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### ORAL AND POSTER PRESENTATIONS

#### Rural electives: Providing transformative learning opportunities and influencing choice of career: The Stellenbosch University experience

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**Background.** Rural background and longitudinal rural clerkships for medical students including training at rural medical schools are established predictors for rural practice. Considering that less than a third of all South African medical students originate from rural areas and are educated at urban universities, additional strategies are necessary to encourage rural career choices.

**Objective.** This study explores the benefits of a 1-month rural elective in influencing further rural practice and is funded by the Stellenbosch University Rural Medical Education Partnership Initiative.

**Method.** This qualitative study evaluated rural elective students' learning experiences and possible influences on future career choice. Online anonymised surveys and feedback from focus group discussions were analysed to identify recurring themes.

**Results.** Students described the rural elective as an enriching experience and a positive opportunity facilitating exposure to the context in which they will ultimately work. Adapting to environments with limited resources and populations with varying cultural backgrounds were embraced and valued by students. In addition, learning opportunities for community engagement and patient-centred care were seen to inspire students to return to rural areas.

**Conclusion.** Rural electives provide transformative learning experiences that could influence urban-educated medical students' choice of working in rural areas. Further investigation of this model is recommended. Innovative medical education models offering shorter periods of rural exposure may serve to enhance rural recruitment in South Africa.

#### A qualitative exploratory study: Using medical students' experiences to review the role of a rural clinical attachment in KwaZulu-Natal

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**Background.** There are challenges when considering that the main role of a rural clinical attachment for medical students is to encourage students to return after graduation to practise in rural areas; such a view may lead to relative neglect of other potential valuable roles of rural exposure.

**Objective.** This paper draws on the 'Force Field Model of Teacher Identity' to describe medical students' experiences, illustrate the complexity of factors interacting during rural exposure, caution that experiences cannot be predicted and highlight the positive role of a rural clinical attachment.

**Method.** The study setting was a district hospital in rural KwaZulu-Natal and participants were four final-year medical students who had completed a compulsory attachment during their Family Medicine rotation. Data were collected using photo-elicitation and analysed using the Force Field Model.

**Results.** Participants felt that, overall, it was a positive the experience. The effect of biography and contextual forces were not as strong as could be expected. Institutional forces were important and programmatic forces tended to have a negative effect on experiences. Participants particularly enjoyed being acknowledged and gained empathy around the difficult tasks of doctors.

**Conclusion.** The potential positive role of a clinical attachment may go beyond attracting students to practise in rural areas. Experiences could be beneficial, irrespective of where the students select for future practice. There is a need for review of rural attachment curriculum and pedagogy. Caution should be used when screening medical students for suitability to work in rural areas prior to rural exposure.

#### Experiential learning outside the comfort zone: Taking medical students to downtown Durban

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**Background.** The ability to communicate across cultures requires a combination of knowledge, skills, and attitude. Our current medical school curriculum includes innovative methods of teaching communicative knowledge and skills. The challenge is how to teach students how to interact with empathy in the multicultural society that awaits them.

**Objective.** Various methods of teaching empathy have been utilised worldwide but this particular presentation reflects on an experiential learning activity that yielded positive results.

**Method.** A diverse group of pre-clinical students volunteered to take part in an experiential learning outing in the Warwick Triangle area of Durban. A tour operator specialising in cross-cultural tours for business groups offered to facilitate the experience free of charge. Students consented to the tour and permission was granted from the medical school dean for the opportunity. At the muthi market, students were divided into smaller groups and each group was asked to obtain a specific herbal medication and learn of its uses. The students also participated in a tour of the Juma Masjid mosque. Several days later, the students met together again to debrief the experience.

**Results.** Upon reflecting, students revealed that they were able to appreciate and gain a wealth of cultural knowledge and that they had begun to develop an attitude of curiosity about cultures other than their own. They were also able to learn from challenges that were encountered within a safe environment. The overall impact on the students appeared to be very powerful. A number of students expressed appreciation at being in a

multicultural group, having a shared experience, and engaging in an open and respectful discussion about similarities and differences.

**Conclusion.** We believe that our students need to be involved in experiential learning that encourages them to examine their attitudes, and to develop curiosity about and respect for patients coming from cultures other than their own. We describe an innovative, experiential approach to learning, and suggest ways in which learning experiences of this type can be integrated into the MB ChB programme.

**Person-centred community-based interprofessional care: A strategic opportunity for service-learning to reform health professions education**

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**Background.** A *Lancet* commission recently stated that person-centred and community-based care are key in reaching health equity. Their recommendations to address health inequity have far-reaching implications for health professions education. It is the position of this paper that most of these recommendations could be addressed by an interprofessional service-learning approach.

**Objective.** The aim of this study was to determine, before and after a interprofessional service-learning experience, how perceptions of students changed regarding (i) the roles of other health professions; and (ii) their approach to patients, clients and the community.

**Method.** The research followed a phenomenological school of thought in an interpretative paradigm with a qualitative-inductive approach. In-depth focus group interviews were conducted with 64 students before each rotation, directly afterwards, and a year later. Interviews were conducted with 10 clients and six community-based carers before the students became involved and a year later.

**Results.** Initially students expressed scepticism about teamwork with mostly negative perceptions about other health professions. They primarily practised a biomedical model of care with little understanding of the psycho-social-spiritual factors influencing health. Clients and community-based carers felt disempowered, inferior and demotivated. Directly after each rotation and a year later, students reported appreciation for the different professions and a positive attitude towards interprofessional bio-psycho-social-spiritual person-centred care. However, students experienced difficulty ensuring continuity of care due to the short duration of rotations. Clients and community-based carers felt better equipped to take responsibility in promoting health, self-care and parenting.

**Conclusion.** Service-learning can play a valuable role in facilitating healthy interprofessional teamwork in person-centred and community-based care. The challenge for the service-learning fraternity is to promote this pedagogy among health professions educationalists as a solution to equip students to contribute towards equity in health in the 21st century.

**From mixed expectations to change in professional practice: Graduate perspectives of a rural clinical school experience**

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**Background.** In 2011, the first cohort of eight medical students spent their entire final year at the Ukwanda Rural Clinical School (RCS). As

part of a 5-year, longitudinal evaluative research project to determine the impact of its implementation, a baseline study was conducted during the initial year that highlighted the potential of the RCS intervention to offer transformative learning experiences for the students.

**Objective.** The aim in the second year of the study was to track the 2011 cohort into their internship to discern the extent to which their RCS year still influenced their thinking and practice.

**Method.** Focus group discussions had been held before this group entered the RCS. Interviews were then conducted with them during 2011. In 2012, another set of in-depth interviews took place with the eight interns during the latter part of their first year of internship. In addition, a supervising clinician of each intern was interviewed telephonically. The transcripts were subjected to thematic content analysis. Drawing on these four data sets, we used Kirkpatrick's model for evaluating educational outcomes to develop a matrix of the participants' views, highlighting any shifts that occurred over time.

**Results.** It was evident from the analysis that the students' initial uncertainties around the RCS were allayed during the year's exposure (Level 2a) and they felt confident that their clinical skills had grown (Level 2b). As interns they described how this confidence manifested in their behaviour (Level 3) and their professional practice (Level 4a). This was often confirmed by the intern supervisor.

**Conclusion.** Research claims made regarding the potential of an extended rural clinical experience to effect transformative learning are further confirmed by this study. Several questions, however, remain unanswered, including the extent to which patient care (Level 4b) is ultimately enhanced – the focus of the next phase of the larger study.

**Establishment of a rural clinical school in KZN: Using photovoice to elicit views of rural doctors and students**

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**Background.** The development of rural clinical schools is becoming a global and a South African phenomenon. Providing a positive experience for staff and students as well as ensuring that the facility still offers a service to the community and fulfils teaching goals are all important concerns. It is hoped that such schools will promote recruitment and retention of rural staff and better sustain rural health services.

**Method.** Purposive sampling of doctors and students working at a rural district hospital in KZN took place. This hospital has been identified as a potential site for a fully equipped rural clinical school within the foreseeable future. Photovoice technique was utilised to elicit views of these participants as to what a rural clinical school would entail with the aim of planning such a school in the future. Participants were asked to take photographs of what 'life in a rural district hospital' means to them and their interpretation of these photographs was explored in in-depth individual interviews which were audio-recorded and transcribed for analysis. Ethical permission for the study was granted by UKZN Humanities and Social Sciences Research Ethics Committee (HSS/0076/012).

**Results.** Various photographs taken by participants will be discussed. These speak to the themes of respect for patients, empathy for rural doctors and an understanding of the community they serve. Clinical and logistical challenges of rural hospitals are highlighted as well as the successes possible with restricted resources.

**Conclusion.** This presentation provides valuable insight in a novel manner as to the challenges and successes faced by rural district hospitals. It serves as a vital aid to inform strategic planning for developing a rural clinical school as well as feedback to teaching institutions on curriculum development.

## **Paramedic student perceptions, beliefs and attitudes towards work-place learning**

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**Background.** Workplace learning forms an integral part of emergency medical sciences educational programmes. As part of their learning programmes, paramedic students are required to participate in workplace learning, where they interact with patients in a real-world setting. The goal of workplace learning is to integrate theoretical principles into practice and develop intuitive knowledge for practice. However, the impact of these programmes is not well understood or documented; neither are the beliefs, attitudes and perceptions of the students.

**Objective.** This study aimed to provide insight into how students view workplace learning, identify possible barriers to learning and questions for future research.

**Method.** A cross-sectional descriptive survey was performed, utilising a self-administered questionnaire. A convenience sample of students currently registered at the Cape Peninsula University of Technology for the National Diploma in Emergency Medical Care paramedic programme were asked to participate and complete the questionnaire.

**Results.** A 36% (54/150) questionnaire return rate was achieved. Most participants indicated that they valued workplace learning, and that they enjoyed the experience. In total 98% of participants indicated that they believed experiential learning was directly related to more successful practice, post qualification. When asked about their clinical mentors, most participants indicated that they valued the input of mentors and considered them appropriately equipped to mentor them. Despite this, 38% of participants indicated that it was not uncommon for mentors to treat them harshly. These participants were also more likely to express negative attitudes towards the value of experiential learning.

**Conclusion.** From the findings of this study it can be concluded that participants tend to view their workplace learning favourably; however, negative mentor-mentee relationships may strain or even affect these views, creating barriers to learning. The central recommendation from this research is, therefore, to evaluate mentoring capacity in the field and provide suitable interventions to improve mentoring systems, communication between mentors and educational institutions, and promote capacity building for mentoring in the workplace learning.

## **Clinical associates: The success road of small group discussions**

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**Background.** Clinical Associates (ClinAs) are trained at three universities in South Africa. They graduate with a Bachelors degree in Clinical Medical Practice (BCMP). The training of these ClinAs is based on distance and service delivery training on site in a hospital. After three years they are placed as ClinAs in a district hospital and always work under the supervision of a registered medical officer.

**Objective.** How to develop a ClinA in the curriculum, assessment and rotations of these ClinAs working at a Clinical Learning Centre (CLC) with distance learning from the middle of the first year until the end of the third year.

**Method.** When the ClinAs started in January 2011, a comprehensive study guide was handed to them at the 2-week contact session with the university. A CLC with distance learning and service delivery worked out a programme for small-group discussions and clinical rotations in the wards. These small-group discussions are based on problem-based discussions. The curriculum of these ClinAs was totally covered with twice-weekly small-group discussions

**Results.** The curriculum is divided in a 3-year clinical study and covers all the medical systems. Assessments are done with observed consultations (Mini CEX) and patient studies, as an assignment, according their clinical rotations. The clinical rotations entitle that the ClinAs work certain hours in the hospital where the CLC is based. We are currently in our 3rd year with this programme and two groups have graduated, completing the degree. Therefore this is a reflective study on what was done in the past years.

**Conclusion.** Small-group discussions with problem-based distance learning and service delivery can cover the curriculum, assessment and clinical rotations to be a competent ClinA.

## **Basic procedures required of 3rd-year medical students during internal medicine junior rotation at CUHAS, Tanzania**

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**Background.** Tanzania has no standardised exit examination to certify the competency required of students at time of graduation. The lack of official documentation, use of different medical curricula, shortage of discipline experts and insufficient clinical exposures result in significant variation in the competencies of medical students.

**Objective.** This study aimed to identify the basic medical procedures that undergraduate medical students should acquire by the end of their junior rotation. It explored the existing level of exposure that students experienced and identified the gap in the 3rd-year curriculum.

**Method.** A cross-sectional descriptive study was designed to capture basic procedures using a self-administered structured questionnaire from 21 experts in the Department of Medicine. Document analysis was done to explore on the gap in the curriculum. The logbooks of 75 students who completed junior rotation in December 2012 were used to determine the level of exposure to the procedures.

**Results.** The response rate was 71%. Participants identified basic procedures that students should perform independently and under supervision. Independent competence was needed for Foley catheter insertion, venipuncture and IV drip insertion, and lumbar puncture while performing thoracentesis and paracentesis, and inserting a nasogastric tube should be done under supervision. The logbooks revealed that the majority of the students assisted with lumbar punctures (54.67%) and performed venipuncture (61.33%). Of concern, a significant number of students (24%) did not practise or perform any procedure. The existing 3rd-year curriculum does not specify clearly the basic procedures that students have to be competent in. Failure to perform basic skills in the junior and senior rotations leads to lack of competence at the end of training.

**Conclusion.** The logbook as an assessment tool is questionable in the absence of a quality assurance mechanism. There is a need for reviewing the curriculum.

## Comparing academic performance: Rural versus 'traditional' medical training

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**Background.** As the number of health sciences students participating in prolonged rural-based training programmes increases, the key concerns for these students and faculty are the maintenance of academic standards and whether such training might negatively influence their academic results. At Stellenbosch University's Ukwanda Rural Clinical School (RCS) medical students spend their final year being trained in either a regional or district hospital. They participate in the same final summative assessment as their peers at the academic training hospital although each of the end-of-rotation assessments includes patient portfolio presentations that are not part of the assessment at the academic training hospital.

**Objective.** The aim of this research was to compare the academic results of two successive cohorts of students trained at the RCS with those trained at the academic hospital.

**Method.** The six-year MB ChB programme covers three phases, including a pre-clinical phase. Results from the middle phase (final mark) and the late phase (end of rotation marks and exam results) were obtained from programme academic files, anonymised and analysed using STATISTICA. Anova and variance estimation tests were performed to explore and compare the results.

**Results.** Although the 2012 cohort entered the RCS with higher average marks than the Tygerberg students for most of the disciplines, their academic performance on the rural platform generally showed an increase relative to the Tygerberg students. Specifically, obstetrics and gynaecology marks were significantly higher than those of the Tygerberg students (70% v. 65%,  $p=0.002$ ). There are possibly a number of reasons for this increase in academic performance, which includes the portfolio assessment.

**Conclusion.** Based on the data from the two cohorts it would appear that completing the final year at the RCS did not affect the students' results negatively, but rather suggests that the rural training might have benefited performance in some disciplines.

