The University of WA will soon be the first in the world to have a biochemistry Chair in Human Lactology, thanks to the generosity of the Family Larsson-Rosenquist Foundation.

The aim is to advance global knowledge of the long-term health benefits to mothers and babies of breastfeeding and provide evidence enabling medical practitioners to improve the diagnosis and treatment of mothers experiencing breastfeeding difficulties.

The study of human lactation is just one field that is receiving a big fillip from the university’s New Century Campaign.

Other areas to receive support include wide-ranging research projects, scholarships, academic Chairs and post-doctoral positions.

Faculty renewed

The Faculty of Medicine, Dentistry and Health Sciences will undergo a transformation from the beginning of next year with a new name and a new School structure.

See the Dean’s editorial on page 3.

Campaign has a ripple impact

The University of WA will soon be the first in the world to have a biochemistry Chair in Human Lactology, thanks to the generosity of the Family Larsson-Rosenquist Foundation.

The creation of major new research positions in human lactation at UWA, including the Chair, a postdoctoral position and a postgraduate opportunity, will give international profile to the area.

The positions have been made possible by the Family Larsson-Rosenquist Foundation’s endowment of $8.6 million. They will be complemented by a medical Chair in Human Lactology and supporting positions at the University of Zurich, also funded by the Foundation.

Foundation Chair Mr Michael Larsson said the Foundation was thrilled to work with UWA to support the important research.

“The creation of Chairs in these fields will enable UWA to become a global leader in human lactation research,” he said. For decades, the Larsson family have dedicated themselves to helping mothers to breastfeed.

The New Century Campaign is not only making a difference to teaching, learning and research but it is also having a ripple impact on the broader community and globally, according to Ms Jo Agnew, Chief Advancement Officer of Development and Alumni Relations.

Continued on pages 4-5
Celebrating change

The School of Dentistry has hit platinum and is celebrating its 70th anniversary this year, with the number of graduates having increased from eight from the first intake in 1946 to 56 in 2016.

Head of School Professor Camile Farah said the anniversary was an opportune time to highlight the positive changes being made at the School and also to engage the alumni more closely as it celebrated its past achievements.

Professor Farah has established an Advisory Board of Dental Alumni Ambassadors, composed of 12 members of the profession at various stages of their career and with different special interests. “In addition to offering advice and guidance, they are helping us provide a link back to each of the disciplines and a link back to the profession at large,” Professor Farah said.

As part of the anniversary celebrations, a reception will be held for dentistry alumni and Friends of the School on Thursday November 24 from 6-8.30pm at the University of WA Club. Invitations have been sent to almost 1,500 alumni.

The theme will be past, present and future, with speakers addressing each of these aspects as they relate to dentistry and the School. The WA Minister for Health; Culture and the Arts, Mr John Day, who is a dental alumnus from UWA, will be the eminent guest speaker.

“My sincere congratulations to the School of Dentistry on its 70th anniversary and thanks to all who have contributed to dental education and research in WA over the years, helping to ensure that one of the essential health professions in our State is available to the community,” the Minister said.

For more information, please contact Mr Rob Blandford at rob.blandford@uwa.edu.au or phone (08) 6488 2651 or go to www.dentistry.uwa.edu.au/new_pages/2-column-template/dentistry-70th-anniversary-ambassadors

A centre for virtually every digital dentistry task

A new Virtual Learning Centre has been established for use by dental students for all things digital, including prosthesis design, microscopy and radiology, thanks to a bequest by a former Dean of the School of Dentistry.

The bequest was made by the late Emeritus Professor Kenneth Sutherland, the longest serving Head and Dean of the Dental School.

“He was very keen on having his estate used for digital dentistry and simulation, having been impressed by Cathy Saunders
Faculty of the future

Over the course of this year, the University has been working through the “UWA Renewal Project”. One component has been the decision to reduce the number of faculties from eight to four. This has necessitated a revision of the makeup and academic structure of all faculties. From January 2017, our Faculty will be renamed the “Faculty of Health and Medical Sciences”. The mission of the Faculty will be to integrate teaching and scholarship to improve the health and well-being of individuals and society. The Faculty will have expertise in health and medical sciences, diagnosis and treatment of disease, dentistry, physical and social care, population, aboriginal, rural and global health, disease prevention and health promotion.

Advancing health

The vision of the Faculty is to advance health through education and innovation in:

1. The scientific basis of health and disease.
2. Translating discoveries from the results of research discoveries to improve health care.
3. Health promotion and disease prevention to ensure the maintenance of the well-being of individuals and society.
4. The diagnosis of illness and restoration of human health.
5. Supporting the well-being of individuals and society through allied health services.
6. Outreach addressing health education and concerns in rural areas of our State, our nation and countries in our region.

This vision will be achieved through our expertise in biomedical science, clinical trials and research, applied and translational research, health care delivery, global health and social care.

Five Schools

The new Faculty of Health and Medical Sciences will have five Schools, each of which will have a distinct identity and focus for teaching and research. We believe that this new structure will also lead to greater engagement with our alumni, stakeholders and community supporters. The five Schools will be:

School of Medicine (“UWA Medical School”): The focus of the Medical School will be clinical teaching in the MD program and clinical and translational research. The Medical School will have a sub-structure that corresponds with the teaching modules in the MD and in line with postgraduate professional College qualifications. Student teaching will continue at all metropolitan and rural sites throughout WA.

