorities resorted to deporting recent migrants who developed mental illnesses and were admitted to Claremont.

“The state government was entitled to do this under Section 8a of Australia’s Immigration Act but the migrants they chose to deport from Claremont were disproportionately Italians, Albanians, Yugoslavs, and Macedonians,” Dr Martyr says.

“For example, all five Albanian admissions to Claremont between 1930 and 1933 were deported within two years of their admission.”

Continued from page 1

“We have entered the nano age,” he said. “So now we have nano filled composites or nano hybrid composites.”

In the modern composites, the filler has very small dimensions - hence the term “nano”. The filler gives the material physical strength to resist chewing forces and wear.

“The filler is like the natural gravel and crushed stone in concrete,” Professor Ichim said. “By using nano particles, some of the restorative materials exhibit superior mechanical properties compared to more traditional composites.”

Another example of advanced technology is CADCAM (Computer Aided Design, Computer Aided Manufacturing), a software-based program that has many applications.

Professor Ichim said the technology originated from space missions during the Cold War, when the US and Soviet Union were vying to be the first to land on Mars. They needed to ensure they could replace broken machinery parts in space.

“Instead of clogging the vehicle with spare parts, they thought they could take the raw materials and a lathe or milling system so that the astronauts could mill on demand if they needed a part,” Professor Ichim said. Thus CADCAM was devised.

The concept was expanded into dentistry by a Swiss man, who developed the CEREC (Chairside Economical Restoration of Esthetic Ceramics) software system. It is a speedier method of producing dental restorations such as implants, crowns, bridges and orthodontic appliances.

An image taken by an optical camera is relayed to a computer and the dentist then shapes the crown or implant by manipulating a 3D image. The resulting image is transmitted to a milling machine which makes the restoration out of a block of ceramic. The final product is then bonded to the tooth, with the whole procedure taking only about an hour.

At present, the dental curriculum is being revised because of the move from a five-year undergraduate degree to a four-year graduate entry degree, starting in 2013, and new technologies students will encounter in practice are being introduced.

“There is a philosophical debate,” Professor Ichim said. “Do you teach your students for the realities of practice or in a very highly controlled academic manner? I think we are trying to strike a mid-line between the two.”

More than 80 per cent of dentistry graduates will enter private practice with the remainder working for the government or going on to specialise.

“So we are trying to expose our students to advanced technologies even if they haven’t been universally adopted by the profession,” Professor Ichim said.

Aesthetic dentistry – which is different from cosmetic dentistry - is also being addressed in the new curriculum. “Cosmetic dentistry is something you do at the corner shop,” Professor Ichim said.

There will also be a segment in the curriculum dedicated to dealing with medically compromised and older patients.

“With a longer life span, you have patients who have many complex medical problems which interfere with dental treatment,” Professor Ichim said. “So we need to train students in gerodontology.”

There will also be a unit in cariology and prevention in the new curriculum.

- By Cathy Saunders

WITS ABOUT YOU

Our medical quiz is kindly supplied by Emeritus Professor Bernard Catchpole, the second Professor of Surgery appointed to the Faculty.

1. How many degrees of burning did Baron Dupuytren’s scale have?

2. The thickness of synthetic suture material may be measured in “Deniers”. What are these?

3. English catheter gauge extends from 000, to 0, to 1,2,3 etc. What is the increase of each size, in outside diameter?

4. French catheter gauges begin at 1, and progress, by what steps in a) Charrière and b) Bénique gauges?

5. Orthopaedic surgeons may use steel wire to hold shattered bone pieces together. How is wire thickness measured?
Associate Professor Peter Richmond, of the School of Paediatrics and Child Health, is QAS some infants with respiratory syncytial virus and parainfluenza virus 3 end up in hospital for weeks but there is no vaccine against them. He will head a study to test a nasal vaccine that could prevent the two viruses, which are common causes of bronchiolitis and are responsible for most hospital admissions of young children in winter. The Telethon Institute for Child Health Research’s Vaccine Trials Group, Princess Margaret Hospital and the University of WA will conduct the study as part of a broader international study of more than 700 babies and toddlers.