## Intervention to facilitate integration of traditional health practices in South African primary healthcare: A 3-year comparative pre- and post-test study

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**Background.** It is common knowledge that most Africans grow up with treatments with traditional medicine (TM) and experiences of interactions with traditional healers (TH). Consequently, TM and TH are part of the African culture.

**Objective.** The purpose of the study was to gauge the effect of interventions in order to increase medical students' awareness, knowledge and attitudes towards practices in TM.

**Method.** This was a longitudinal study conducted at Walter Sisulu University among first-year medical students. Pre-tests were administered in February in 2010, 2011 and 2012. These were followed up with post-tests in June in the respective years after exposure to four interventions: (i) gathering information from their family on medicinal plants that are used to treat

different illnesses; (ii) collecting one medicinal plant and information about its use from their locality; (iii) presentations and discussions with TH about the role of traditional healthcare in the community; and (iv) visiting a TH's practice. Data were gathered through structured and standardised questionnaires in order to obtain sociodemographic factors, beliefs and attitudes. A paired chi-squared test was used to measure changes in beliefs, attitudes and practices of students pre-test and post-test.

**Results.** In 2010, of 98 students surveyed, 39%, 59% and 82% were males, females and blacks, respectively; in 2011, of 108 students surveyed, 49%, 51% and 88% were males, females and blacks, respectively; and in 2012, of the 118 students surveyed 42%, 58% and 89% were males, females and blacks, respectively. In 2010, only 45% had beliefs in TM, in 2011 and 2012, 57% had beliefs in TM. However, in 2010 and 2012, 51% and 53% had positive attitudes towards TM, respectively. In 2011, only 42% had a positive attitude.

**Conclusion.** After interventions, and despite the lack of change in belief in TM, there was a significant increase in positive attitude in 2010, 2011 and 2012, i.e. +78% change,  $p<0.0001$ ; +108% change,  $p<0.0001$ ; +50% change,  $p<0.001$ , respectively. Short educational interventions can positively influence students' attitude and practices towards TM.

## Perceptions of graduate-entry medical programme (GEMP) students of assessment in the GEMP I and II curriculum

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**Background.** In 2003 the Faculty of Health Sciences at the University of the Witwatersrand introduced a new medical programme for years III - VI of the MB BCh degree programme, the Graduate Entry Medical Programme (GEMP). GEMP was designed as an integrated, problem-based programme with subject matter arranged in a series of 11 largely organ-system blocks.

**Objective.** The purpose of the study was to evaluate the views of GEMP students on the assessment methods used in the GEMP I and II curriculum.

**Method.** An exploratory descriptive study was conducted among GEMP III students. A self-completion questionnaire was administered to the students. Descriptive statistics were used to analyse the quantitative responses, and content analysis was used to analyse the open-ended responses.

**Results.** A total of  $N=136$  students completed the questionnaires, 67% ( $n=91$ ) were MB BCh I and II, 26% ( $n=35$ ) were graduate entrants who entered the GEMP I programme in 2011, and 6% ( $n=8$ ) were unknown. Students' responses showed that they perceived the methods of assessment used in GEMP I and II as valuable and content centred. They have also articulated that the practical component of GEMP I and II provided them with a solid foundation in clinical skills. They have articulated that practical skills are fairly executed and evaluated the established purposes of the various blocks. The students' opinions concerning the methods of assessment are presented in four themes that emerged from the content analysis. These were: 'examiner subjectivity', 'value of hospital visit days', 'standardised methods of assessment' and 'topics assessed'. One of the main concerns highlighted by the students is the lack of constructive feedback from lecturers.

**Conclusion.** GEMP III students have generally articulated a combination of positive and negative perceptions about the methods of assessment used in the GEMP I and II curriculum. GEMP III students favour practical forms of assessment more than the assessment of theoretical knowledge.

## **Innovatively adapting a programme to answer the challenges posed by the government and your own institution**

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**Background.** In 2011, the Minister of Health promulgated the re-engineering of primary health care (PHC). This innovation involves moving the focus of intervention from institutions (clinics and hospitals) to the community. University of Pretoria (UP) Health Sciences, with collaborators, is setting up health posts in a model. Nine such sites are being established. L-CAS is a medical-education-through-experiential-service-learning initiative that was implemented in the UP School of Medicine. The programme faces logistical challenges, such as limited space and resources at the clinics, that are threatening to impact negatively on it.

**Objective.** The adaptation of L-CAS by supporting the development of learning sites at the COPC health posts in answer to the posed challenge by the minister, and other logistical difficulties such as limited funding and resources.

**Method.** A participatory action research project was initiated to evaluate, review and adopt the L-CAS programme. This project includes questionnaires, focus groups and a workshop.

**Results.** After the initial round of evaluations, a number of proposed changes were identified. These include the development of inter-professional learning, creating a more diverse learning platform, exploring partnerships with students from other faculties working in the same communities, and continuing the research. Some of the main challenges faced are limited funding and resources, as well as negative attitudes of key role players. None of the mentors could be re-employed. Innovative adaptations and restructuring of the Department of Family Medicine were done to address these challenges.

**Conclusion.** Constant re-evaluation and adaptation of a programme are necessary. This could be a very positive experience, provided that change management strategies are in place with the necessary support from key role players.

## **Facilitating work-integrated learning using the case method**

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**Background.** In 2007, a new Higher Education Qualifications Framework was promulgated by the Department of Education in South Africa. Emphasis was for the first time placed on the required work-integrated learning component in the curriculum of envisaged new qualifications by the governing body. In the current wake of re-curriculation of the radiography profession from a National Diploma to a professional Bachelor degree with the promulgated inclusion of work-integrated learning, it became essential to investigate the facilitation of work-integrated learning through different teaching tools.

**Objective.** To investigate third-year radiography students' conceptualisation and analysis of the content of case studies to facilitate the integration of knowledge as part of work-integrated learning.

**Method.** The 2012 and 2013 third-year radiography students were presented with case studies with different complexity levels and an accompanying set of questions. Quantitative data were accumulated by marking the answers

to the questions and categorising the answers broadly into four groups: (i) only limited information was used to formulate the answers; (ii) only some information was used to formulate the answers; (iii) most of the information was used to formulate the answers; and (iv) all the information was used to formulate the answers.

**Results.** The results indicate that most participants have a limited ability to engage with and critically analyse the content of the case studies. It furthermore indicates a lack of ability in most participants to integrate knowledge from all the different modules/subjects which they were assumed to have accumulated in their first and second year.

**Conclusion.** Facilitators should acknowledge the use of case studies to teach the senior students in the work-integrated learning component of their course to stimulate the ability of critical thinking and problem solving by integrating all acquired knowledge and skills.

## **Interprofessional education in the Faculty of Health Sciences, University of KwaZulu-Natal**

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**Background.** This paper describes a model of inter-professional education (IPE) used in the School of Health Sciences at the University of KwaZulu-Natal. In this model IPE begins with a foundation module in the 1st year and is then picked up in an academic service learning or clinical module in the 4th year (final year). A theory module, placed early in the curriculum for health science students, was developed from a recognition of the necessity to educate health science students about the link between health, community and poverty, especially in developing countries. Secondly, it was developed from a recognition of the need for dialogue between professionals or multiprofessional interaction. Students complete this 13-week, 72-lecture module by presenting a health promotion workshop to secondary school learners, with the aim of increasing awareness about relevant health issues as well as exposing learners to various health professions as options for tertiary study or career choice. Currently there is little further IPE until the 4th (final) year of study. At this point academic staff and students from three disciplines once again come together in a clinical or service-learning module. The aims of this module include the following: to develop skills for the facilitation of sustainable services in a community context, emphasising training of caregivers, community health workers and other significant individuals; to develop skills for working within a transdisciplinary model of service delivery.

**Method.** This paper presents an analysis of student texts, including reports, journals and exam responses to reveal what they learn from these modules. The focus is on what students learn from each other: about the other professionals, about service delivery, and about the reality and challenge of meeting the patients' primary needs in a context of poverty. This paper is a reflection on the curriculum content, the pedagogy and the outcomes.

**Results.** A number of interesting themes emerge, in four key areas: changing attitudes to other professions; enhancing collaborative behaviour; change in attitude, knowledge and skills; gains in delivery of patient care.

**Conclusion.** It is imperative that in training health professionals for the South African context, there is a process of learning from and about each other, i.e. a shift towards IPE.

## Promoting interdisciplinary learning in a multidisciplinary faculty

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**Background.** The University of the Witwatersrand offers undergraduate degrees in six health science professions. Teaching and learning are usually discipline based with each discipline planning and implementing the curriculum individually. Teachers may teach in other disciplines, but students generally do not learn together.

**Method.** The medical students begin clinical practica in their third year of study. At the beginning of the third year, students are allocated to wards to work with nurses. During this placement, students are required to participate in all the nursing activities, such as bathing and feeding of patients, bed making, and administration of medications. The value of this experience has been documented in students' portfolios of learning. The second interdisciplinary experience that the medical students have been exposed to is having pharmacy students accompany them in the wards during their practica. There are usually 3 - 4 medical students and 1 - 2 pharmacy students who, as a group, are allocated to a particular ward. They are required to take patient histories and examine patients.

**Results.** Students have described the value of both types of learning experiences, in particular noting the value of learning about the roles of other disciplines, the development of respect for what the other does, and the value for the patient when there is interdisciplinary care. The value of both these learning opportunities can be aligned with Kolb's experiential learning cycle.

**Conclusion.** Interdisciplinary learning opportunities are valuable for both the student and the teacher as relations between the disciplines are fostered. Interdisciplinary learning opportunities need to be identified and encouraged to promote multidisciplinary care.

## Introducing sexual and gender minorities teaching

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**Background.** A curriculum mapping exercise at the University of Cape Town (UCT) in 2012 revealed limited tuition in the field of lesbian, gay, bisexual and transgender (LGBT) persons' health needs. Following discussion by the Faculty MB ChB Education Committee, the Department of Obstetrics and Gynaecology indicated a special interest to include the teaching of gender and sexual orientation issues in its curriculum.

**Objective.** To introduce sexual and gender minorities (SGM) teaching into the medical undergraduate clinical curriculum in a scholarly manner.

**Method.** The Department of Obstetrics and Gynaecology made space available in the Year 5 clinical timetable for student-led workshops. The workshop design is presented to students at their introductory gynaecology session. Small groups of approximately 10 students select topics from a range of LGBT issues. They prepare and present to the larger group 6 weeks later. Dialogue is facilitated by departmental educators and an expert in LGBT health. Surveys conducted at the start of the group sessions are followed by interactive participatory presentations, which include videos of interviews, video-clips, PowerPoint presentations, debates and personal insights. Workshop evaluations provide student feedback. Students also

submit reflective commentaries at the end of the block as a compulsory task, with anonymity assured. Qualitative analysis of the surveys and workshop evaluation responses will be presented.

**Results.** The classroom survey and students' comments have reinforced widespread concern that this important aspect of patient care has previously been missing from undergraduate curricula. The workshops were enthusiastically prepared for and presented, with encouraging evaluation comments received.

**Conclusion.** Healthcare for sexual and gender minorities is a neglected aspect of instruction in the MB ChB clinical curriculum and its successful introduction at UCT has been well received. All health science faculties should consider teaching curricular content specific to the needs of sexual and gender minorities.

## Introduction of a personal and professional development module in the undergraduate medical curriculum

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**Background.** The MBBS curriculum of the Melaka Manipal Medical College (MMMC) is a five-year academic programme with the first two and half years in India and the next part of the programme in Malaysia. MMMC has adopted a six-strand curriculum introduced in September 2006. The personal and professional development (PPD) module runs vertically throughout the first part of the programme.

**Objective.** To introduce and sustain a PPD module in the undergraduate medical curriculum

**Method.** Firstly, one hour per week of PPD was incorporated in the timetable for the first-year MBBS students. Students were introduced to topics such as medical humanities, leadership skills, communication skills, ethics, professional behaviour and patient narratives. In the second year, students are required to pursue a group project of their choice, under a faculty mentor. A faculty co-ordinator was selected to identify and deliver relevant topics. All faculty were requested to select topics of their choice which they could conduct in an engaging manner. An assessment was made by two batches of students.

**Results.** The majority (80%) of students agreed that the module was well prepared. Students assessed the modules as useful because they saw improvement in their affective skills. They rated the topics as 'highly relevant' to the medical course. Faculty found the topics new and interdisciplinary. The handling such topics, and creating interest and engaging the students were a challenge. There was however a sense of sharing responsibility and workload by the faculty.

**Conclusion.** The positive response of the students towards the PPD module was encouraging. However, in order to sustain the module it needs to be reviewed and renewed frequently.

## Social accountability: Hearing community voices

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**Background.** Social accountability of educational institutions has been defined as responding to defined communities' needs in the area of research, service and education. The Lancet Commission has recommended the

transformation of educational programmes in the health professions to produce graduates who are change agents responsive and accountable to the communities that educate them and in which they are called to serve. There is little information from rural communities in South Africa about their expectations of medical practitioners. Medical students at Wits University have contact with rural communities in three provinces.

**Method.** Focus groups were held in several communities in which Wits medical students have clinical clerkships. These groups were selected together with the co-ordinators of the community sites, and included young people, traditional healers and older members of the community. The numbers in each group varied from 6 to 12 participants. Participants were not in need of medical attention at the time of the interviews. Some of the focus group discussions were conducted in the vernacular of that region with the aid of an interpreter.

**Results.** Members of communities responded positively to the invitation to participate in the focus groups. Three main themes have emerged from the focus group discussions:

- Doctor-patient relationships. Participants generally reported negative experiences of their encounters with doctors in the public sector, with many perceiving the treatment received from the same doctor to be better in private practice.
- Respect and love. For many participants, social accountability of doctors is the expectation that doctors treat them with 'respect and love'.
- Identification of health priorities. Participants describe both social determinants and medical conditions as being a part of their communities' health priorities.

**Conclusion.** While communities may not be familiar with the phrase social accountability, they are able to define their health priorities. In the context of these priorities there is an expectation that doctors' behaviour is governed by their respect for patients. There is a need for increasing the active involvement of communities in developing the definitions of social accountability. Communities may offer unique insights to how we develop social accountability thinking.

#### **Peer review for social accountability of Health Sciences Education: A model from South Africa**

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**Background.** The Collaboration for Health Equity in Education and Research (CHEER) is unique in the composition of its members who represent all the faculties of health sciences in South Africa. Over the past 10 years CHEER has conducted 18 peer reviews involving all the institutions. In August 2012 CHEER embarked on its pilot peer review on Social Accountability in Health Sciences in South Africa.

**Objective.** This paper shares lessons and insights from the pilot process.

**Method.** A descriptive study design, using qualitative methods which focused primarily on semi-structured interviews and focus group discussions, supplemented with supporting documentation, was employed.