School of Dentistry (“UWA Dental School”): The Dental School already exists and will remain largely unchanged in the new structure. Its focus will be to teach, participating in dental health research and providing oral health care.

School of Allied Health: This new School will bring together the academics, teaching and research in a number of disciplines of allied health (e.g. pharmacy, social work). We anticipate an expansion of the range of allied health disciplines in the near future. Our students will gain practical experience from clinical placements in the metropolitan area and in country WA.

School of Biomedical Sciences: The focus of this new School will be teaching and research in the scientific basis of health and disease, including disease processes, management and biological discovery. Academics in this School will work with the Medical School, Dental School and School of Allied Health to translate scientific discoveries to improve health care.

School of Population and Global Health: This School will include community and rural health and address health issues within and beyond our State, including resource-constrained countries in our region. Our academics are already actively involved in contributing to the health and well-being programs locally and for our regional neighbours.

Collaboration

The Faculty will be undertaking research to address key areas of importance to the health and wellbeing of individuals, society and the world. Although each School will have a distinct profile based on the main focus of its academic pursuit, they will work closely together and academic staff may hold appointments in more than one School. This should lead to enhanced collaboration to achieve our goals and assist with student education. It is important for UWA to have a strategy for the next decade to ensure we are well-positioned to tackle the health problems of the future.

Over the final months of 2016 we will work on the many logistic issues required for us to start afresh as the new Faculty of Health and Medical sciences. There is much to do but enthusiasm abounds with the excitement of what we may achieve with this new identity.
One example is that of young twins, Emily and Reese Prior, who were born with cerebral palsy and are involved in studies through the BrightSpark Foundation, supported by UWA.

“We’ll only find the solutions to childhood illnesses with the continued financial support of organisations like UWA and BrightSpark,” their mother, Mrs Jenny Prior, said.

“We put all our trust in the specialists and maybe sometime in the not too distant future, because of the research the girls are involved with, children will be born without cerebral palsy.”

The New Century Campaign, which was officially launched in 2013 with a target of $400 million by the end of 2017, is enabling alumni and others to be involved more closely with the university with respect to issues that have particular meaning for them.

Innovator funds life-changing research

Although not a graduate, bequestor Mr Jack Tiddy chose to invest in combatting diseases that impacted on those he was close to - his wife, Doreen, lost her battle with cancer and her brother died of kidney disease.

“Jack wasn’t fortunate enough to attend university but he was a skilled, self-taught engineer and designer with an agile brain,” his cousin, Mr Max Slater, said.

UWA was the recipient of Mr Tiddy’s generous gift but people such as cancer patient Dr Leonie Valentine have also benefited from his foresight.

“When somebody tells you that you have cancer, your whole life changes,” Dr Valentine said. “I feel incredibly lucky that I’m being treated with some of the best medicine that we have because UWA is at the cutting edge of medical research.”

Supporting rural health

“If you can’t hear, you can’t learn,” says Professor Gunesh Rajan, Head of the Otolaryngology, Head and Neck Surgery Unit in the School of Surgery.

Professor Rajan and his team are involved in the Ear Bus Program, a monthly mobile children’s ear clinic which sees 30-50 children each day in the Kimberley.

With the support of donors such as Mr Ron Kinnersly and his wife Lynette, Professor Rajan is hoping to expand his work to treat common problems that impact on children’s learning, such as recurrent ear infections and perforated ear drums.

“With the Kinnersly’s help, we can broaden our research, better

Professor Gunesh Rajan
Alumni events

There are several events taking place for alumni. These are some of them:

Mentoring café
At the end of the year there will be a mentoring café, held at The University Club, for the graduating dental students. Dental alumni will be invited to volunteer some time to share their wisdom and experiences with the students.

“A dentist who has a practice may like to come and recruit,” Ms Fabienne Vonarburg, Development Manager - Medicine, Dentistry and Health Sciences, said. “Or a dentist may like to see how graduates are in our days. They can bring new ideas.”

New Century Campaign - at a glance

The current tally is $315 million, donated by more than 10,000 members of the UWA community.

These funds have been donated for specific projects:
- $56 million for scholarships
- $66 million for research projects
- $35 million to academic Chairs
- $47 million for post-doctoral positions.

If you would like to make a donation to the university, please contact Ms Fabienne Vonarburg on 6488 4211 or Ms Kate McKenzie on 6488 8542.

See more stories of impact at https://campaign.uwa.edu.au/impact/thank-you

Ms Kate McKenzie (left) and Ms Fabienne Vonarburg

Reunion
The MBBS Class of 1966 will celebrate their golden anniversary on Saturday 12 November. Anyone interested in reunions, particularly milestone events, across all Schools and disciplines can get in touch with Mr Rob Blandford, Alumni Relations Officer, at rob.blandford@uwa.edu.au or call 08 6488 2651.

“We are always open to consider involvement from the Faculty,” Ms Vonarburg said. “If they would like to come and visit some of the facilities, or would like to hear from a particular research area or from the Dean or our Associate Dean (Community and Engagement) or from students, that is absolutely possible.”
Screening for a silent STI

Four to eight university students in every hundred on any campus will have chlamydia, the most common notifiable sexually transmitted infection (STI) in Australia. And they are not aware of it.

This statistic reflects the chlamydia prevalence rate of 4-8% among 15-25-year-olds who are tested in the Australian population and found to be positive.