Wintthrop Professor Billie Giles-Corti, of the School of Population Health, is QAS it was alarming that there was a decrease in the number of people walking for recreation and transport, not just for health reasons but because it means more cars are on the road. Figures from the Physical Activity Taskforce released this month show a nine per cent drop in the past decade in the number of people walking for recreation, and 10 per cent fewer people walking as a means of transport compared with 2006. Professor Giles-Corti said walking was one of the easiest, cheapest and most convenient ways to be active. Walking for 30 minutes a day was like the magic bullet to protect health. Even people who exercised in other ways such as at a gym should try to walk as well because it was cheap and more sustainable, she said.

Clinical Professor Trevor Parry, of the School of Paediatrics and Child Health, is QAS he was concerned that troubled children were falling through the cracks because WA lacked a co-ordinated approach to early intervention. Together with Wintthrop Professor Fiona Stanley, Director of the Telethon Institute for Child Health Research, and Children’s Commissioner Michelle Scott, he has written to State MPs calling for an office for early childhood to be set up to address a critical lack of resources and worsening waiting lists for therapy. Clinical Professor Parry said it was unethical that parents who were told their troubled child needed to see a clinical psychologist had to wait up to a year for an appointment. “All the evidence is there that we need to help children as early as possible and we have seen all these reports raising concerns yet we have seen no clear action by successive governments,” he said.

Respiratory physician Dr Barry Clements, clinical lecturer in the School of Paediatrics and Child Health, is QAS pseudomonas aeruginosa infection is harmless in most people but could be dangerous in people with cystic fibrosis who could not clear it from their lungs. Researchers hope to be able to use natural proteins to develop a class of “super antibiotics” to treat infections, particularly in people with chronic illnesses such as pseudomonas, which is notoriously difficult to treat with traditional drugs. Perth biotechnology company Phylology, a spin-off company from the Telethon Institute for Child Health Research, has signed a deal with pharmaceutical company AstraZeneca to use compounds known as Phylomer peptides to find new drugs to treat multi-resistant bacteria.

Adjunct Associate Professor Wendy Oddy, of the Telethon Institute for Child Health Research, is QAS caffeine tablets and energy drinks should be more tightly controlled, particularly as their use in elite sport sends the wrong message to children. About one third of 12 to 17-year-olds consumed caffeine products regularly, and pills posed a special danger because it was easy to consume large amounts at a time. “They can get heart palpitations and there have been cases where they end up in hospital because they’ve had too much,” she said. Caffeine stimulated the nervous system and when taken in big doses could cause anxiety, sleeplessness, stomach problems and heart arrhythmia.

Clinical Professor Stephen Stick, of the School of Paediatrics and Child Health, is QAS it appears the linings of the airways in people with asthma are defective in the way they repair. WA research has shown that cell abnormalities in airways may be the cause of asthma rather than allergies, as has been long believed. Researchers found that the epithelial cells that lined the airways of the lungs were different in children with asthma, particularly the way they responded to injury.

Professor Richard Prince, of the School of Medicine and Pharmacology, is QAS doctors should be wary of prescribing oral bisphosphonates to patients in the absence of dual energy x-ray absorptiometry (DEXA) evidence of osteoporosis or spinal fracture.

“When the risk is unacceptable and may place the prescribing practitioner at risk of a law suit for malpractice,” he said. He was commenting on a UK study published in the British Medical Journal which found that oesophageal cancer was a risk associated with the long term use of bisphosphonates. The study by Green and colleagues, which included nearly 3000 oesophageal cancer patients, found the risk of oesophageal cancer increased with 10 or more prescriptions for oral bisphosphonates, and with prescriptions over about a 5-year period. Other risks associated with long-term bisphosphonate use that have gained public attention in recent years include osteonecrosis of the jaw, atrial fibrillation, and atypical femur fractures. However the study’s authors stressed the cancer risks remained low.