**Results.** Several key components of the review process that should be noted for future reviews on social accountability were identified, i.e. (i) the composition of the review team; (ii) the review process; (iii) data collection

and analysis; and (iv) the reporting process. Peer review is a useful way of building consensus and a common set of values that become more explicit through the process. We found that six criteria, namely, values, reference population, partnerships, student profile, graduate outcomes and impact, provide the basis for establishing standards for reflecting social accountability in health sciences faculties. Peer review is a process of institutional self-review supported by 'a panel of critical friends' and is useful when considered as part of the process of preparation for the formal accreditation review at health sciences educational institutions.

**Conclusion.** The CHEER collaboration has entrenched the culture of peer review among all the faculties of health sciences in the country and thus laid the foundation for designing standards to reflect social accountability specific to South Africa. However, it is universally applicable due to the diverse nature of the context of the various faculties of health sciences in South Africa. The process followed and experience gained in South Africa may therefore be useful in other countries.

#### **Successful interventions to improve human resources for health: The Stellenbosch University Rural Medical Education Partnership Initiative**

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**Background.** Stellenbosch University was among 13 African Universities awarded the Medical Education Partnership Initiative grant aimed at improving human resources for health in Africa. SURMEPI specifically aims to improve the quality and quantity of healthcare workers, retention in areas of need, and regionally relevant research.

**Method.** The project focuses on the development and evaluation of innovative medical education models that aim to support rural and underserved communities. The project uses two foci, i.e. medical curriculum renewal and health systems strengthening and development, to render the delivery of transformative systems-based education.

**Results.** Year three of the grant has shown significant outputs in training approximately 550 healthcare workers and faculty in public health, PALS PLUS, evidence based healthcare, infection prevention and control, and HIV/TB management. In addition, SURMEPI has provided 21 undergraduate students with funding for rural electives in the African region. Eight PhD and 18 Masters students conducting research in rural areas have also been supported through mentorship and funding. A wide variety of research capacity building courses has been offered to undergraduate and postgraduate students, including faculty. Interdepartmental collaborations have led to a more context-specific, systems-based approach to medical education integrally linked to the graduate attributes of SU. Electronic learning has been a cross-cutting theme in SURMEPI, resulting in a shift and recognition of the benefits of eLearning for medical students at central and rural sites. SURMEPI has embarked on several African collaborations to develop family medicine and research capacity building in the region.

**Conclusion.** In the short time span of approximately three years, SURMEPI has achieved significant outputs that will ultimately contribute to the goal of transforming medical education and improving human resources for health in rural Africa.

## **The relationship of health science faculties to their health service partners: Implications for clinical teaching in South Africa**

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**Background.** Health science faculties in South Africa largely rely on public health services for student access to patients for clinical learning in hospitals, clinics and other facilities on the service platform. The relationship between faculties and their respective provincial health service partners has been a source of concern, but has not been studied in South Africa.

**Objective.** To describe the relationship between health science faculties in South Africa and their respective service partners with respect to clinical teaching.

**Method.** A series of peer reviews following a standard protocol were carried out at nine health science faculties in South Africa, including eight schools of medicine, from October 2009 to February 2013. Review teams of four spent 3 days at each faculty interviewing university staff, health service staff, and students, and examining relevant documents. A comprehensive report on each review was produced and presented to the faculty concerned. An overview of the peer reviews is presented here.

**Results.** The nature of the relationships varied widely, ranging from transactional arrangements based on formal legal agreements at institutional level to informal arrangements at local level. Generally relationships were found to be positive and mutually beneficial at local facilities, where students are well integrated into the delivery of services. Sources of tension include too many students in facilities, lack of resources for clinical learning, and inadequate supervision. The variety of relationships are described and classified.

**Conclusion.** Effective clinical teaching is highly dependent on a stable and conducive environment for access to patients by students and staff. This needs to be supported by institutional relationships that understand the challenges faced by each partner, as well as adequate resources for clinical learning.

## **Cross-cultural medical education: Using narratives to reflect on experience**

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**Background.** Educating students within a multicultural society has become a challenge as teachers, students and the community they serve all tend to represent various social groups. Skills alone are not adequate for competency in understanding cross-cultural consultations. A combination of knowledge, skills and attitude is the most widely accepted current approach to teaching culturally competent communication to medical students. The utilisation of collaborative reflection is a useful tool in developing these attributes.

**Method.** An interest group of medical teachers met to address the specific needs of teaching a relevant cross-cultural curriculum. Participants in the group offered narratives from their professional life and collaboratively reflected on these encounters in order to understand how to improve the current curriculum to better address the needs of the students and patients they serve.

**Results.** Through narratives, participants were able to reflect on how their experience had allowed them to develop cultural awareness. All stories

represented how attitudes of respect, curiosity and unconditional positive regard were held above all else. It was through collaborative reflection with peers that these stories were further enhanced and different learning opportunities discovered. These real stories with real patients also were able to personalise the learning opportunity for the listener.

**Conclusion.** The use of collaborative reflection on the narratives of clinical encounters could facilitate insights about cultural aspects of medical practice. Elements such as curiosity, respect and unconditional positive regard are illustrated in a unique way that allows students to appreciate the real-life aspects of cross-cultural clinical encounters.

## **Social accountability: Using a first-year project to advance the mission of a medical school**

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**Background.** Medical students generally struggle to understand the public health perspective of their studies in clinical medicine and can become disillusioned, disengaged and disappointed in their undergraduate public health curriculum if the relevance of the discipline does not become clear to them. A novel community service activity was introduced for first-year medical students from the University of KwaZulu-Natal in 2012, which expects them to work in self-selected groups of 3 - 4 students in disadvantaged communities of their choice. They are required to spend at least 16 hours engaged in a community service in the community that are in close proximity to their term-time residence. In an effort to evaluate the first-year curriculum's responsiveness to community needs, we draw on an amended framework by Woollard and Boelen (2012) to discuss the success and challenges of the Making a Difference project.

**Method.** Data for this observational descriptive sectional study was collected in 2012 from the first-year student groups. We report on students' reasons for having selected a specific community, their aspirations on how they had hoped to make a difference in the community, and how they learnt became transformed due to their engagement on the project.

**Results.** Preliminary findings suggest that the project allowed students, who tend to alienate themselves when entering tertiary education, to engage with disadvantaged communities near their term-time residence in Durban. They contextualised the theoretical knowledge learned on health systems in their module. Students became aware and applied ethical principles in their interactions with diverse and vulnerable groups. Some reported that it was a 'humbling and a huge learning experience' and finding 'happiness in life's simplest gifts such as friendship and acts of kindness'.

**Conclusion.** It is possible to devise a curricular intervention that develops generic attributes and research skills in students, assists them to understand the relevance of public health, and embraces principles of social accountability.

## **Community engagement on ward-based outreach teams: New context, new learning**

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**Background.** The Longitudinal Community Attachment for Students (L-CAS) at the University of Pretoria for medical students has been running

since 2008. Since 2010 the Department of Family Medicine, in collaboration with the Tshwane District, developed ward-based outreach teams as part of the Minister of Health's re-engineering of the primary healthcare initiative and part of the NHI pilot project in Tshwane District. The initial successful ward-based outreach teams created a new context for community engagement.

**Objective.** To shift the engagement of students from a facility-based engagement to family- and home-based engagement within a community-oriented primary care (COPC) framework in communities

**Method.** Since 2012 students were allocated to clusters, each linked to a ward-based outreach team. The fourth-year medical students did most of their 16 days L-CAS rotation at these sites, accompanying community health workers to homes, assisting with patient assessment and sharing knowledge with community health workers. In 2013 MMed registrars in Family Medicine were allocated to each of the ward-based outreach teams as part of Family Medicine postgraduate training. Their role is to support and develop the ward-based outreach teams, do research and mentor medical students.

**Results and Conclusion.** Students' experience is significantly different in the ward-based outreach teams compared with district clinics. The extent of poverty, the prevalence of epidemic conditions and social conditions, e.g. drug dependence, is much clearer in the communities. The structure and functioning of the ward-based outreach teams provide a structure for intervention and hope for successful intervention. Early experiences of postgraduate and undergraduate students will be presented. Ward-based outreach teams and re-engineering of primary health care provide a crucial context for community engagement and are excellent for learning while student engagement enhances their functioning.

## **Towards the development of a definition of service learning: Converging conflicting mind maps**

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**Background.** Research on the conceptualisation of community engagement and service learning indicates that concepts such as service learning, community engagement, community service and scholarship of engagement are used interchangeably. Academics at the research institution were experiencing difficulties in implementing service learning because of their diverse and conflicting conceptualisations of it.

**Objective.** To develop a relevant construct of service learning for the School of Nursing.

**Method.** This study used the Nominal Group Technique as a means of gaining consensus from a diverse group of academic staff about the main concepts that should be included in the definition of service learning for a school of nursing.

The following steps were used:

1. individual generation of ideas
2. recording of all participants' ideas (in a round-robin format)
3. group discussion of all generated ideas (to organise the list and remove duplications)
4. preliminary vote to select the most important ideas
5. group discussion of the vote outcomes (including additions and further merging of overlaps)
6. final voting on the priority of items.

**Results.** The following concepts were ranked as the six most important by 13 key informants: equal tri-partnership; reflective practitioners, teaching and learning; community needs; community development; shared values and community engagement.

**Conclusion.** The strong consultation and democratic methods used within the nominal group process allowed the academics to take ownership of the development of a definition of service learning for the school.

## **Better consultation skills through quality improvement**

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**Background.** Block 16: Health and Health Care. This is a 4 week rotation with 11 days in clinics. Students do a quality improvement project as part of service learning, and patient care in district clinics. One of the key purposes of the block is to do patient-centred consultations.

**Objective.** To learn about quality improvement and peer review through improving their own consultation skills.

**Method.** Students work in groups, which form the QI team with patients. They use a Consultation Peer Assessment Tool developed by the department, based on the Leicester Assessment package adapted to fit in the Juggling Model of consultation. This tool consists of a detailed checklist of main areas of facilitation, problem solving and collaboration and 3 open-ended questions: 'What went especially well?'; 'What does he/she still need to improve on?'; and 'How can I help him/her to achieve these improvements?'. They also get feedback from patients through the Patient Enablement Instrument. Within the QI cycle, students use the tool as standard to assess present practice through observed consultations. Then they reflect on the current practice, make plans and change practice. In the last week they re-assess the consultations and then write a QI report.

**Results.** Students report on significant improvement in consultation skills with specific reference to important elements of a patient-centred consultation, e.g. use of silence, hand washing, 3-stage assessment and plan, and collaboration with patients. Patient feedback varied but had significant impact where it was specific. Results of a qualitative assessment of QI reports will be presented.

**Conclusion.** QI of own consultations using a structured, detailed tool and involving peers and patients helps students to receive constructive feedback and improve their consultation skills.

## **Self-perceived confidence levels of community health workers to carry out their roles within the primary healthcare outreach teams**

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**Background.** Community health workers (CHWs) will be employed by Government and will be part of the ward-based primary healthcare outreach team. Their role is seen in strengthening health promotion and prevention. The training of CHWs to fulfil their roles has been tasked to non-governmental organisations. The curricula contain the theoretical base but the practical application of the skills/abilities needed to fulfil their roles has not been included.

**Objective.** This study investigated the confidence levels of CHWs related to their roles and responsibilities within the ward-based outreach teams in a sub-district in the North West Province.

**Method.** Levels of confidence were measured by means of a Likert scale, which was distributed by means of an online survey. This was used to identify the areas for capacity building needed and to develop the training intervention. After completion of training the same survey was completed again and pre-/post- comparisons were made. Data were captured using Survey Monkey, with analysis of frequencies and cross-tabulations on quantitative variables.

**Results.** The gender of participants was 98% female. Participants had been working in their communities, doing home-based care, for more than two years prior to them being recruited for the outreach teams. There was a significant increase in the confidence levels regarding skills and ability post intervention. Sixty-eight per cent of participants' confidence levels in terms of working in ward-based teams increased post intervention. The participants not feeling confident to collect information shifted from 88% to 12% post intervention.

**Conclusion.** The mastery of skills needed to fulfil the tasks has a direct impact on the confidence of CHWs. Their input in identifying the skills gap added to the value placed on the training.

#### **The impact of a service learning module on junior health sciences students**

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**Background.** In the past, first-year medical and physiotherapy students participating in the Extended Degree Programme (EDP) spent eight weeks shadowing interns in a tertiary hospital during a clinical module. In 2011 student numbers had doubled from the previous year, making it impossible to accommodate the entire group in the clinical setting. Consequently, the group was divided in two, allowing the one group to participate in a service-learning project while the other spent four weeks in the clinical setting as before. The two groups switched after four weeks.

**Method.** A qualitative approach was used to determine students' perceptions of the service-learning project. Data were obtained from structured reflective reports about student experiences of the one-week period during which they taught first aid to high-school learners. Open-ended, written-response questionnaires were completed by students. At the end of the four weeks the project generated further useful data regarding the logistics and administration of the project as a whole.

**Results.** Similar to findings reported in international studies, analysis of qualitative data indicated an increase in student motivation in terms of their studies and vocation; an enhanced sense of civic responsibility and social justice; improved group interaction and personal communicational skills; as well as an increase in compassion and a decrease in racism.

**Conclusion.** Besides gaining first aid knowledge and skills, students spent time with a community they might not necessarily have encountered under normal circumstances. They became increasingly aware of the population they would be serving once they graduated as well as their role as professionals within this community. A service-learning teaching strategy may contribute in producing service-driven and culturally competent physicians as well as those who will serve as community leaders, for reasons such as the following: '... there are lessons one needs to experience rather than to be taught.' [EDP I student].

#### **Rethinking the wheel: A clinical presentation-oriented internal medicine curriculum for South Africa**

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**Background.** An increased emphasis on primary healthcare in South Africa, a political mandate to align medical education with socio-epidemiological need, and the introduction of community-based education (CBE) at the University of the Free State (UFS) have necessitated review of the undergraduate curriculum in internal medicine. A clinical presentation-oriented model is being developed.

**Objective.** To compile a consensus list of common clinical presentations and their respective differential diagnoses for medical patients in South Africa.

**Method.** From March 2012 to January 2013, 11 expert work groups, each consisting of at least the unit head and one consultant of the UFS Department of Internal Medicine subspecialties, were asked to compile a consensus list of the most common primary clinical presentations for patients presenting to their subspecialty, as well as the most common and important differential diagnoses for these presentations. The general medicine work group reviewed these lists for completeness and applicability to the South African primary healthcare setting.

**Results.** A total of 111 common clinical presentations were identified. The most frequently listed were tiredness/fatigue (50%), shortness of breath (50%), fever (50%), weight loss (50%) and chest pain (40%). For all presentations a total of 670 differential diagnoses were generated (clinical presentations/differential diagnoses): cardiology (10/48), endocrinology (28/137), gastroenterology (14/78), geriatrics (8/30), haematology (14/38), infectious diseases (19/109), nephrology (11/34), neurology (13/63), pulmonology (16/71) and rheumatology (12/62).