As more than 80% of chlamydia infections are asymptomatic and testing rates are low in young Australian adults, the prevalence is greatly underestimated by the notification data.

It is a major public health problem that Assistant Professor Sajni Gudka, of the School of Medicine and Pharmacology and Centre for Optimisation of Medicines (COM), is aiming to help tackle.

“The only way we can do it is to try to find as many people as possible who have it, diagnose them and treat them,” she said.

She devoted her PhD thesis to the topic of Pharmacy-based chlamydia screening - and was awarded a rare Honourable Mention in the Graduate Research School Dean’s List in 2014 for her outstanding work.

Hers was the first Australian study to empower community pharmacists to request direct-to-consumer pathology testing for chlamydia.

Assistant Professor Gudka said chlamydia screening was usually conducted by GPs. It was well documented that the barriers for young people to seek screening included a long waiting time for appointments, high costs and inconvenient opening hours.

To make screening more accessible, she developed a pharmacy-based chlamydia screening model (ECOMPACT) and trialled it in 20 community pharmacies from Joondalup to Mandurah.

The main risk factor for chlamydia is unprotected sex so she focused on a group of women already amenable to sexual health advice - those going to a pharmacy to request emergency contraception, she said.

Women interested in participating in the study were given a DIY pathology testing kit to use at home, which involved a simple lower vaginal swab.

Feedback from the participants showed they found that pharmacies were accessible and convenient, and pharmacists were competent when offering a chlamydia test.

Assistant Professor Gudka said she planned to lobby the Federal health department to allow pharmacists to request the chlamydia pathology test and make it rebatable from Medicare. Another option was to have the $40 test covered by private health insurers.

“I don’t think it’s a service that should replace current models, it is something that can be added to provide convenience,” she said.

“Really, anybody who wants to get a chlamydia test should be able to without having to make a (GP) appointment, wait for an appointment and pay the out-of-pocket expenses. My background is in England where anybody can walk into a pharmacy and buy a test.”

Treatment is a single dose of azithromycin, which has a 98% cure rate.

According to Assistant Professor Gudka, persistent chlamydia, if left untreated, can result in serious problems such as pelvic inflammatory disease, infertility and ectopic pregnancy.

One of her supervisors, COM Director Professor Rhonda Clifford, said the next stage, being carried out by a PhD student, would include men.

“Now we want to engage men and also get partner notification because the biggest reason that chlamydia is not stamped out is that women attend for treatment but then their partners may not be notified and so there’s a vicious circle,” Professor Clifford said.
Clinical academics

Helping children via research, teaching and hands-on care

Directing a State-wide service for high-risk obstetrics, teaching medical students, and helping trial a male impotence drug for severely growth-restricted fetuses are all in a day’s work for a top Faculty clinical academic.

Professor Jan Dickinson, who completed her MBBS and MD at The University of WA, is Director of the King Edward Memorial Hospital (KEMH) Maternal Fetal Medicine Service, which is WA’s high-risk obstetric tertiary unit, and the hospital’s Ultrasound Department. She is also Professor of Obstetrics and Gynaecology (Maternal Fetal Medicine) in the School of Women’s and Infants’ Health (SWIH) at UWA.

“You can’t do research as a clinician without a university,” she says. “The university provides the infrastructure and the hospital provides the patients.”

One of her key areas, in a collaborative effort between KEMH, Princess Margaret Hospital and Telethon Kids Institute, is the long-term follow-up of children with various congenital malformations and includes a study of WA children aged five to 20 years with congenital diaphragmatic hernia (CDH). “Until about the last decade, a large number of babies born with CDH died but due to changes in neonatal management, they are surviving,” Professor Dickinson said. “But nobody really knows what the long-term outcomes for the surviving children are.”

The study’s preliminary findings show that the children often have chronic lung disease and their respiratory function and exercise tolerance are usually not normal. They have an abnormal chest shape but their cardiac and intellectual functioning typically appear normal.

With a similar collaborative WA group, Professor Dickinson has published the outcomes of children born with gastrochisis, a congenital defect in the anterior abdominal wall.

“It’s an area of research I enjoy because it’s collaborative,” she explains. “As an obstetrician, you deliver the babies and you never really know what happens to the children later in life. The paediatricians see them when they’re children but have little knowledge of the fetal events, so I think it’s a good interaction between the disciplines.”

Much of the research has emanated from her clinical ultrasound work at KEMH.

“We scan the majority of complicated pregnancies in the State, so we have a large cohort of women with obstetric complications cared for in our service,” she says. “There are a lot of questions to be answered.”

“Then there are women who have complicated multiple pregnancies.” She has published widely on twin-twin transfusion syndrome, in which twins share one placenta. “It is a very severe condition and I became interested in the early 90s because the outcomes were so dismal.” Untreated, the condition is lethal. She helped develop the Australian and New Zealand Twin-Twin Transfusion Syndrome Registry and later the WA Fetal Surgery Unit, where fetoscopic laser photocoagulation is used in intrauterine surgery to coagulate the shared placental blood vessels. “It is currently the best treatment for this condition,” the professor says.

Her focus now has turned to preterm birth prevention, heading the ultrasound aspect of a major SWIH initiative spearheaded by Professor John Newnham. Two years ago she initiated a State-wide cervical length screening program, prompted by the fact that the shorter the cervix, the greater the risk of preterm labour. “All pregnant women at their 18-20-week morphology scan have their cervical length measured,” she explains. If the length is confirmed to be less than 25mm, they are started on progesterone therapy or sometimes are given a cervical cerclage (stitch) as preventative measures. International trials have shown the measures reduce the risk of preterm birth risk by up to 40%.