Associate Professor David Mountain, of Emergency Medicine in the School of Primary, Aboriginal and Rural Health Care, is QAS a new emergency department (ED) approach to managing cases of suspected myocardial infarction is cost-effective because it involves fewer medical staff. He was co-author of a report published in the Medical Journal of Australia of an Australian trial of the strategy that cut 20 minutes off door-to-balloon (DTB) time. The strategy involves ED doctors activating the cardiac catheterisation laboratory (CCL) and immediately transferring patients with suspected ST-elevation myocardial infarction (STEMI), bypassing time-consuming consultation with the cardiology team. The 2-year trial included 234 patients who underwent emergency coronary angiography for suspected STEMI at Sir Charles Gardiner Hospital. The median DTB time for patients who subsequently required percutaneous coronary intervention (PCI) was cut from 97 to 77 minutes. The proportion of patients treated within the recommended DTB time of less than 90 minutes almost doubled, from 41% to 77%, and there was no change in false-positive CCL activation rates. Associate Professor Mountain said that since the trial ended in 2009, DTB time had been cut by a further 10-15 minutes.

Clinical Professor Graeme Hankey, of the School of Medicine and Pharmacology, is QAS when assessing patients with migraine with aura for cardiovascular risk, the assessment should be based on their age, sex, blood pressure, cholesterol, blood sugar, smoking status, family history and history of migraine with aura. If their risk was more than 15% in the next 5 years, or 3% per year, they should aim to lower their risk by stopping smoking and reducing blood pressure and cholesterol, and anti-platelet therapy should be considered, he said. He was commenting on two articles published in the BMJ linking migraine with aura to an increase in the risk of cardiovascular and all-cause mortality. In a 26-year follow-up study of over 18 000 middle-aged men and women, Icelandic researchers found that, for people who had migraine with aura (compared with people with no headache), the relative risk of dying from all causes increased by 21%, and from cardiovascular disease by 27%. But the 10-year absolute risk was considered low. The risk was not increased for those with migraine without aura. A second migraine study, involving 7 680 women older than 45 years, found the risk of haemorrhagic stroke more than doubled among women who had migraine with aura compared with women with no history of migraine. However, the authors cautioned against definitive conclusions about the association in view of the low number of haemorrhagic strokes (85 overall, with only nine among women with migraine with aura) and the relatively low attributable risk.

Winthrop Professor John Olynyk, of the School of Medicine and Pharmacology, is QAS the increasing evidence of an association between liver cancer and non-alcoholic fatty liver disease (NAFLD) is another reason to not get fat and focus on preventing obesity in children. He was commenting on an article in Gut, which said that the rapidly increasing prevalence of obesity and diabetes in affluent societies, and their significance in the pathophysiology of NAFLD, would result in a rising incidence of NAFLD and its complications — including hepatocellular cancer — in the mid-term future. Professor Olynyk said modifiable risk factors where present should be addressed, including weight reduction and exercise for NAFLD and NASH, treatment of viral hepatitis, reduction of alcohol, improvement in nutrition and treatment of hereditary haemochromatosis.
From Gestetner to webcam – 30 years with the Faculty

Denis Brown started his liaison with the School of Psychiatry and Clinical Neurosciences three decades ago when the sturdy Gestetner copying machines were still in vogue. He is now their IT and electronics expert, improviser and troubleshooter, using the latest in technology.

He began at the Biomedical Engineering Department of Sir Charles Gairdner Hospital in 1978. Two years later, he was seconded to the Department of Psychiatry, where he has remained for the past 30 years.

“It was originally supposed to be a one year secondment,” he says with a laugh.

“Our greatest technology, apart from the Gestetner machine, would have been the Devices M19 physiological rack, a polygraph machine.”

Mr Brown helped devise sensors for studies in areas such as sleep and male impotence and equipment for other electrophysiological studies.

“My task was to create the equipment because in those days you couldn’t buy it or if you could buy some of it, it was cripplingly expensive,” he explains.