**Conclusion.** This study represents the first step towards developing an undergraduate clinical presentation-oriented curriculum that is tailor-made for South Africa's health milieu.

#### **Does the BPharm curriculum of TUT/UL (Medunsa campus) prepare graduates to be competent community pharmacists?**

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**Background.** The joint TUT/UL (Medunsa) BPharm programme has been offered since 1999, using problem-based teaching and learning methodology with the aim of producing graduates with the required skills, knowledge and attitudes to serve the pharmaceutical care needs of the South African society. The contribution of the learning programme to the achievement of the required competency outcomes related to community pharmacy practice was investigated in this survey.

**Objective.** To identify the role of the BPharm learning programme in ensuring competency of pharmacists and interns in the community pharmacy sector. A survey was conducted to identify gaps in the curriculum and/or learning programme. Possible measures to address these gaps are suggested.

**Method.** The curriculum and learning programme of the TUT/UL (Medunsa) programme were assessed against the 2004 competence standards of the South African Pharmacy Council.

A cross-sectional survey of TUT/UL (Medunsa) BPharm graduates was conducted. A convenience sample of 19 pharmacists or interns working in the Pretoria area were interviewed using a semi-structured questionnaire. Ethical approval for the study was obtained from TUT.

**Results.** The BPharm modules curriculum was found to address the requirements for competence in the community pharmacy sector. In the section of the questionnaire dealing with knowledge skills and attitudes, most participants identified the community pharmacy module as the module that prepared them best for community pharmacy practice. Ten other modules were identified as helpful. As community pharmacy is one of four sectors for which students are prepared, this result was expected. Interestingly, only five participants identified the work-integrated learning module in community pharmacy as helpful. The most important skills acquired at university, according to participants, were communication (74%), management skills (32%) and interpersonal skills (26%). Of the competency standards selected as most relevant to community pharmacy, monitoring drug therapy and implementing a pharmaceutical care plan were reported as being moderately difficult or difficult to practise.

**Conclusion.** The study found that the curriculum adequately addressed all areas of knowledge, skills and attitudes to allow graduates, in their opinion, to practise competently as community pharmacists as specified in the competence standards of the South African Pharmacy Council. Some recommendations were made with respect to preparing graduates to be mentors and to introduce mechanisms to focus on how to keep up to date with new laws and regulations, pharmacy management skills, pharmacovigilance and new drugs.

## Oral hygiene lecturers' perceptions of knowledge and curriculum issues at three training institutions in South Africa

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**Background.** There has been growing discussion in the oral hygiene literature regarding knowledge and professionalisation that influences the field of practice. Examining lecturers' perceptions of knowledge, curriculum issues and ways of socialising students into the field will be help to investigate this. The results provided here are from a project in progress.

**Objective.** To examine South African oral hygiene lecturers' perceptions of knowledge and their curricula. The purpose was to collate demographic information of the lecturers and to gain information on their perceptions of their curricula.

**Method.** Fourteen questionnaires were delivered to full-time lecturers in oral hygiene (degree course). Ethical approval was granted by the Wits Education Ethics Committee.

**Results.** Seventy-one per cent ( $n=10$ ) lecturers responded and demographics showed the following: 70% were  $\geq 45$  years; 50% completed an educational qualification; 4 completed a Masters degree and one a PhD degree; and 90% had  $>14$  years of teaching experience. With regard to what prepared them best for teaching oral hygiene students, 50% indicated that they drew from their qualification in oral hygiene, other degrees and education courses, while two indicated that they used their practice experience. All teach clinical subjects, with three teaching specialised areas. Research activities varied according to qualifications and areas of interest. Main resources selected for informing their teaching was textbooks and journals, while the internet and seminars were less frequently used. Seventy per cent felt that

oral hygiene specialises in prevention and health promotion. They indicated that oral hygiene knowledge is drawn from mostly dentistry, and less from anatomy, pathology and microbiology. Disciplines such as psychology, sociology, education and nursing were not seen as contributing much to the knowledge base. All respondents were involved with curriculum development, planning and implementation.

**Conclusion.** The results showed that oral hygiene lecturers had the capabilities to be reflective about the knowledge needed for their curricula.

## A needs assessment of medical student education in the Department of Paediatrics and Child Health at the UZCHS: Towards a new curriculum

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**Background.** The existing medical education curriculum in the University of Zimbabwe College of Health Sciences (UZCHS) was developed in 1985, reviewed and updated in 1992, and revised in 2006 to include HIV/AIDS. The degree to which this revised curriculum is being implemented and its adequacy in addressing current health problems is unclear.

**Objective.** To explore faculty perceptions of gaps in the paediatric aspect of the current medical curriculum.

**Method.** A qualitative study was conducted using an interviewer-administered questionnaire. All responses were recorded and transcribed manually. Three independent assessors conducted the thematic analysis.

**Results.** Of the 14 faculty, 10 (71%) were interviewed. There was an average of six years experience (2 - 34) and two lecturers (20%) had ever accessed the UZCHS curriculum. Themes that emerged included lack of alignment between content and student assessment to curriculum purpose, barriers to effective teaching, poorly structured clinical teaching, lack of understanding of different clinical teaching methods and inadequate time for year 5 students. There was consensus on appropriate assessment methods for both the written and clinical examinations but with no system of ensuring that the assessment was based on taught content. Most faculty are junior and inexperienced and would benefit from guidance from an updated curriculum. Though students have a logbook, most faculty teach on whatever cases are in the wards; this needs restructuring. An updated curriculum would guide student assessment in line with content taught. Clinical teaching methods should be stated in the curriculum and faculty development workshops conducted to capacitate faculty. OSCE was the best clinical assessment method, with MCQ and essays the best methods to assess students' knowledge.

**Conclusion.** An updated curriculum is fundamental for guiding faculty on teaching and assessment of undergraduate students in paediatrics at UZCHS.

## HIV- and AIDS-related essential competencies for nurses in South Africa: Nurse educators and nurses in clinical practice identification

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**Background.** South Africa has an enormous task of providing care and management to those who are affected by and infected with HIV. Similarly to what is done around the globe, South Africa has adopted the global move that when providing health services to patients living with HIV and AIDS, there should be provision of integrated services addressing various

patient needs through a continuum of care. As nurses form the bulk of healthcare professionals in South Africa, they are primarily responsible for the care and management of patients living with HIV and AIDS. It has been reported that during pre-service training, nurses in developing countries are not adequately prepared for HIV and AIDS care and management. This highlights the need to adequately train nurses so that they are able to provide care in line with national priorities and strategies.

**Objective.** To identify nurse educators and nurses in clinical practice with regard to essential HIV and AIDS-related competencies for nursing care and management in South Africa.

**Method.** The study was conducted as a qualitative approach with an exploratory design. The nominal group technique was used to conduct group discussions with nurse educators (lecturers) in six provinces. In addition, individual interviews were conducted with six nurses in clinical practice.

**Results.** From the analysis, 10 competency categories such as counselling, ethics and policies related to HIV and AIDS have been identified, with specific aspects of knowledge, skills and attitude providing further insight into what is expected for each category.

**Conclusion.** The findings of this study allow systematic integration of these competencies into the nursing undergraduate curriculum in South Africa so that educators and practitioners are on the same page.

## Engaging students through interactive e-guides and multimedia in a flipped classroom approach

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**Background.** Technology has resulted in changing the classroom as the central point of learning to just one of the interfaces where learning takes place. The use of technology and specifically multimedia has extended the teaching-learning experience to outside the classroom. This motivated the lecturer of a second-year nutrition module to re-think her approach to teaching and learning by moving into a blended learning approach.

**Objective.** To report on the experiences of both the students and the lecturer in changing from a mainly traditional face-to-face class to a flipped classroom supported by technology in the form of an electronic interactive study guide.

**Method.** A mixed-method approach within an action research paradigm was followed. Quantitative methods included a student survey on perceptions and expectation on the use of e-guides at the beginning of the semester, followed by a survey on their experiences at the end of the semester. Qualitative methods included lecturer and student reflection as well as focus group discussions with students.

**Results and Conclusion.** Preliminary results indicate that the students were initially skeptical about the use of technology outside the classroom, but once they were used to the e-guide, they engaged more with the course content both inside and outside of the classroom. Problems experienced by the students were mainly of a technical nature. The lecturer indicated that she underestimated the planning, time and effort needed to change a traditional hard-copy study guide into an interactive e-guide. However, it would seem as if the incorporation of technology in a flipped classroom added significant value to the teaching-learning experience. The reasons why students experienced this blended learning environment as positive or

negative still need to be investigated through focus group interviews at the end of the semester.

## 'You expect me to do what?' Student experiences of strategies for enhancing engagement

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**Background.** The relationship and inter-relationship between the self-directed learning and group phases of problem-based learning (PBL) are important for learning. Third-year physiotherapy students have very little time to process and fully engage with PBL case content in their PBL curriculum at Stellenbosch University (SU). This could have implications for the way in which students understand and are expected to apply the knowledge in clinical settings.

**Objective.** To determine students' experiences of the use of technology (videos and blogging) to enhance engagement with content in their PBL module.

**Method.** A mixed methodological approach was used. Participants ( $N=40$ ) completed a needs analysis survey regarding levels of engagement and pre- and post-test self-assessment questionnaires. A video camera was available for recording practical techniques during cases and the blog forum for inter-class discussions. Two focus group discussions were conducted and transcribed by independent research assistants.

**Results.** Focus group discussions highlighted the students' lack of self-directed learning tendencies and their dependence on lecturers for enhancing engagement. The themes that emerged from the discussions were lecturer responsibility, student responsibility, engagement, technology issues and time. Surveys showed that the students perceived themselves as actively engaged in PBL discussions during cases, but found that there was not enough time given for each case within the module. However, there was minimal use of the technology introduced by this study.

**Conclusion.** Students recognise the value of videos for clinical practice, but do not want to take the responsibility for initiating this learning opportunity. A recommendation of this study is for a video database of clinical skills to be developed in a partnership between lecturers and students.

## The perspective of radiography students regarding practical demonstrations recorded on video

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**Background.** Radiography students at CUT spend up to 40 hours either in the classroom or in the clinical setting. Students spend time in the clinical setting with qualified radiographers and radiologists, performing various radiological procedures. It is not possible to demonstrate every procedure individually to each student and some procedures are never observed by students. Quality mentoring in the workplace is not guaranteed. Large classes, and the unavoidable absence of students or lecturers, added to the challenge of exposing the students to the vast number of procedures covered in the curriculum. Video recording of the demonstrations of the different procedures seemed the obvious solution to build a library of demonstrations of basic concepts consistent with those demonstrated in the classroom.

**Objective.** To determine if students benefit from video demonstrations and if the classroom demonstration is redundant.

**Method.** Lecturers and the audiovisual department recorded video demonstrations of basic routine procedures with standardised patients. Questionnaires were distributed to different student year groups after being exposed to the videos and the current demonstrations to determine the perception in terms of usefulness to their learning.

**Results.** This presentation comments on the advantages and disadvantages of the live demonstration compared with the video demonstration. Videos appeal to different persons as it becomes very difficult for the students to interact with each other. One student summed it up: 'I think it is beneficial for after class demonstrations as you see clearly in the video it sinks in, it falls into place.'

**Conclusion.** Video tutorials need to be accompanied by well-defined instructional purposes and outcomes to be a powerful educational tool to engage the student in the learning process.

#### **'Liking' public health: Exploring social media for teaching public health** **L Wolvaardt,\* L Majake, P du Toit**

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**Background.** Educators in public health report the limited curricular time, disinterest on the behalf of medical students and the scarcity of public health educators as major barriers to the inclusion of public health in the medical curriculum. Social media holds the potential to overcome the time restrictions in busy clinical curricula as well as the opportunity to engage outside the lecture halls. Such a strategy is, however, dependent on student participation in social media.

**Objective.** To determine the use of social media among medical students at the University of Pretoria. To explore any associations between medical students' use of social media and their knowledge of public health.

**Method.** A descriptive cross-sectional study. Questionnaires with 1 open-ended question and 45 close-ended questions were distributed by research teams of medical students and academic staff in 2012. Students completed the survey on site, as a 10-item test-your-knowledge quiz was included.

**Results.** A total of 589 medical students participated; 93% of respondents reported using Facebook, with almost half (48.2%) accessing it several times a day. Another 31.6% reported daily Facebook use. Google+ was the second most popular (67.1%) amongst respondents. No association was found between gender and the use of Facebook, Twitter or LinkedIn. There was a significant association ( $p=0.002$ ) between male students and never using Google+. Students in third year and higher were more likely to use Facebook several times a day (Pearson  $\chi^2=54.29$  ( $p<0.000$ )). A significant association was found between the public health knowledge score and those using Facebook (daily and several times a day) scoring higher in the test ( $p<0.000$ ).

**Conclusion.** Social media – Facebook in particular – is widely used and is therefore a feasible strategy for public health educators. The higher knowledge scores by regular users also suggest Facebook could be a powerful educational strategy.

#### **Adherence to adult learning principles and professional development among medical school faculty**

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**Background.** Professional development should not only aim by formal and informal means to help medical educators learn new skills, but also focus on developing insights into pedagogy and their own practice. Understanding adult learning principles is essential to instil professional development. Melaka Manipal Medical College (MMMC), Manipal University, India, offers a five-year Bachelor of Medicine and Bachelor of Surgery (MBBS) programme. The faculty at MMMC are involved in teaching medical, dental and allied health science students.

**Objective.** To attempt to determine whether faculty members at MMMC perceive adult learning principles as a pathway for professional development. We were also interested to know whether any correlation existed between faculty perceptions of adult learning principles and professional development at three levels, i.e. individual, interpersonal and organisational levels.

**Method.** A questionnaire comprising items focusing on five adult learning principles (active participation, relevant learning, safe and non-threatening environment, constructive feedback, previous experiences) was designed. A second questionnaire focusing on professional development at three levels (individual level, interpersonal level, organisational level) was also designed. Faculty members ( $N=42$ ) were asked to reflect on the practices outlined in both these questionnaires on a 5-point scale.

**Results.** Comparison of mean values of five adult learning principles revealed a high mean value for relevant learning followed by constructive feedback, previous experiences, safe environment and active participation. Correlation analysis revealed a strong correlation between active participation and three levels of professional development and also between constructive feedback and three levels of professional development.

**Conclusion.** In the present study, overall, a strong correlation was observed between adult learning principles and the three levels of professional development. This study intends to provide a framework for professional development centred on a few practices based on adult learning principles.

#### **Faculty recruitment and retention in the medical education partnership initiative (MEPI) schools**

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**Background.** The US Government awarded grants to 13 African institutions. The aim is to increase numbers and quality of health care workers, retain them where they are most needed and improve locally relevant research capacity. Mullan *et al.* noted that there is a great shortage of faculty in sub-Saharan African medical schools. This negatively impacts on the training of health professions in the region.