Her group is also involved in an international trial of a new therapy, sildenafil or Viagra, to help growth in severely growth-restricted fetuses.

Professor Dickinson teaches and mentors medical students, student midwives, and trainee ultrasonographers and obstetricians and gynaecologists, and upskills GPs.

She was the first female editor-in-chief of the Australian and New Zealand Journal of Obstetrics and Gynaecology in 2011. This year she retired from the position, having lifted the journal to its highest ever rankings and achieved its highest ever Impact Factor.

-by Cathy Saunders
Indigenous students take to dentistry

Year 10 students from throughout WA ventured into the world of dentistry during a Science Camp organised by the School of Indigenous Studies (SIS) on July 13.

The 27 students, who were hosted by the School of Dentistry, had a go at drilling and filling and taking impressions and were given a brief lesson on tooth morphology.

Three Indigenous students from the School, final year DMD (Doctor of Dental Medicine) student Dr Daniel Hunt, and first year DMD students Ms Hira Rind and Ms Patricia Johnstone spoke about their journeys that led them to study dentistry, the mentoring they received from SIS staff and various available scholarships.

Dr Hunt, whose goal is to become an oral maxillofacial surgeon, was recently announced as this year’s NAIDOC (National Aboriginal and Islander Day Observance Committee) Scholar of the Year for WA. Dr Hunt, whose connection with The University of Western Australia began in 2001 with an Aboriginal Orientation Course, is set to complete the four-year graduate DMD program in November and hopes later to specialise. He graduated in medicine with an Aboriginal Health specialisation in 2011.

Head of the School of Dentistry Professor Camile Farah said Dr Hunt was a role model within the Dental School and the Indigenous community. UWA Vice-Chancellor Professor Paul Johnson said Dr Hunt was “an inspiration to all students” and a credit to SIS and the Centre for Aboriginal Medical and Dental Health.

A Year 10 student tries her hand at taking a dental impression.

A centre for virtually every digital dentistry task

Continued from page 2

by the ability of the dental simulation units - Simodonts - to enhance student learning,” Head of School Professor Camile Farah said. “As part of the School’s strategic plan to move fully towards digital dentistry, we’ve established the Virtual Learning Centre for digital and e-learning.”

The Centre houses 56 high-specification computers capable of manipulating large data sets for CAD/CAM (computer-aided design and computer-aided manufacturing) files that students use for their prosthetic work.

"Instead of our students having to pour up models like we used to do in the past, they can come to the Virtual Learning Centre and design a crown or a bridge, save that and electronically send to our dental laboratory team, which fabricates those appliances on our new robotic mills,” Professor Farah explained.

The students also use the Centre for virtual microscopy and digital radiology, which will enhance learning opportunities provided by the School’s new Oral Radiology Suite.

The Centre will be dedicated to Emeritus Professor Sutherland. His bequest has also helped fund the Simodont virtual reality dental training units, which continue to be embedded in the curriculum.

Professor Farah said the generous act of giving by someone from the School’s past allowed the School to prepare its present students for the future, which tied in with the 70th anniversary theme of celebrating the past, enhancing the present and building for the future.

Smart technology, smart health

Some of the latest developments in health technologies and innovations were presented at the Smart Health Symposium, held by the WA Centre for Rural Health (WACRH) in Geraldton last month. Dr Sandy Hamilton, WACRH Research Fellow of the UWA Poche Centre, spoke about heart disease management using iECG smart phone technology and keynote speaker Dr David Glance, Director of the UWA Centre for Software Practice, described the role of mobiles, wearables and personal data in managing health and wellbeing through activity and informed action. WACRH Director Professor Sandra Thompson said feedback from the symposium - which attracted health professionals and community members - was very positive and they hoped to put on more regular forums with guest speakers for the community.
The University of WA's School of Oral Health Sciences (or Dental School), which had been on the brink of extinction, and his subsequent role in setting up the new Oral Health Centre of WA (OHCWA).

The UWA alumnus, who was a general dentist with a special interest in prosthodontics and endodontology and founding partner of a practice in St George's Terrace, as well as the Head of Restorative Dentistry and Clinics at UWA, was called in July 1998 by Professor Valerie Alder, then Deputy Executive Dean of the Faculty of Medicine and Dentistry.

“She rang and said would I consider taking over the Dental School for a short period of time because it was in dire straits. I said, ‘Certainly I’ll consider it, how long do I have to decide?’ This was in the morning and she said ‘Five o’clock tonight.’”

He accepted. “My feeling is that all graduates of our university should give back to their university,” he explains.

The then Head of School was unwell, there was a lack of full-time academics, and the building was not very suitable. Moreover, Dr McGuinness was informed that the university was in negotiations with the University of Adelaide for UWA undergraduates to complete their dental degree there because the Dental School would be closing.

He began immediately to turn the situation around. He called on his friend and neighbour, then Premier Richard Court, who agreed to take the issue of dental training and facilities to Cabinet. Government funding was secured to the tune of $15 million, which was matched by UWA, for the OHCWA Project that combined the Dental School and the Perth Dental Hospital for public patients. This all happened within one month of Dr McGuinness’s appointment.