His invaluable training, straight from school in 1968, was as an apprentice in a small local radio and electrical hardware store. He then was then head-hunted by Albert Berkvicius of Alberts HiFi to work in the electronics area.

The young apprentice was exposed to colour TV before it even hit the streets.

“Albert designed, built and ran the colour closed circuit television at the Ascot and Belmont racecourses,” Mr Brown says. “He was definitely ahead of his time.”

Later Mr Brown was sent overseas to help set marks the spot, dig here folks.”

He began at the Biomedical Engineering Department of Sir Charles Gairdner Hospital in 1978. Two years later, he was seconded to the Department of Psychiatry, where he has remained for the past 30 years.

Mr Brown’s work as senior technician spans the metropolitan area because the School has a big presence at Sir Charles Gairdner, Royal Perth and Fremantle Hospitals and, to a lesser extent, at the outer urban clinical schools at Osborne Park, Bentley and Joondalup hospitals.

He is the trouble-shooter if staff have problems with anything concerned with computers, IT, electronics and data from imaging, including magnetic resonance imaging, CT scans or Positron Emission Tomography scans.

“He was definitely ahead of his time.”

Later Mr Brown was sent overseas to help set marks the spot, dig here folks.”

Mr Brown also takes part in software testing. “Many years ago, for example, I helped test a new brand of anti-viral software,” he said.

One of his current projects that excites him is a positive respiratory history (recent cold, wheezing during exercise, wheezing more than three times in the past 12 months, nocturnal dry cough, and eczema), present or recent upper respiratory tract infection, a history of asthma, atopy, smoking, rhinitis, or eczema in at least two family members, were associated with increased risk of respiratory adverse events, including the potentially life threatening complications bronchospasm and laryngospasm.

The risk was higher when children were exposed to maternal smoking or both parents smoking than when only the father smoked.

Professor Regli-von Ungern-Sternberg, who works in the School of Medicine and Pharmacology and at PMH, said the questionnaire could be used at the pre-anesthetic assessment to identify children at high risk of respiratory complications who would then benefit from specifically targeted anaesthesia management.

Winthrop Professor Britta Regli-von Ungern-Sternberg was appointed the inaugural Woolworths Chair in Paediatric Anaesthesiology in the Faculty.

Shortly after, a study in which she was lead author appeared in the prestigious medical journal, The Lancet.

The researchers found that a risk assessment questionnaire could be used in everyday clinical practice to identify the likelihood of anaesthetic complications in children before they underwent surgery.

Respiratory adverse events are one of the main causes of complications and death during anaesthesia in children.

The researchers identified risk factors for perioperative respiratory adverse events in 9,297 children given general anaesthesia for surgical or medical interventions at the Princess Margaret Hospital for Children between February 2007 and January 2008. They also assessed the anaesthetic management to identify prevention strategies for respiratory complications.

A positive respiratory history (recent cold, wheezing during exercise, wheezing more than three times in the past 12 months, nocturnal dry cough, and eczema), present or recent upper respiratory tract infection, a history of asthma, atopy, smoking, rhinitis, or eczema in at least two family members, were associated with increased risk of respiratory adverse events, including the potentially life threatening complications bronchospasm and laryngospasm.

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Almost 200 children from Wembley Downs Primary School lined up this month to have a foot-health screen by fourth year podiatric medicine students.

The final year students assessed the feet and legs of school children in kindergarten through to Year 7 and provided simple advice.

Podiatric Medicine Associate Professor Jennifer Bryant said letters would be sent to the homes of a number of children who could benefit from more thorough examination.

“We suggest they should seek advice from a local podiatrist or attend our student clinic,” she said.

The survey was a great success and the school was overwhelmed by the number of responses from parents wanting their children to participate in the survey, Associate Professor Bryant said.

“It was very impressive to see our students conduct themselves very professionally and very efficiently.”

Answers to Quiz on page 13

1. Six.
2. The weight in grams of 9,000 metres of yarn.
3. ½ mm.
4. a) 1/3 mm b) 1/6 mm.
5. By standard wire gauge e.g 20 = 0.036 inch diameter.