**Objective.** To establish the number of faculty at the MEPI schools, faculty: student ratios, and what the schools are doing to ensure they retain their faculty.

**Method.** Yearly surveys were sent out to the schools and data analysed.

**Results.** There was an average of 204 full-time medical school faculty among the 13 institutions. These ranged from 35 to 795, with an average of 257. The average ratio of full-time faculty to medical students was 1:5.03 and ranged from 1:1.53 to 1:15.98. These numbers indicate that schools varied greatly in the number of full-time medical school faculty and the student faculty ratio. There were many vacancies at most schools. All 13 schools have a focus on faculty development using different strategies, including short and long courses such as Masters and PhDs, mentoring and faculty exchange, and research and medical education support to provide faculty with development programmes, stimulate medical research and ensure the quality of curricula. The challenges of the schools include shortage of faculty; internal and external brain drain; environmental factors, such as poor facilities; remuneration and incentives; and increase in the number of medical schools.

**Conclusion.** Many of the MEPI schools have faculty shortages but are trying to tackle the problem using different useful strategies.

#### Promoting scholarship in SAFRI: Does it work?

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**Background.** Ernest Boyer describes four types of scholarship: discovery, application, integration and teaching. Scholarship can be defined as 'advancing or transforming knowledge in a discipline through the application of the scholar's intellect in an informed, disciplined and creative manner'. It is demonstrated by peer-reviewed, publically disseminated output including publications, syllabi, assessment tools, teaching cases, web-based instructional materials, and curriculum change. The sub-Saharan FAIMER Regional Institute (SAFRI) programme, established in 2008, accepts applicants from the region and, implementing capacity development principles (leadership, project management, research methodology and educational methods), centred around an education innovation project to assist fellows to achieve at least an entry (minimum scholarly) level output of an abstract and a poster presentation at SAAHE.

**Objective.** To compare the education-related scholarship output of applicants prior to and since entering the fellowship.

**Method.** A survey was administered to all SAFRI fellows and faculty for the period 2008 - 2011 (three intakes), focusing on scholarly outputs in health professions education only.

**Results.** Preliminary data analysis is presented in the form of a table, as the total for the cohort prior to and since entering the fellowship.

**Conclusion.** Although a causal relationship between the increases in scholarly output since entering the fellowship will be difficult to prove, it is clear that there has been an increase, not only in the number, but also in the scope of scholarly outputs.

	Prior	Since
Peer-reviewed publications	58	87
Conference presentations		
Local	38	29
National	41	52
International	23	47
Grants obtained	25	22
Workshops presented		
Institutional	23	34
National	6	14
International	0	8
Reviewer/editorial boards		
Reviewer: national/regional journals	19	32
Reviewer: international journals	14	26
Editorial board: national/regional journals	4	3
Editorial board: international journals	0	2
Education-related responsibilities in your faculty	264	385
<b>Awards</b>	<b>9 (2 international)</b>	<b>13 (4 international)</b>

#### PIQUE-ing an interest in curriculum development

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**Background.** Most medical schools in South Africa have as their overall aim for undergraduate medical education, the preparation of graduates for internship. If we are to reach this aim, one of the ways to evaluate this would be to explore whether our graduates indeed feel able to do the things that we think they should, or could, be doing in their internship.

**Objective.** To elicit the opinions of first-year interns who graduated from Stellenbosch University on the extent to which they felt that their undergraduate education had prepared them for internship.

**Method.** The Preparedness for Internship Questionnaire (PIQUE) was designed based on Hill's preparation for hospital practice questionnaire, with additional questions covering graduate attributes and the profile of the Stellenbosch doctor. Face validity was confirmed by a panel of faculty experts. The questionnaire asked the participant to respond to a series of statements preceded by 'My undergraduate medical training prepared me to ...' with 'fully', 'well', 'fairly well', 'little' or 'not at all' prepared. It ended with open-ended questions, which allowed elaboration on other issues. In July

2012 an invitation to participate in the online survey was sent to all the 2011 Stellenbosch MB ChB graduates.

**Results.** There was a 36% return rate. In general graduates felt that they had been well prepared for most mainstream clinical activities. However, there were also a number of areas in which respondents felt they could have been better prepared – largely in the areas of pharmacology, medico-legal work, minor surgery and the non-clinical tasks which an intern encounters.

**Conclusion.** Using this questionnaire has highlighted areas needing attention within our curriculum. As many of these appear to be in non-clinical areas, it challenges us to look at how faculty can be developed to address these unmet educational needs of our undergraduate students.

### **'A system that is constantly trying to shape you in a different way': Students' perspectives on being a good doctor**

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**Background.** There is an ever-increasing awareness of the need for medical schools to train socially accountable health professionals. However, not much is known about students' perceptions of what a socially accountable doctor is or does.

**Objective.** This pilot study aimed to explore student's perceptions of what a good doctor is as well as their understanding of a doctor's accountability to society.

**Method.** A purposive sample of medical students was invited to participate in this research via e-mail. Those who indicated interest and were available to attend were included in a focus group discussion. This data were supplemented by qualitative comments from a pilot questionnaire administered to all 4th-year medical students.

**Results.** Ten students participated in focus group discussions and qualitative comments from another 20 students who had completed questionnaires were included in the analysis. Most students appreciated the psychosocial, patient-centred focus of medicine, and acknowledged their responsibility in improving access and quality of healthcare, particularly to those in need. However, many believed that engaging in 'socially accountable' activities are by choice rather than obligation, and felt that responsibilities needed to be prioritised, shared, and was dependent on the context and medical specialty. A few students were resistant to the idea that the medical profession was anything more than a career and felt that they are being unfairly expected to be self-sacrificing.

**Conclusion.** The climate of the educational/training environment in which students learn is an important factor affecting the values and behaviours adopted. While the difficulties in teaching and evaluating social accountability are understood, it is imperative to develop tools and to generate knowledge of how students perceive and understand their roles and responsibilities, assess their behaviour and attitudes, and how this changes through the course of their training and practice.

### **Medical students' attitudes towards patient-centredness**

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**Background.** The doctor-patient relationship is fundamental to medical care, and several studies have shown that medical students' attitudes in terms of this relationship deteriorate during their time in medical school.

The Patient Practitioner Orientation Scale (PPOS), an instrument that measures students' patient-centred beliefs, was used in this study.

**Objective.** To examine changes in the attitudes of medical students regarding patient-centredness as they progress through medical school as well as the validation of the PPOS as a measuring tool in our context.

**Method.** Subsequent to validating the PPOS for the South African context in October 2011, medical students from year 1 to year 6 ( $N=1\ 127$ ) completed the PPOS questionnaire in 2012. This was done as a cross-sectional survey.

**Results.** The internal reliability of the questionnaire that seemed to be adequate with the pilot group (Cronbach's alpha of 0.627 for caring and 0.67 for sharing) was very low in the final study (Cronbach's alpha of 0.41 for caring and 0.57 for sharing); therefore interpretations from the questionnaire should be made with caution. However, the mean score of the PPOS was much lower for this cohort of medical students compared with some other studies that were done in the rest of the world. Suggestions for such low scores could be that the scale should rather be used in qualified doctors as opposed to medical students. Other issues that need to be considered are the diversity of our student population, the definition of patient-centred care in our context as well as the interpretation of the PPOS questions.

**Conclusion.** Even when making use of existing well-published questionnaires, the reliability scores still need to be considered. There seems to be a need for a reliable tool to measure patient-centredness in undergraduate medical students.

### **Essential steps in the management of obstetrics emergencies (ESMOE)**

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**Background.** In South Africa the current Saving Mothers report highlights the contribution of preventable causes to maternal deaths. In an effort to reduce such deaths, the Essential Steps in the Management of Obstetric Emergencies (ESMOE) was developed by a team of specialists.

**Objective.** To train all midwives and doctors in all state facilities in KZN in ESMOE.

**Method.** The programme consists of 12 modules of 90 minutes duration covering a range of topics including obstructed labour and maternal and neonatal resuscitation. The current model is a centrally run workshop over three days. Each individual module is facilitated by an expert who oversees small groups of trainees. A short lecture, skills demonstration, video, skills practice on a mannequin and role play (fire drills) all constitute a module. A 'train the trainer' approach has been adopted with master trainers then tasked with training others at their healthcare facilities. Relevant training material to do this is provided at the workshop.

**Results.** Eight 'train the trainer' workshops have been conducted to date, with 190 doctors and nurses trained. Every hospital in KZN, several CHC/MOUS and every district clinical specialist team (DCST) now has master trainers. Fire drills have been commenced by the DCST at local sites but have yet to be evaluated. Further evaluation of training by the master trainers at facility level is required. A partnership with the Department of Health has been forged to facilitate expansion of training.

**Conclusion.** The ESMOE programme is ultimately aimed at reducing preventable maternal deaths; the impact of the training however is difficult to assess and still requires evaluation.

**The transformation of health professions education in South Africa**  
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**Background.** The global impact of work published by the Lancet Commission (2010), the Royal College of Physicians and Surgeons of Canada (CanMEDS), Boelen and Woollard, THEnet and others on the future education of health professionals cannot be ignored. In South Africa, several organisations have embraced international recommendations and are actively working towards transforming health sciences education and training programmes.

**Objective.** To describe some of the current national initiatives aimed at transforming health professions education in South Africa with a view to informing further work in this regard.

**Method.** In 2011 the Undergraduate Education and Training (UET) sub-committee of the Medical and Dental Professions Board (MDB) embarked on a strategic planning process to ensure that global and national recommendations regarding transformative learning, interdependence in education, graduate attributes and social accountability are used to guide the revision of health sciences education and accreditation processes in South Africa. To date a number of national workshops, including representatives from higher training institutions and the Collaboration for Health Equity through Education and Research (CHEER), have been held to plan the way forward. Other important national transformative initiatives include the Medical Education Partnership Initiative (MEPI), work done by the Academy of Science for South Africa (ASSAf), CHEER and others.

**Results.** A number of processes are underway and some have produced strategic planning documents, peer review processes, research proposals and projects. Institutional conversations are increasingly characterised by a discourse of change. Specific desired outcomes are: institutions that are socially accountable; faculty who are role models of responsible practice; students who demonstrate social responsibility; graduates who are appropriately skilled for the South African context; and graduates with attitudes of commitment to service.

**Conclusion.** Several national initiatives, focused on transforming health professions education in South Africa, are in place. Careful co-ordination of these processes, as well as government involvement, are prerequisites for success.

## **Mentoring as social practice**

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**Background.** Mentoring has been defined and described in many ways because there is no 'one size fits all' model. Every mentoring programme has to be designed to meet the needs of the mentees. Mentors and mentees form a relationship and together address the issues that the mentee deems as 'real'. In the Faculty of Pharmacy at Rhodes University we identified the role of mentoring as a strategy for success. Mentees benefited directly from the mentoring process and mentors transformed as they constructed mentoring.

**Objective.** To determine how mentors constructed mentoring as social practice.

**Method.** In trying to determine how mentors constructed mentoring I had to do more than just describe mentoring because social mechanisms

are not readily observable; they require theory and abstraction. I therefore used critical realism as my meta-theory, and discourse analysis as the methodology. I interviewed mentors, and analysed field notes of meetings, mentors' journals, and evaluation data – using the NVivo<sup>®</sup> software program.

**Results.** This research suggests that mentoring is about understanding, empathising, guiding, helping, and providing a shared space that is safe. Discourse analysis suggests that mentors require specific knowledge, that mentoring is about social relations and social identities, and that it is important not to abuse the power relations that are at play.

**Conclusion.** The strategies that mentors employed changed as the mentors mentored. Mentors help make hidden rules and conventions overt during the mentoring process.

**The epistemological value of physics in medical rescue education and practice: Toward a transformative emergency medical rescue curriculum**  
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**Background.** Physics is fundamental to most natural sciences. The rationale behind the medical rescue content of the Bachelor of Emergency Medical Care qualification is poorly defined. Medical rescue education in South Africa would benefit from contribution to its horizontal and vertical discourse and inform the academic level description and NQF alignment.

**Objective.** To document the principles of physics implicit in the medical rescue curriculum, its implementation and its practice. Conceptual/theoretical physics is critically appraised for alignment or misalignment in the medical rescue curriculum. Finally, recommendations of specific theories/principles of physics that may have implications and applications for medical rescue education and practice will be made.

**Method.** Multiple qualitative approaches are employed. Document analysis is used to appraise linkages between physics and rescue inherent in the curricula. The Delphi technique is employed to reach expert consensus on the typology of rescue scenarios. Using process tracing, the practical components of medical rescue will be deconstructed for underpinning of physics principles. A criterion-referenced gap analysis will enable understanding of what principles and theories of physics are missing, desirable and fundamental to the goal of medical rescue pedagogy and practice.

**Results.** There are no texts on medical rescue that address principles of physics and their application. This study informs evidence-informed rescue training and efficient rescue practice. Theories and 'models of competence' and 'acting in context' have relevance for knowledge integration of conceptual physics and medical rescue. This study problematises current medical rescue curricula, critically analyses the conceptual physics upon which medical rescue practice is predicated and provides a transformative approach to curriculum review.

**Conclusion.** Critical reflection and inquiry into medical rescue practice is central to its professional growth. Impediments to learning include knowledge deficiencies and fragmentation, irreconcilable ontologies and pedagogic malpractice. Curricula transformation is preceded and proceeded by interrogating explanatory deficiencies and foundational prerequisite knowledge.

## Use of isiZulu videos as a teaching aid in clinical communication teaching in the College of Health Sciences

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**Background.** The use of the Calgary-Cambridge guide in teaching communication skills to medical students is widely used. It has been debated whether such a guide is relevant and useful in multicultural societies. The University of KwaZulu-Natal finds itself in such a multicultural society with the challenge of equipping students to communicate with patients from different language and cultural backgrounds.

**Objective.** To equip students with good isiZulu language and communication skills in order to improve student-patient communication and a patient-centred approach, and ultimately enhance retention of doctors in the public service.

**Method.** Content topics and scenarios from each theme in the preclinical years were chosen. Transcripts were developed incorporating aspects such as language accuracy, clinical excellence and cultural sensitivity. Simulated patients trained in communication skills as well as doctors experienced in teaching communication skills and the Zulu language and culture acted in the videos. Editing and production of the videos were done using Windows Movie Maker.

**Results.** The four theme-based videos that were developed provide basic and some extended vocabulary around the scenarios. The biomedical content included supports learning within the themes and highlights culturally sensitive topics. In addition to content, process skills in communication, especially those relevant to second-language Zulu speakers, are emphasised.

**Conclusion.** The development of such videos is a unique and versatile tool that can be utilised in a variety of ways to achieve many different learning outcomes. The use of the videos fills a gap in communication which is vital to bridge language and cultural divides. The videos can be further developed to include a wider range of topics, with extended vocabulary and content. The potential exists for developing content for specialist disciplines and other health professions.