The original idea was for him to take the helm of dentistry for six months but he remained in the position until 2000, when he was appointed Director of the OHCWA Project.

He worked seven days a week in the role, even though he was also maintaining his clinical commitments. “I wasn’t going to be responsible for losing the opportunity for us to create a new Dental School,” he says. OHCWA opened in 2002.

It was the pinnacle for the man who left school in England at the age of 16 to be a lumberjack in Sweden and, realising after six months it wasn’t terribly romantic and that study might be a good idea, headed for WA in 1970 where he matriculated and then graduated in dentistry.

After his long career, which included years of involvement with the Australian Dental Council, including as Deputy President, and with the Dental Board of WA, including as President, he spied an advertisement in 2002 for a farm in Toodyay which seemed perfect for eventual retirement. He established the Toodyay Dental Clinic in 2005 and he and his family later moved to the farm.

But the self-confessed workaholic, now 68, doesn’t look like retiring any time soon. Instead he opened the Goomalling Dental Clinic in 2008 and has shifted from working two days a week to full-time again, with 6,000 patients.
In a clinic in Dili, East Timor, final year medical student Merredith Cully ended her largely confronting daily ward rounds with “a bundle of joy”. She was on placement at Bairo Pite Clinic last December as part of her medical elective and witnessed the devastation of tuberculosis, the pathology resulting from poor health literacy and under serviced rural areas, and young malnutrition patients, but also the joy of newborns.

Finishing in the malnutrition ward, every day she saw Markilester. “At six months old he weighed 3.5kg, the average birthweight in Australia,” she explained. “Throughout my three weeks there he didn’t gain but a gram, with no test available to us able to say why. Yet, despite his extremely low weight boding nothing but poorly for his future, the inability to support his own head from lack of muscle mass, and the dysmorphic features that indicated a far more intricate and deeper diagnosis, Markilester smiled back at me every morning.

“He taught me that in the face of diversity, in the face of poverty, surrounded by chaos, there would always be joy.”

Her photo was the winner at this year’s WA Medical Students’ Society (WAMSS) Elective Photography Competition, which features the snaps submitted by students following their elective internships. They were exhibited at the Lawrence Wilson Art Gallery from June 22 to July 4.

The opening night, attended by more than 100 guests, also featured the Alan Charter’s Elective Prize competition, in which three final year medical students spoke about their experiences during their electives in far-flung places of the globe. The winner was Will Crohan whose topic was titled “From African Highlands to Downtown Tokyo”. An article by him describing his elective is on page 16.

The Alan Charters prize is in memory of a respected former senior Faculty member.

The joint competition event was hosted by WAMSS, the Faculty and the gallery, with guests including the new Australian Medical Association (WA) President Dr Andrew Miller, Associate Dean (Community and Engagement) Professor Sean Hood, and donors.

The winners of the WAMSS Elective Photography Competition:

- Smith Coffey Prize for 1st place ($500) (People’s Choice) - Merredith Cully (Markilester; Bairo Pite Clinic, Dili, East Timor)

- WAMSS Committee Prize for 2nd place ($400) - Justine Sykes (Abdominal exam as village performance piece; small village in Burma)

- Philip & Fathers Prize for 3rd place ($250) (People’s Choice) - Rebecca Long (Pikinini; Port Vila, Vanuatu)

The winners of the Alan Charters Elective Prize:

- Winner: Will Crohan “From African Highlands to Downtown Tokyo” ($1000 donated by Western Diagnostic Pathology and presented by Clinical Professor Miles Beaman)

- Runners Up:
  - Michael Rosza “Contrasting the economics of healthcare in Catalunya and Peru through football” ($500 donated by Cathy and David O’Donovan)
  - Jacqueline Strudwick-Day “Capetown: coffee, trauma and other addictions” ($500 donated by Cathy and David O’Donovan).
I recently completed my 6th year medical elective in Johannesburg, South Africa at Chris Hani Baragwanath Hospital (or Bara, as it is affectionately known) in trauma surgery. I wanted to learn more about the management of traumatic injury and I had heard students are very hands-on there.

Bara is in Soweto, one of the poorest townships of Johannesburg. With this came a lot of violence, particularly knife crime, and it was not uncommon for patients to present with multiple stab wounds.

I helped treat a male patient who had been stabbed in the abdomen and neck. He had bowel hanging out and apparently an injured major blood vessel in his neck. I was tasked to get IV access and then saw one of the surgical doctors placing gauze into the neck wound to stop the bleeding temporarily so I quickly tied some sutures around the gauze. The intubated patient was then rushed to theatre. All this happened so quickly, it was like an F1 pit stop! Unfortunately, he died later that week but this experience showed me how quickly we need to stop bleeding if a large vessel is injured. In Australia I surely would have been watching from a distance.

Along with knife crime, there is a large amount of mob violence (assaults with bricks, fists, whips), as well as motor-vehicle accidents and it constantly feels the department does not have enough staff or resources. The shifts at Bara are long (more than 24 hours) and there are times where my resolve was definitely tested. I was required to work independently to keep patient flow through the department but always had support from the seniors.

South Africa was so interesting, medically and otherwise!

Saksham Gupta at work during his elective placement.

Digging deeper into public health

By Ditza Teng, 6th year medical student

Six years ago, an interview for medicine at UWA was a huge milestone for me as I had sat the UMAT (Undergraduate Medicine and Health Sciences Admission Test) three times. The 19-year-old me wanted to change the world, make a difference, help those in need. I saw myself working in an “undeveloped” country, providing medical aid to those who most needed it.