## Establishing an online short-course in clinical immunology

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**Background.** A one-month practical rotation for pathology registrars in the Immunology Unit NHLS Tygerberg (Division of Medical Microbiology) was initiated upon their request. In order to address a perceived knowledge gap in applied immunology as reported by the students, we developed an assisted on-line self-study course.

**Objective.** To assess students' perceptions on the use of the on-line course and design and plan improvements based on student feedback and observations.

**Method.** Structured interviews were applied by an independent third-party observer before and after completion of the self-study course. Student progress was tracked on the learning management system (LMS).

**Results.** In the pre-interviews the students confirmed the impression of shortcomings of immunology teaching in undergraduate training and indicated willingness for self-directed learning on-line. In the post-interviews it emerged that, although students perceived the course as helpful, they did not indicate that their applied clinical immunology knowledge had improved significantly, with comments on the need for more clinical applicability. It

was noticed on tracking that almost half the students did not make use of the course, interpreted as lack of motivation. Some students reported difficulty in accessing the LMS from within their clinical setting. Based on these findings, the course was re-designed. Clinical cases and pointers to clinical applications were included. Copyrighted content was removed to allow all materials to be freely downloadable and usable off-line as well. The course was also given a more formal standing by converting it into a certified short-course, to provide more incentive to partake and complete. The immunology certificate can in future be included in the clinical portfolio.

**Conclusion.** When designing an immunology on-line course, the material content for clinical registrars requires significant clinical applicability for motivation to partake in and finish the course. Our new short-course in clinical immunology is aimed to address these for the future.

## An assessment of University of Zimbabwe first-year medical students' experience with information communication technology (ICT)

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**Background.** It is universally acknowledged that the education of undergraduate medical students will be enhanced through the use of computer-assisted learning. Before designing a programme that serves local students' requirements best, there is a need to establish their access to and experience with ICT.

**Objective.** To determine the level of ICT experience that first-year University of Zimbabwe medical students have, and the ICT resources that they currently have access to. It also explored their views on integration of ICT into medical education.

**Method.** A cross-sectional descriptive study was performed using a self-administered questionnaire that gathered quantitative and qualitative data. The survey population included all first-year medical students ( $N=286$ ) two months into their degree programme.

**Results.** A total of 120 students completed and submitted the questionnaire (42% response rate). Almost 12% ( $n=14$ ) owned a desktop computer, 91.7% ( $n=110$ ) owned a laptop, and 77.5% ( $n=93$ ) owned an internet-enabled cellphone. All students owned at least one of the devices. Computer skills and experience with application software and the internet varied from no skills to advanced skills, with at least 54% ( $n=45$ ) reporting basic skills, 42% ( $n=35$ ) reporting intermediate skills, and 18% ( $n=15$ ) reporting advanced skills. Generally, students felt that there should be greater incorporation of ICT and web-based tasks into their learning. Some students wanted to learn more about the internet and indicated that internet and social networking sites could be used to improve their communication with lecturers.

**Conclusion.** Most of the first-year medical students at the University of Zimbabwe have a foundation of ICT access and skills on which effective use of information and communication technology in medical education can be constructed. Understanding the skills that medical students have regarding ICT use can possibly influence how educators incorporate ICT into medical education.

## Implementation of a podcasting website for undergraduate students

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**Background.** We started podcasting lectures for the MB ChB II course in 2012 (see presentation by Steve Walsh). This has since been extended to

all MB ChB courses. These podcasts were initially uploaded onto various modules of our learning management system for students to view and download.

**Objective.** To allow medical students and staff access to all podcasts of all modules of the MB ChB curriculum at all times. To this aim we implemented an access-controlled podcasting website in 2013.

**Method.** A podcasting site was developed using the DotNetNuke Web Content Management Platform as well as Gallery Server Pro.

**Results.** The podcasting site allows staff and students password-controlled access to all undergraduate lectures recorded so far. These include at this stage the lecture blocks Circulatory System, Clinical Pharmacology, Digestive System, Endocrine System, Haematological System, Health Management, Intro to Clinical Medicine 2, Musculoskeletal System, Neuroscience, Reproductive System, Respiratory System, and Urogenital System. Every podcast page contains a Treeview menu, but users can also click on the desired album to see its contents. The entire gallery can be searched for keywords contained in the lecture title. Entire lecture blocks or single podcasts can be downloaded. The website also gives background information, instructions, and a contact page with a feedback form. Facebook and twitter links are provided.

**Conclusion.** The podcasting effort at the Faculty of Medicine and Health Sciences at Stellenbosch University has so far been perceived by the students as a resounding success. We are eagerly awaiting feedback from users on our new podcasting website.

#### SAFRI and capacity building in health professions education

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**Background.** Capacity building in health professions education has been identified as a need in Africa. The sub-Saharan FAIMER Regional Institute (SAFRI) programme, established in 2008, accepts applicants from sub-Saharan Africa and incorporates all of the capacity development principles. This programme focuses on leadership development, education methods, research methods, and implementing an education innovation project. This allows the fellows to apply what they learn in the context of an innovation project in their home institution. Scholarly outputs linked to this project include an abstract, a poster presentation and an paper.

**Objective.** To demonstrate the reach and capacity building impact of the programme in Africa and the type of education innovation project completed.

**Method.** A document analysis for the period 2008 - 2012 was conducted using the SAFRI poster presentation abstract booklet. Data were analysed by two reviewers and reported descriptively.

**Results.** The SAFRI programme has reached 13 countries in Africa with a total of 75 participants. Participants were from a range of disciplines, including medicine (40), nursing (11), physiotherapy (7) and dentistry (4). The project emphasis was primarily on undergraduate programmes, with the study population usually undergraduate students (25 projects) and/or faculty (26 projects). Forty-two projects included a situational analysis or needs assessment, 21 focused on programme impact and evaluation, and 9 on curriculum development. Seventeen of the 75 projects concentrated on capacity building needs or interventions and faculty evaluation. A third of the projects had a community-based focus.

**Conclusion.** In only 4 years, SAFRI capacity development initiative in Africa has already established a broad geographical footprint with multi-professional representation and a range of education projects.

#### An evaluation of students' perceptions of learning in clinical learning centres based at district hospitals

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**Background.** The Department of Family Medicine of the University of Pretoria started a new 3-year course for mid-level medical healthcare workers in 2009. Most of their training takes place at 17 mostly rural district hospitals in the Mpumalanga and Gauteng provinces.

**Objective.** To measure BCMP II and III students' satisfaction with learning opportunities and their involvement in learning and to assess the functionality of rural clinical learning centres in district hospitals.

**Method.** In 2010 and 2011 a survey was done using the Med-Ed IQ questionnaire.

**Results.** Most students were satisfied with the learning environment and their preceptors as well as learning opportunities in all clinical learning centres. However, final-year students (group 2) were least satisfied with their involvement and they seem to be keen to assume greater responsibility in the care of patients' with psychosocial and complicated problems.

**Conclusion.** On the basis of this feedback from the students, important information was obtained and specific interventions were done which improved the learning environment of the Clinical Learning Centres. The students desired more learner involvement and participation in patient care, with a shared responsibility. Student feedback is very important to assess functionality of teaching platform and improve the learning environment. Students should be maximally involved in learning and patient care.

#### Mapping transformation indicators in allied health sciences education at the University of Cape Town, South Africa - 10 years later (2001 - 2011)

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**Background.** A five-year (2002 - 2006) operational plan was developed for the transformation of allied health sciences education in the Department of Health and Rehabilitation Sciences as part of the transformation process in the Faculty of Health Sciences, University of Cape Town.

**Objective.** To carry out a preliminary review of the change processes that have taken place in education, research, and capacity development after the implementation of the operational plan.

**Method.** Two documents - the annual *Faculty of Health Sciences Handbook* and the *Research Reports* - from 2002 to 2010, were perused, and the contents analysed descriptively.

**Results.** Within the first four years after the implementation of the operational plan, the preliminary outcomes in undergraduate education revealed a widening of access to students, the modularisation of curricula, support for academically under-prepared students, expansion of the teaching platforms in service learning, and development of new multidisciplinary modules. New postgraduate programmes were also developed. The output in postgraduate education and research publication was low, but the proportion of academic staff with doctoral qualifications increased from 16.7% in 2002 to 46.6% in 2010.

**Conclusion.** Since all the key purposes of the operation plan are yet to be achieved, the evaluation of the outcomes of the transformation process in the Department should be on-going.

## **Current challenges in clinical teaching: A situational analysis for evidence-based change**

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**Background.** In the past few years the medical student intake at Hawassa University has quadrupled, while human and material resources have not increased proportionately. A newly established Health Professions Education Unit (HPEU) has been tasked with addressing the educational challenges this situation creates.

**Objective.** To identify gaps and challenges that the new HPEU must address to improve the quality of medical education.

**Method.** A survey using a five-point Likert scale (1 being lowest rating and 5 highest) collected students' opinions about current clinical teaching, learning and assessment practices. Four focus group discussions also gave instructors in each department opportunities to provide qualitative feedback on the same issues.

**Results.** A total of 137 questionnaires were returned; 34 surgery, 32 internal medicine, 37 paediatrics and 34 gynaecology. The mean values for the summated scales are <3 for almost all thematic areas. The lowest means for all four departments surveyed were for co-ordination between departments and assessment methods. Students' ratings were also unsatisfactory for instructional skills, course relevance and organisation, specific instructional situations, hospital teaching activities and professional ethics and attitudes. The major findings from faculty focus group discussions in four departments are:

- training needs at subspecialty level and medical education for staff
- inadequate practical exposure for students
- lack of innovative and purpose assessment methods
- inadequate infrastructure to handle large numbers of students
- problems linked to student interest, attendance and discipline
- loose interdepartmental co-ordination
- lack of appropriate orientation and advice for students
- need for curriculum revision.

**Conclusion.** The participatory, dual approach of this study enabled both students and faculty to provide valuable inputs that will inform and guide the future work of HPEU in addressing the identified issues, and set the stage for implementing collaborative solutions.

## **Technology as a tool to develop a community health model**

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**Background.** The presentation describes a case study of a community health model that was developed and piloted at an academic service learning clinic in partnership with the South African Department of Health. Within the health context of developing countries there is a need for an e-Health model that is contextually appropriate and supportive of national and international health information management.

**Objective.** To strategise, innovate and implement a collaborative care model strengthened by available technological resources that would improve the

health and social status of a struggling community. To develop a collaborative care model by using technology as a tool that could practically demonstrate the multidisciplinary team's participation in service learning. This framework would inform sharing of patient health and social information, synergising of resources and future community development plans.

**Method.** The question posed was explored by means of a multidisciplinary literature review and a restricted narrative enquiry of the experiences of the healthcare team. The 5 Cs e-Health framework for developing countries was applied together with the Human Resources for Health 2030 strategy.

**Results.** The World Health Organization identified five key elements of effective primary health care. In practice this implies reducing social disparities and services orientated around people's needs, including the integration of health into all sectors and the pursuit of collaborative care with increased stakeholder participation. The Daspoort case study indicates that an e-Health framework could develop and strengthen a collaborative team approach to integrate healthcare among community role players and increase community involvement to improve the health of society.

**Conclusion.** Technology as a tool could unlock community development by strengthening collaboration via the delivery of information to enable better individual, stakeholder and community decision-making in health and social issues.

## **Getting answers that you can trust – issues in questionnaire design**

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**Background.** Surveys are commonly used in higher education to gather facts, opinions and attitudes. While survey research has a long history, literature suggests that survey methods are not always well understood or properly executed – especially in educational research. Errors in study design, sampling techniques, and instrument design can undermine confidence in the survey results. This poster offers theoretical insights into valid and reliable survey research in health sciences education.

**Objective.** To introduce the basic elements of survey research relevant to education and identify common problems in survey research. A study of senior students' experiences of alienation and engagement in a faculty of dentistry in South Africa is used to contextualise the insights.

**Method.** The literature was reviewed for texts related to survey research methods. Particular attention was paid to accessing relevant literature from health sciences education.

**Results.** The literature highlights the importance of: clearly defining the research problem/question, the purpose of the study and the associated research questions prior to questionnaire design

- clearly identifying the aspects to be surveyed, and identifying the associated variables
- compiling relevant questions associated with the variables
- writing 'good' questions that are clear and specific
- auditing the survey for completeness related to the information desired
- selecting scales appropriate to the type of question posed
- appropriate and defensible sample selection
- piloting the questionnaire to pre-test the survey questions.

The poster uses the alienation and engagement student survey to illustrate these key aspects of study design.

**Conclusion.** Rigour in survey planning, construction and implementation are essential to ensure valid and reliable results. The credibility of educational

research depends on the alignment of all aspects of the survey. Only then can the significance of findings be claimed, and the applicability of findings to classrooms and clinical contexts be justified.

## **A review of University of the Witwatersrand medical students' community-based health promotion service learning projects in South Africa**

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**Background.** Third- and fourth-year Graduate Entry Medical Programme (GEMP) students at the University of the Witwatersrand undertake community-based service learning (SL) projects. Working with trained facilitators, students are required to identify a priority health problem in the community, and then plan and implement an appropriate project to address the problem. At the end, group presentations are conducted for assessment.

**Objective.** To review past SL projects that have been implemented by GEMP 1 and 2 students in order to inform the future planning and conduct of the SL programme in the faculty.

**Method.** A document review of all available PowerPoint presentations for projects implemented from 2006 to 2011 was undertaken, employing content analysis.

**Results.** Of approximately 286 projects completed, 183 documents were available for review. Of the implemented projects, 38.8% were clinic based and 28.4% done in the inner city region of the City of Johannesburg municipality. The projects covered a wide range of health issues employing mainly basic health promotion strategies such as health education and distribution of educational posters and pamphlets. Four themes on students' perceptions of the educational worth of the projects were identified: theory comes alive, improved knowledge and understanding of communities and their needs, appreciating the expanded role of a doctor, and personal growth. Challenges reported by the students included administrative shortfalls, poor communication and facilitation, lack of students' participation in project selection and prioritisation as well as limited time allocated to work on the projects.

**Conclusion.** These findings indicate that students benefit from participating in the project. However, future planning and co-ordination of these projects need to address the identified loopholes based on students' concerns. It is recommended that more attention be paid to strengthening the administrative and supervision aspects, making efforts to involve students properly in project selection, improving communication between the university and the community facilitators, and reviewing placement duration.

## **An evaluation of an HIV/AIDS peer education programme at a higher education institution in the Western Cape**

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**Background.** Education seems to be one of the most powerful weapons to fight the HIV/AIDS pandemic in South Africa; hence it is expected of higher education institutions (HEIs) to respond to this problem in a meaningful manner. Higher Education HIV and AIDS Programme (HEAIDS) took the initiative to bring all role players in HEIs together to devise plans to deal with the pandemic. Despite the fact that 22 of the 23 HEIs surveyed by HEAIDS in 2008 were engaged in peer education training programmes, none of them monitored or evaluated these programmes.

**Objective.** To evaluate and establish the influence of a peer education programme among students at a selected HEI in the Western Cape.

**Method.** An evaluation research design was employed, using a mixed methods approach to collect data. Quantitative data were collected by means of a questionnaire. Qualitative data were collected by means of personal interviews with staff and focus group interviews with student groups. A Logic Model was developed that assisted with the evaluation design.

**Results.** The quantitative data revealed that more work needs to be done with regard to behaviour change among peer educators. It was clear from the data that knowledge does not lead to behaviour change. An example is as follows: despite the fact that students received the same information with regard to safer sex practices, 80% use condoms, but 20% still do not use condoms, and 6% still have multiple partners. However, in this study, the qualitative data showed that peer educators need to develop more skills to empower themselves to facilitate workshops and to enhance their communication skills. A strong emphasis should also be placed on reflection within the programmes.

**Conclusion.** If the lifespan of the peer education training programmes on HEIs is lengthened and more students are engaged in these programmes, it would have the potential to develop staff, students and communities into advocacy-orientated communities that would eventually challenge the HIV/AIDS pandemic through united mobilised action. It is important that all peer education training programmes and interventions on all HEI campuses become part of a coherent, well-planned and strategic process to include HIV/AIDS and STI education meaningfully across the curriculum.

## **Knowledge of community-oriented primary care among heads of department at Makerere University College of Health Sciences**

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**Background.** In 2003, Makerere University College of Health Sciences (MakCHS) introduced community-based education to achieve social accountability as one of its core values. A situation analysis of teaching and learning of medicine and nursing students done in 2010 showed that primary care competence was not adequately addressed by the current learning and teaching strategies. Community-oriented primary care (COPC) training has been documented as a viable educational strategy to improve graduates' competence in primary care.

**Objective.** To establish COPC knowledge among heads of department (HoDs) at MakCHS and their willingness to train medical students in COPC as an additional strategy to community-based education to improve competence in primary care.

**Method.** This was an exploratory qualitative study using a purposive sample of 10 HoDs at MakCHS. The interviews were transcribed verbatim, transcripts were reviewed and a manual qualitative analysis was performed revealing the emerging themes and sub-themes. Data saturation was reached after 10 interviews.

**Results.** All HoDs knew the concepts of COPC like students knowing their practice communities and being able to involve communities in their health affairs. All respondents mentioned that community priority health problems should be identified and that students should be able to identify the underserved and disadvantaged populations in communities. All respondents mentioned that students acquire these skills during their community placements. Only one respondent had ever heard the term COPC, but all were willing to train students in COPC.

**Conclusion.** HoDs at MakCHS have knowledge of COPC and are willing to train students in COPC. There is a mismatch between the COPC knowledge and understanding of COPC training for medical students as there is a belief that placing students in the community is equal to community-oriented medical education. Staff need COPC training to transform community-based education at MakCHS to community-oriented medical education to improve students' primary care competence.

## Medical students and social accountability

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**Background.** Social accountability is a prerequisite for all faculties of health sciences. There is considerable literature acknowledging this and encouraging institutions to increase their practical efforts to implement change that will produce socially responsive graduates. Lack of exposure to 'coal face' or primary healthcare situations may be restricting students' growth in developing greater social awareness, and one way to accomplish a change to greater social responsiveness could be through exposure of undergraduates to student-run volunteer clinics. These clinics reflect the shift in students' training from hospital based to community based as well as epitomising students' taking responsibility for their own learning.

**Objective.** The University of Cape Town is exploring students' attitudes to student volunteer-run, after-hours clinics, which take place in under-served and disadvantaged areas.

**Method.** A survey is being undertaken to gauge the motivations of students who volunteer to attend the Students Health and Welfare Community Organisations (SHAWCO) clinics. These clinics take place in several informal settlements around Cape Town. Focus groups will further explore purposely selected students' attitudes to this constructivist, and potentially transformative, learning experience.

**Results.** The results of the survey of students' attitudes and perceptions of their personal growth and clinical acumen gained from these clinical experiences will be presented in quantitative and qualitative format. The pilot study indicates a considerable growth in altruistic pride in attendance at the clinics.

**Conclusion.** Undergraduates who volunteer to serve in clinics set up by their fellow students find the experience formative, and that time spent in this endeavour fulfils a significant role in promoting social accountability in their education. Student-run clinics have the potential to promote social accountability in the medical curriculum.

## A curriculum for the community

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**Background.** When the University of Botswana (UB) opened the country's first School of Medicine (SOM) in 2009, the decision was made that medical students should be introduced to the community from the onset of their medical training.

**Objective.** To guide the UB SOM Public Health Medicine (PHM) unit to come up with a curriculum for first- and second-year medical students' community placement module.

**Method.** Qualitative research was conducted following ethical clearance. Purposively selected key informant interviews were conducted among

education experts, health services experts and leaders at the UB's Faculty of Health Sciences. A semi-structured interview guide was used to elicit the respondents' understanding and suggestions regarding a rural placement curriculum design. Recorded data were transcribed and coded.

**Results.** The following themes were identified as required elements of a community placement curriculum: curriculum design that includes spiralling outcomes, clearly aligned outcomes, active learning, integrated multiple forms of assessment, and contextualised learning; course elements that entail community needs assessment, intervention and systems thinking; guiding values that support social accountability, holistic health definition, problem-based learning and systems thinking; logistics to be considered for a rural placement programme including transport, accommodation, nationwide student placement and duration of the placement. In general, there is agreement that the community placement programme should be guided by the philosophy of social accountability. There is continuing support for the UB SOM medical students to have community placements from the onset of their medical training.

**Conclusion.** In order for health professionals to make a difference in their communities they need to work in communities they will serve and find long-lasting solutions to the community's needs. Conducting key informant interviews on the issue of community placement can provide valuable input for the development of a socially accountable community placement curriculum, and provide the groundwork for ensuring co-operation in its implementation.

## What's in the knitting?

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**Background.** Higher education in the health professions has an important role to play in affecting the community's health and wellness. Education is not merely a tool for personal development and self-actualisation. By participating in community-based education programmes, health educators and their students are providing services to the community that might not have been available owing to lack of resources, assisting a process of transformation in the community towards healing and wellness. Kaethe Weingarten declared that all of us are subjected to common shock as a result of witnessing violent and violating acts in everyday life. To raise awareness and healing from common shock, Weingarten recommended acknowledgement and planned action. She called this compassionate witnessing.

**Objective.** A knitting project was used to develop informal social support and compassionate witnessing and the experiences of participating students and community members were explored.

**Method.** Students in the B. Nursing programme at the University of KwaZulu-Natal were doing mental health promotion in a nearby community known for its violent and criminal acts in the past. A content analysis of two focus groups was done, where the community and student participants were invited to share their experiences and opinions of the project.

**Results.** The results were compared with the literature in this field and will be discussed with the audience. By knitting teddy bears in a group, women have the opportunity to stand up against the abuse and violence they are witnessing directly or indirectly. The group provides opportunities for conversations about these acts. As relationships are kindled, an informal compassionate witnessing community is developed. Nursing students learn

how to listen and facilitate this conversation and compassionate witnessing. **Conclusion.** By knitting teddy bears in a trauma care project, community members get an opportunity to 'do hope' as a transforming compassionate witnessing act. Let us knit!

**An interprofessional education project – a model for learning in context**  
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**Background.** With rehabilitation being seen as an integral component of service delivery plans within the South African healthcare context, promoting the presence and role of rehabilitation professionals in both district and primary healthcare settings has become a necessity. With one of the key mandates of district level service being the of development of a multiprofessional approach to client care, higher education institutions have looked at ways to better prepare their students for this infrastructure. This involves exposing undergraduates to this type of work environment and approach. One such initiative is the inter-professional student learning site at Vredenburg in the Saldanha Bay sub-district of the Western Cape. Here, health and rehabilitation students from the University of Cape Town's Health Sciences Faculty, representing the disciplines of audiology, occupational therapy, physiotherapy and speech and language therapy are placed together to engage in practice learning. Vredenburg is a semi-rural area in which a shortage of health professionals, limited access to specialist services and a broad client population make it an authentic context in which inter-professional practice can be facilitated. While such practice is strongly encouraged as an effective way in which the complex health needs of individuals and communities can be addressed, the structural and attitudinal barriers to inter-professional practice are well documented.

**Method.** This paper describes a pilot course in which inter-professional practice has been extended beyond paper case discussion to practise contexts where students have worked collaboratively with vulnerable children in the context of their home and community.

**Results and Conclusion.** Provisional findings describing the students' learning about their own and other health professionals' contributions to care within an interdisciplinary context will be presented, as well as their suggestions of how inter-professional practice can be facilitated in practice learning contexts.

**Views of student nurses regarding implementation of case-based teaching and learning methodology at a higher education institution: A reflection on student perspectives**

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**Background.** The undergraduate nursing students' enrolments increased from 150 in 2003 to 300 in 2005 in the first year BNURS programme at the University of the Western Cape (UWC) based on a mandate from the Minister of Education regarding nursing education in the region. This resulted in three universities collaborating to offer the nursing programme. UWC had to respond to the changes and challenges, among others by reviewing the teaching and learning approaches used at the time, and ensuring more creative approaches that were current and relevant and, in view of large student numbers, would ensure that students' learning was adequate and high-quality graduates would be produced. Case-

based education methodology was selected as an overarching innovative teaching and learning approach at the School of Nursing at UWC. After more than six years CBE adoption and implementation at SON, its inherent value to teaching and learning had not been researched. A need was identified to establish what the experiences of the recipients of CBE are and whether or not it meets the purpose for which it was adopted. **Objective.** To establish what the students' experiences are with regard to the use of the CBE methodology for teaching and learning in large student classes. To establish whether or not the CBE method is of benefit to recipients

**Method.** A qualitative research approach and case study design were used. Inclusion criteria were year 1 and 2 students registered in the BNURS programme at SON at UWC. Potential participants were purposely selected. The sample consisted of students in year 1 and 2 of the BNURS programme. Nursing module evaluations and portfolios were the data collection sources. Data were analysed using Tesch's (1992) thematic analysis method.

**Results and Conclusion.** These indicate that students have mixed experiences about CBE. Positive experiences include benefits such as growth in interpersonal skills, problem-solving skills, respect for each other, and teamwork. Participants' negative experiences were challenges with learning process and content, which were overcome over time, and inappropriate distribution of time between theory and practical learning opportunities.

**Evaluation of the palliative training and palliative care provider visits at the University of Pretoria**

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**Background.** In 2011, four palliative training and hospice visits (PTHV) were introduced to the fourth-year medical curriculum. The programme was adapted in 2012 to address the challenges identified below:

- Developing an understanding of hospice in terms of facilities, patients and services.
- Providing opportunity to experience multidisciplinary, holistic management in various settings.
- Developing a consultation approach to the patient with a terminal disease.
- Developing an understanding of pain and symptom management.
- Developing life skills.
- Creating awareness of related ethical and professional challenges.

**Objective.**

- To evaluate the impact of PTHV on students in terms of personal, academic and professional growth.
- To evaluate the opportunities to experience the holistic, multidisciplinary management of patients and to map the differences in sites.
- To evaluate the impact of the changed programme.

**Method.** This is a descriptive, qualitative study with a questionnaire to students, hospices and palliative care providers. Feedback questionnaires are individually scrutinised for themes by researchers and then compared until consensus is reached. This will continue until saturation is achieved.

**Results.** Preliminary results show that the new introductory session made a huge difference in terms of the students' perceptions of their own readiness for the visit. Although the programmes and activities at the various sites differ, the potential for learning is universal and transferable. It seems that the challenge that death and dying pose to the students is a good catalysing agent for personal and professional reflection and growth.

**Conclusion.** Palliative care exposure is an excellent platform to experience multidisciplinary management of a patient, as well as being exposed to the challenges of dealing with a family. Good support and preparation is necessary. This is a learning and growth experience for students.

## Assessing a directed PBL course – pitfalls and solution

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**Background.** The University of Botswana School of Medicine MB BS course uses a form of directed problem-based learning (PBL) in its two pre-clinical years. Some outline lectures, plus practical and workshop classes, support student learning in PBL. A challenge of this system is to ensure that students regard the support class framework as a way of guiding their PBL, and not as the backbone of the course.

**Objective.** The concern was that learning around PBL cases and not just learning in formal classes should be assessed in examinations, but standard MCQ- and EMQ-type questions can usually be identified as deriving from a particular support class. The aim was to re-focus the exams on PBL cases.

**Method.** We have devised a short-answer format in which a clinical scenario derived directly from a PBL case that the students have studied leads to a series of questions. The subject matter of these questions is intentionally diverse and can range from anatomy, through physiology, pathology and pharmacology to clinical skills and public health arising from the same root scenario. Examples will be presented.

Student feedback was collected after every exam and included questions about the way the test balanced PBL and lecture material.

**Results.** An analysis will be presented and correlated with the introduction of the case-based questions, which now comprise up to about 50% of the marks of each examination.

**Conclusion.** To avoid a directed PBL course being viewed by students as lecture based, it is important that PBL is tested in an obvious way. One way of doing this is to use scenario-based questions that require multi-subject-based answers. It will further reinforce the importance of PBL if these derive obviously from such cases.

## Developing critical thinking skills through radiography service learning

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**Background.** The literature indicates that service learning assists in the development of critical thinking skills of students engaged in community-based educational experiences, where critical thinking is defined as a reasoning process that involves reflecting on ideas, actions and decisions. The development of students' critical thinking skills is the only education that makes good citizens, as individuals educated in it are not easily coerced, but rather seek out and weigh evidence. It is also suggested that service learning helps students to develop as 'traditional experts' and as 'expert learners'.

**Objective.** To establish specifically whether service learning cultivates critical thinking in radiography students.

**Method.** Radiography students were divided into five groups, each with their own identified community. Since radiography is a resource-based discipline, learners decided to concentrate on the dissemination of information related to mammography, ultrasound and bone densitometry. Each group prepared

and executed dramatised presentations. Radiography students ( $N=22$ ) had to complete the Watson-Glaser critical thinking tool before and after the intervention. The results were averaged and compared to evaluate whether there was development of critical thinking skills or not.

**Results.** The Watson-Glaser critical tool average for the pre-intervention was 75.98% and that of the post-intervention was 80.72%. For the deduction section of the tool it was 68.6% and 72.8%, respectively. For the interpretation section it was 79.46% and 96.6%, respectively.

**Conclusion.** Overall, the difference in the preliminary results suggests that service learning does promote the development of critical thinking skills. Additionally, there is a definitive increase in interpretation and deduction skills among radiography students.

## Clinical training in the discipline of speech language pathology at UKZN: Establishing a balance between service and learning

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**Background.** The discipline of speech language pathology (SLP), in line with the UKZN vision, mission and goals, has a strong focus on community engagement that is entrenched in the curriculum. In planning clinical modules, the discipline prioritises service or engagement in under-resourced contexts and/or under-served communities. Fourie (2008) suggests that different forms of community engagement activities include volunteerism, internships, experiential education, service learning, community outreach and research. This paper explores what is understood in the discipline of SLP as academic service learning (ASL), one of the 'cluster' of activities of community engagement.