Now in my final year of medical school, my overarching dream to change the world has not changed although the method and pathway have. In third year, I completed a two-week public health elective in India and saw firsthand the poor conditions of many rural clinics where women gave birth. I realised that many doctors were doing the best they could with what they had but this was often limited by the availability of resources, training and existence of health initiatives and programs. I started to think about medicine on a wider scale and to foster a deep interest in public health and health systems.

An internship with the World Health Organisation (WHO) as part of the sixth year elective was the perfect opportunity to dig deeper into public health, particularly on a more global scale, and a fellow student and I landed in freezing Geneva for three months.

Our supervisor was Dr. Joshua Vogel, a UWA medical graduate who was working at WHO as a maternal and perinatal health epidemiologist and researcher. Our main project involved developing official WHO estimates of levels and trends in preterm birth and I learnt a great deal about research.

I also learnt much about global health at WHO from talks on how to strengthen health systems and primary care in disadvantaged countries, the health impact of public health law, systems currently in place in response to global food terrorism and how we can ensure everyone has the right to health.

The best part of the internship was the opportunity to network with inspirational doctors who are huge influencers of change within their sphere of expertise.
Visiting tertiary students from China and Vietnam have been encouraged to see the Faculty of Medicine, Dentistry and Health Sciences as the one of choice to further their studies in dentistry, pharmacy and other health-related professions.

In all, 137 students in clinical medicine, dental science, pharmacy and laboratory medicine spent a month at the Winter School.

The School of Dentistry hosted 19 students from Wenzhou, Nanjing, Kunming and Sun Yat-sen Universities from 8-24 August. This is the second time it has been involved in the Winter School, having hosted four students from Nanjing University last August.

Head of School Professor Camile Farah said the School was heavily engaged in international networking through the work of Associate Dean (International) Professor Minghao Zheng and the Winter School.

"We hope this will lead to further interaction with these students when they decide to either specialise or undertake PhD research after they graduate," Professor Farah said. "We would love to build those ties with them and their universities when they go back. It is part of an overall strategy to engage internationally and grow research and post-graduate programs in the School."

The students spent time with local dentistry students, observing clinical activities in different disciplines and attending training sessions, lectures and seminars. They also had interactive sessions with the latest simulation and CAD/CAM technology.

For the first time, the Pharmacy Unit welcomed seven students and Professor Xiaoe Lou from Zhejiang University (ZJU) from 1-26 August for the Winter School.

Assistant Professor Liza Seubert of Pharmacy Practice in the School of Medicine and Pharmacology said the students were currently enrolled in a Bachelor of Pharmaceutical Science degree at ZJU and it was hoped they would eventually enrol in the UWA Master of Pharmacy program. "This Winter School is really giving them a taste of what pharmacy practice is all about … and also the health system in Australia because it runs very differently to China," she said.

The Winter School students who travelled from China to spend a month with the Pharmacy Unit, with Assistant Professor Liza Seubert (front left) and Assistant Professor Deena Ashoorian.

Assistance Professor Liza Seubert of Pharmacy Practice in the School of Medicine and Pharmacology said the students were currently enrolled in a Bachelor of Pharmaceutical Science degree at ZJU and it was hoped they would eventually enrol in the UWA Master of Pharmacy program. “This Winter School is really giving them a taste of what pharmacy practice is all about … and also the health system in Australia because it runs very differently to China,” she said.

The students were each buddied with a final-year Master of Pharmacy student and attended lectures and workshops and many site visits, including to public and private hospitals to see how clinical, ward, oncology, infectious diseases and outpatient pharmacists work.

They also visited community pharmacies and an aged care facility. “We’ve tried to make it very practical and hands on so that they can see what is happening in Australian pharmacy practice,” Assistant Professor Seubert said. “I think it is generating some interest in it.” In order to expose them to research, they were rotated through different Master of Pharmacy projects, such as deprescribing in dementia and medication safety.

Established in 2010, the Winter School program has led to increased numbers of postgraduate students enrolling in biomedical and health sciences at UWA. This year’s program was expanded to include palliative care, psychiatry, pharmacy and clinical specialties.

Students also came from Shanghai Jiao Tong and Shantou Universities in China and Pham Ngoc Thach University in Vietnam.
Professor Peter Thompson, Deputy Director of the Harry Perkins Institute of Medical Research, is QAS he fact we don’t know the answers to what causes high blood pressure and cholesterol shows how little we really understand about what goes wrong with the heart. There were still critical gaps in basic knowledge about the key causes of heart disease, heart attacks and strokes. “A focus on finding treatments for heart disease has produced dramatic results,” he said. “If you had a heart attack 30 years ago, your risk of dying in the first week was 13 per cent and now the risk of dying from a heart attack in the first month is down to 4 per cent. But, while treatments have improved, too many heart attacks and strokes are occurring and we still don’t have answers to some fundamental questions about what causes heart disease.” Similarly, research looked at how to treat the build-up of cholesterol but not so much the cause.

Dr Yuben Moodley, of the School of Medicine and Pharmacology, is QAS chronic obstructive pulmonary disease generally progresses and is a huge burden on the resources of the world. He was commenting after two severely ill patients improved within a month of being injected with adult stem cells. He has early results from a trial of nine patients who, after treatment with stem cells from bone marrow, recorded a drop in inflammation associated with the disease. After the injection, researchers tracked the patients’ progress and found key biomarkers of inflammation dropped significantly within a week. But an unexpected finding was an improvement in lung function tests for two patients. Dr Moodley said the “surprising” response would now be a major focus in an expanded trial to determine which patients might benefit most from a potential treatment. Further testing was vital to ensure people were not given false hope.

Clinical Professor Richard Mendelson, of the School of Surgery, is QAS he believes a new app to explain the risks and benefits of medical radiation is a first in Australia and possibly a world-first. He and a colleague developed the app and they are asking doctors to weigh up the risk of radiation exposure when referring patients for CT scans. An estimated 430 Australians die each year from cancer caused by exposure to X-rays but experts are particularly concerned about the higher doses of ionising radiation from CT scans. A single CT scan of the abdomen or pelvis gives a one in 1000 risk of developing fatal cancer - the same risk of being killed on WA roads over a 10-year period. The risk increases for each CT scan. The app is called RaysAware and was funded by the Cancer Council WA. A separate app, DIP 4 Kids, has been developed in WA to reduce unnecessary radiation exposure in children. The apps are free from the Apple Store and Google Play Store.

Dr Suzanne Mashtoub, of the School of Medicine and Pharmacology, is QAS the aim of a study she conducted was to investigate whether emu oil could reduce inflammation and repair damage in the bowel caused by ulcerative colitis, and monitor whether they could prevent the development of bowel cancer. The study, funded by a Cancer Council WA grant, found emu oil capsules helped prevent weight loss, which could be useful for bowel cancer patients, and appeared to protect the intestine from inflammation. Dr Mashtoub said while emu oil did not prevent tumours, those that developed were smaller. While it was premature to recommend people take emu oil to prevent or treat bowel cancer, the results were promising.

myGC
Dr Hayley Christian, of the School of Population Health, is QAS that stranger danger is one of the most highly cited barriers to children’s independent mobility, walking with siblings and/or a family dog may reassure both parents and children by providing them with an increased sense of safety. She led a study that found when it comes to walking to school or around the neighbourhood, parents are more likely to let their younger child go on their own. The researchers looked at data from 181 children aged eight to 15 years, with parents reporting whether their child was allowed to walk or cycle alone or with other children to or from school, friends’ houses and the local park and shops. Travelling with an older sibling was more likely to provide parents with an added sense of safety and perceived protection, Dr Christian said. Owning a dog was linked to children’s overall independent mobility.
What’s going on? in the Faculty

Research

A better understanding of the cause of heart failure has resulted from research by a team at the Harry Perkins Institute of Medical Research, led by Professor Aleksandra Filipovska, in collaboration with researchers in Germany. The team developed a model for cardiovascular disease by removing a gene, known as MRPP3, to examine its impact on heart function. Professor Filipovska said the researchers found that without MRPP3, the heart became floppy, very soft and enlarged and ultimately couldn’t support life. “Our research showed that the gene is critical for life and without it the heart can’t develop or work properly. Its loss causes profound enlargement of the heart, known as cardiomyopathy, that leads to death very early in life.”

Research led by Associate Professor Julian Heng, Head of the Brain Growth and Disease Laboratory at the Harry Perkins Institute of Medical Research, has shed more light on intellectual disability. The team has identified a gene which controls the formation of neural circuits in the brain and could be significant for intellectual disability as well as Down Syndrome, which results from an extra copy of all or parts of chromosome 21. Associate Professor Heng discovered that there were rare cases of children with abnormalities in chromosome 21 who were intellectually disabled but did not display clinical features consistent with a positive diagnosis for Down Syndrome. The research team went on to discover that a gene on chromosome 21, known as EURL (also known as C21ORF91), was critical for the production of appropriate numbers of neurons in the developing mammalian brain, as well as their ability to develop into functional brain circuits. “Our work identifies EURL as a causative gene for intellectual disability in Down Syndrome, and indicates that disruptions to EURL are likely to alter the course of brain development and cause early onset mental conditions such as intellectual disability,” Associate Professor Heng said. “Altogether, our data raise the possibility that treatments which correct the imbalance of gene products in brain cells, such as EURL, could lead to improvements in mental health and a better quality of life for individuals with certain forms of intellectual disability.”

Six members of the Centre for Optimisation of Medicines (COM) in the Pharmacy Program, including the Director, Professor Rhonda Clifford, travelled to the leading international conference in pharmacy in Aberdeen, Scotland, in July. Despite the fact that theirs was a small team, between them they gave about 10% of the scientific presentations at the International Social Pharmacy Workshop, according to Professor Clifford. “We stimulated a lot of talk and interest in our work and we have already started some joint research collaborations because of it,” she said.

WITS ABOUT YOU

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

1. Why is it desirable not to stand under a storm of lightning?
2. What is the approximate percentage of people who have palpable lymph glands in their axillae?
3. In the influenza epidemic of 2009, a strange observation of the immune responses in the affected population was made.
4. How many amino acids are used in our bodies?
5. Several muscles in our bodies may be on “their way out”, from an evolutionary perspective. Which, for example?

(Answers page 15)
What’s going on?
in the Faculty

Awards

Queen’s Birthday Honours for 2016

Officer (AO) in the General Division of the Order Of Australia:
Dr Ric Charlesworth, a UWA medical graduate, for distinguished service to sport, particularly field hockey, through coaching and mentoring roles for men’s and women’s national teams, as a high performance consultant and technical advisor, and to the Parliament of Australia.

Member (AM) in the General Division:
Dr Jack Edelman, a UWA medical graduate, for significant service to community health, particularly to people with arthritis and osteoporosis, and to medicine as a rheumatologist.

Professor John Fletcher, a UWA medical graduate, for significant service to medicine as a vascular surgeon, to medical education as an academic, and to professional associations.

Dr Michael McGuinness, a UWA dental graduate, for significant service to dentistry as a clinician, to oral health education, to professional groups, and to the community of Toodyay.

Medal (OAM) in the General Division:
Dr Hannes Gebauer, a UWA medical graduate, for service to medicine as a dermatologist, and to hockey.

Public Service Medal (PSM) Western Australia:
Dr Diane Mohen, a UWA medical graduate, for outstanding public service through the development and provision of maternity health programs and service delivery in regional Western Australia.

One of WA’s elder statesmen of General Practice and rural medicine, Emeritus Professor Max Kamien, Senior Honorary Research Fellow in General Practice at The University of WA, was awarded the Australian Medical Association (WA) Hippocrates Award for 2016. Emeritus Professor Kamien was Foundation Professor of General Practice at UWA and has a formidable reputation as a practitioner, academic, author, advocate and raconteur.

Working towards improving the ear health of Indigenous children has won a PhD student a prestigious Premier’s Science Award. Mr Christopher Brennan-Jones, a paediatric audiologist, and adjunct research fellow and PhD candidate at the Ear Sciences Centre, was last month named Exxon Mobile Student Scientist of the Year for 2016. In his PhD research, he is examining automated audiometry and how this technology can be applied to telehealth models of care to improve access to hearing services. He led an international consortium that assessed the reliability of automated hearing tests for use in the absence of specialists. He discovered some common inconsistencies that, if not corrected, could result in missed diagnoses of middle ear disease or tumours and went on to develop diagnostic protocols that can be applied to automated audiometry to correct these errors. He is translating this research into practice by establishing an Indigenous ear health program in the East Pilbara.

Mr Peter Carr, a PhD student and lecturer in Emergency Medicine at the School of Primary, Aboriginal and Rural Health Care, who hopes to help reduce the pain and anxiety some people suffer with needles, has won an Aspire Award. He used part of the $10,000 City of Perth scholarship from the Perth Convention Bureau Aspire Program to attend the 4th World Congress on Vascular Access in Lisbon, Portugal. His aim is to attract delegates to the Australanian Vascular Access Society Scientific Meeting, of which he is the scientific convenor, in Perth next year. His research focuses on vascular access outcomes in the Emergency Department.

Adjunct Associate Professor Anthony Kicic, of the Telethon Kids Institute, won the Telethon Kids Institute Aspire Conference Award. He completed his undergraduate and doctorate degrees at The University of Western Australia, specialising in molecular biology and cell biology. At the Institute, his research includes the role of the airway epithelium in the pathogenesis of a number of respiratory diseases, including childhood asthma and cystic fibrosis. He believes there is an urgent need for new areas of drug discovery in these two airway diseases.

Answers to the quiz on page 14

1. You would be showered with X-radiation.
2. 25%.
3. The immune response to the influenza virus was high in children, fell off in middle age to rise again in later life.*
4. 20.**
5. Palmaris longus, psosas minor, plantaris and sternocostalis.

** New Scientist, Jan.24, 2015, p11.
Elective experiences

Ingenuity in the Kingdom in the Sky

By Will Crohan, 6th year medical student

Lesotho is a rare gem. It’s a country that you’ve never heard of before you go but after you’ve visited you’re never likely to forget. I was lucky enough to visit the “Kingdom in the Sky” in December on elective, where I worked in a small rural hospital in Lesotho, a small, mountainous country in Sub-Saharan Africa.

Legend states that when the Colonial English were going about conquering the different African tribes, they were foiled by the Lesotho people. Chasing the primitively equipped Lesotho army up a mountain, they were lured into a canyon and trapped, where they were pelted with stones until they were forced to surrender. It’s a story known to every Lesotho schoolchild and resonates in a culture that values adaptability, creativity and ingenuity.

Nowadays, Lesotho is better known for having the highest rate of tuberculosis worldwide and the third-highest rate of HIV but the ingenuity of the doctors working there is evident to all those who visit. I was there during the worst drought in living memory and was put to work in the outpatient clinic, where primary presentations included everything from managing diabetes to amoebic dysentery, pneumocystis pneumonia, oesophageal candidiasis and tuberculosis. For a 6th year medical student armed with an UpToDate subscription, it was very daunting.

The resilience and adaptability of the local doctors, however, were inspiring. During the time I was there, water was cut off from the hospital. The hospital responded by pausing elective surgery, sterilising water from the local river and using methylated spirits for disinfectant. Disruption was minimal. Soon after, the X-ray machine broke down, as did the lab, leaving only urinalysis.

Doctors adapted by collaborating more, discussing uncertainties and collectively building management plans. Again, disruption was minimal.

Lesotho is a country of incredible scenic beauty, and nestled in the picturesque mountains of the countryside, I found beauty in the adaptability and ingenuity of the Lesotho doctors. Despite their hardships, the future is bright in a country where the values of their ancestors still resonate today.