**Objective.** ASL brings together community service with teaching and learning in official credit-bearing modules. However, it has been recognised that service learning activities may not always result in learning goals being met where service provision becomes the primary goal (Furco, 1996). In this paper 10 clinical modules offered in the discipline of SLP are interrogated with a view to evaluating whether the focus on service compromises learning and vice versa.

**Method.** Data are gathered through a modified version of Schumer's assessment of the service learning tool, focus group interviews with staff and students and analysis of curriculum documents such as module guides.

**Results.** These suggest that while it is important to establish a balance between service and learning in the professional programmes, the scales may tip in a particular direction as a result of context, of students' level of competence and independence as well as community needs.

**Conclusion.** While it is important to establish a balance between service and learning in the professional programmes, the scales may tip in a particular direction as a result of context, of students' level of competence and independence as well as community needs. Perhaps a balance is not always necessary.

## The prevalence of burnout among emergency medical care students at the University of Johannesburg

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**Background.** Burnout has been identified as a cause of poor academic performance and an increase in attrition rate in medical students. The

Bachelor's Degree in Emergency Medical Care (EMC) is a four-year qualification focusing on pre-hospital emergency care. In addition to academic work, students must complete a significant clinical learning component from year one and are often exposed to very challenging emergency cases during this time. Several studies have identified high levels of burnout among qualified paramedics. We thus hypothesised that the combination of a stressful clinical environment and the stresses of academic life may pose a significant risk of burnout to EMC students, which may in turn adversely affect their academic performance.

**Objective.** To determine the prevalence of burnout, and whether a significant difference existed in burnout scores across the four academic years of study among students at the University of Johannesburg's Department of Emergency Medical Care.

**Method.** The Copenhagen Burnout Inventory (CBI) was used to assess levels of burnout in the personal, work-related and patient care-related categories. Students ( $N=93$ ) were asked to complete a questionnaire based upon the CBI, but also containing a number of distractor questions. Burnout scores were calculated according to the CBI scoring method and these data were analysed descriptively. Mean differences in CBI scores over the four academic years of study were assessed using one-way analysis of variance.

**Results.** In the first-year group, 35% of students had CBI scores  $\geq 50$  (the threshold for falling into the 'total burnout' category). Between 9% and 19% of students in the remaining academic years were found to fall into the total burnout category, with fourth year containing the greatest proportion and third year containing the smallest proportion. Personal burnout was found to be the greatest contributor to the students' CBI scores in first, second and fourth year, while work-related burnout was the greatest contributor in third year. Patient care-related burnout was consistently observed to be the smallest contributor to CBI scores across all academic years. No significant difference was found in CBI scores over the four academic years of study.

**Conclusion.** Although direct comparison with similar programmes is not possible owing to a lack of published data, the prevalence of total burnout appears to be fairly high, particularly in the first-year group. This result was unexpected, as we hypothesised that the prevalence of burnout would increase with years of academic progression in keeping with the greater academic complexity and responsibility faced by students. Results regarding the contribution of different categories of burnout to CBI scores were also contrary to our hypotheses. In particular, burnout arising from patient care (i.e. clinical learning) had the smallest contribution to total burnout, while personal burnout contributed the most. While we did not study the effect of burnout on academic performance, a negative effect is highly likely. A burnout monitoring or surveillance programme should be initiated in order to diagnose this problem early and bring about efficient referral to the appropriate support services.

## Recruiting rural-origin students to health sciences – a 1-year follow-up of top achievers at rural high schools in South Africa

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**Background.** South Africa has struggled to attract healthcare professionals to work in rural areas and evidence from many countries suggests that students from rural areas tend to return to rural areas for medical practice. As a result, there has been a call to increase the number of students from rural origin at medical schools.

**Objective.** To evaluate the challenges students from rural areas face in accessing tertiary education.

**Method.** From March to June 2009, a facilitator from Wits conducted a life skills and careers course as part of a project to identify suitable students for the health sciences bursary programme in rural high schools in North West Province. A total of 39 schools were invited to send the top Grade 12 achievers in maths and science to a 5-day programme. These students were then contacted by telephone after 12 months and a quantitative survey questionnaire was administered.

**Results.** Of 158 students, 54 could be contacted one year later by telephone; 46 respondents (87%) could not follow through with their original plans for the year following the completion of their Grade 12, although 13 (24%) were studying at tertiary institutions with plans other than they had anticipated, mainly at colleges. Only 7 (13%) students were able to achieve their original plans of studying at a university. Nine (17%) of these top students failed Grade 12 and 27 (50%) respondents were at home and not doing anything. Reasons for not achieving initial plans were academic (44%), financial (30%) and logistic (26%). Thirteen out of 16 students who applied for financial aid received it. Information sent by the tertiary institution, career days and friends already at tertiary institution were the most commonly used sources of information to access financial aid. Career days, friends already at tertiary level and life orientation classes were the most common sources of help used in choosing which courses to study.

**Conclusion.** A minority of top-achieving rural high school students are able to access tertiary institutions in South Africa, but many of those who are successful do access financial aid. As open days are an important source of information, universities would be advised to give more resources to these events.

## An interventional study: Assessing knowledge, attitudes and practices regarding *Mycobacterium tuberculosis* infection risk among health science students

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**Background.** South African healthcare workers are at increased risk of contracting tuberculosis (TB), and drug-resistant TB. Health science students working in TB-endemic settings require knowledge of TB control measures to reduce their risk of occupationally acquired disease.

**Objective.** To determine knowledge, attitudes and practices of health science students regarding *Mycobacterium tuberculosis* and to assess the impact of a structured intervention imparting knowledge and awareness of occupational TB risk and control measures.

**Method.** A cross-sectional study of 327 Stellenbosch University and health science students using a pre- and post-intervention questionnaire. The intervention included personal accounts by medical professionals affected by drug-sensitive and -resistant TB and information on how to reduce occupational risk.

**Results.** Students overestimated their risk of developing TB, but underestimated the mortality associated with the drug-resistant strains. Pre-intervention knowledge of using personal protective equipment (PPE) was poor, but was successfully improved by 20% post-intervention (0.575 v. 0.775 out of 1 ( $p=0.0000$ )). Reported practices at Tygerberg Hospital (TBH), Western Cape, showed that 62% ( $N=182$ ) interacted once a week or more with patients who had defaulted on TB treatment. Only 8% reported that

N95 masks were available daily, where needed ( $N=177$ ). Natural ventilation and mechanical ventilation were reportedly not used/functional in clinical areas (60%,  $N=179$  and 55%,  $N=164$ , respectively). Additional MDR TB control measures, such as airborne precaution signs and a 'closed door' policy for TB isolation rooms, were reported to be inadequately utilised.

**Conclusion.** Health science students lacked knowledge of TB control measures and protective equipment while working in an environment with reportedly poor implementation of infection prevention measures. A structured educational intervention can effectively increase awareness and knowledge pertaining to occupational TB infection risk and control measures.

#### Impact of formative assessment on low achievers

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**Background.** It is a well-known fact that assessment is an integral part of the curriculum. Students seldom have adequate information on the core areas of the curriculum that need detailed study and the nice-to-know areas of the curriculum. So we must ensure that students know the performance expected of them, and the standards against which they will be evaluated. To meet the above-mentioned needs, frequent feedback for enhancing the student learning process should be included among low achievers.

**Objective.** To enhance the performance of weaker students in the first year medical students in the subject of physiology.

**Method.** Based on the performance of the students at the end of first semester weaker students were identified and trained by remedial classes.

**Results.** A total of 127 students were in the study group, 28 students were identified as weaker group. Of these students 17 (60.7%) were able to pass physiology. In spite of remedial activities the remaining 11 (40%) students were unsuccessful. The incorporation of formative assessment would help the students to reflect on their learning process and help them take adequate remedial measures with the help of faculty.

**Conclusion.** By providing a timely feedback on the student learning process and effectively guiding students through the essential elements of learning, performance of students will be enhanced. Thus it is important to help low achievers in completing their medical course for serving the community.

#### Distraction factors that affect the academic performance of students at the Melaka Manipal Medical College, Manipal, India

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**Background.** Academic excellence is what every institution desires from its students. At Melaka Manipal Medical College, Manipal India, majority of the MBBS students hail from Malaysia with a smattering of students from other countries. In addition to living away from home for the first time, they are exposed to a new culture in India and possibly distracting surroundings.

**Objective.** To study the general perception of students regarding the distraction factors that prevail in the student community and what survival strategies they have developed.

**Method.** A questionnaire consisting of 9 items pertaining to the factors that distract students from academics was distributed to two batches of students, seniors ( $n=134$ ) and juniors ( $n=92$ ) of the MBBS programme. The results were analysed and expressed as a percentage.

**Results.** Both the batches of students opined that the internet and online games were a major distraction factor (41% to 69%), followed by visual

entertainment like movies (18% to 64%). Effect of drugs and smoking on academic activities was minimal (2%). However, students minimised the time spent on the distracting activities when their grades suffered.

**Conclusion.** The academic programme at MMMC is packed with different activities. Avenues for entertainment are limited in the campus. It is but natural that students take refuge in playing online games and watching movies on their computers. It is a relief however, to know that students have stayed away from drugs and smoking. Nevertheless, some advice regarding time and resource management through the mentorship programme is in order to further better the academic performance of the students.

#### A progress evaluation of extended degree programme (EDP) students at Stellenbosch University with the aim to determine the reasons for differences in performance in the years following on the EDP programme

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**Background.** Students which are selected for the EDP programme generally do well during Phase 1 of the programme, but the phases following on Phase I are experienced as challenging with a number of these students experiencing academic problems. Faculty can react to this challenge by determining what could be done in the EDP programme to prepare these students adequately for the full academic programme following on Phase I.

**Objective.** The unsuccessful progress of some EDP students in the consecutive years following the EDP programme necessitates a systematic investigation to be done to determine the factors contributing to the lack of progress of some of the students, as well as the factors contributing to the successful completion of the programme by their peers. Focused and systematic intervention could be launched if such factors could be identified.

**Method.** A retrospective quantitative and qualitative study was done. The results and selection data of all EDP students since 2007 up to the most recent results (Nov. 2012) were analysed. Individual in-depth interviews were held with eighteen students – both successful and unsuccessful – in modules of Phase II. Interviews were also conducted with relevant Advisors of these students. Interviews were recorded and transcribed by an independent person. Data were thematically analysed. Data that were collected from examination results were used to invite students to participate in the interviews.

**Results.** Five major areas were determined as to be the major problematic areas. The Academic and Social themes sound self-evident, but the specific factors in these themes provide faculty with food for thought to react upon. Other important themes were those of the psyche, residence, and finances.

**Conclusion.** Scientific research is essential to facilitate the process of determining crucial factors influencing student success in an EDP programme.

#### Assessment for learning: Facing the change, changing the face

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**Background.** Assessment and learning are intimately intertwined and often indistinguishable from one another. The new reforms introduced by FAIMER has brought assessment as a lever for educational reforms to the forefront and as an integral part of learning, not as a thing to be done in the last. Assessment has to be differentiated and understood in all its intricacy. It is becoming increasingly apparent to redefine assessment and its different approaches.

**Objective.** The study was done to identify the effect of combining assessment for learning with assessment as learning.

**Method.** Sixty students of first year MBBS who consented for the study were enrolled. The students were bifurcated into two groups – Control and the Study Group. An environment was created in which students of the study group were exposed to learning purposes, learning outcomes, and were trained in peer assessment and self-assessment using success criteria to reinforce the assessors learning as well as to give constructive criticism, while the control group was not provided any such exposure. In both the groups' assessment for learning was carried out as per the university guidelines.

**Results.** The results show that the performance of study group is better when Assessment as Learning is combined with Assessment for learning. In addition, many nurturing effects of assessment as learning were also observed by the teachers who witnessed the overbrimming joy of the learners' as they were not the passive receivers but active participants. Learners' motivation and self-esteem apparently sloped high.

**Conclusion.** Assessment for learning combined with Assessment as Learning significantly improves the assessment of learning. When adopted for the entire course, this will transform the perspective of formative assessment. The tiny steps travelled together can transform learners and learning.

## **The AFEM REX: An innovative workplace-based assessment method for emergency care training in Africa**

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**Background.** The African Federation for Emergency Medicine (AFEM) is a regional professional and academic organisation representing emergency care providers and trainers from over 20 countries. AFEM's scientific agenda includes the development of emergency training programmes for a range of providers and settings. AFEM has developed a modular emergency care training programme for physicians and non-physicians who provide emergency care.

**Objective.** To describe the development and piloting of an innovative workplace-based assessment method for the AFEM emergency care curriculum.

**Method.** We conducted a review of existing workplace-based assessment tools used in the setting of medical training as well as a review of the more specific literature on emergency medicine shift-based feedback. Based on our findings, we developed a draft clinical evaluation tool and adapted it to the distinct constraints of the African emergency department work environment via a systematic consensus process. We subsequently conducted a feasibility pilot of the tool in two African emergency departments with post-graduate physician training programmes, and revised the tool to these results.

**Results.** We present here the AFEM REX (Rapid Evaluation Exercise), an assessment method designed to be used in 5 minutes and focus on a single competency domain for each use. We present the results of our initial pilot study and the final version of the tool.

**Conclusion.** The AFEM REX is a useful workplace based evaluation method suited to African Emergency care training.

## **What do postgraduate examiners know about, and think of, standard setting in the College of Physicians of South Africa?**

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**Background.** Since its inception in 1954, the Colleges of Medicine of South Africa (CMSA) has used a fixed pass mark (cut-score) of 50% for all fellowship examinations in its 29 constituent colleges. From 2011, the College of Physicians (CoP) introduced standard setting (Cohen method) for components of their fellowship examinations. Despite an earlier workshop, it seemed that CoP examiners had limited knowledge of, and diverse opinions about, standard setting.

**Objective.** To conduct a situational analysis of the current CoP examiners – to verify knowledge gaps and explore views, attitudes and perceptions towards standard setting. This research would guide the design of a focused workshop for CoP examiners about standard setting.

**Method.** An anonymous online survey was sent to current (2010 - 2013) CoP examiners ( $n=51$ ). Their knowledge of, and opinions about, standard setting were investigated.

**Results.** Seventy five per cent of examiners completed the survey. Some examiners did not know that standard setting had been introduced; 21% for Part I MCQ exam and 45% for Part II Purpose Test. Altogether 21% were knowledgeable about, and 55% were familiar with, but not knowledgeable about, standard setting. A number of examiners (29%) had 'no problem' with using a fixed 50% pass mark, 32% were concerned about it and 39% rejected the practice. Most (63%) endorsed the changes made and 74% supported further implementation of standard setting in other CoP examinations.

**Conclusion.** Although many CoP examiners endorsed standard setting, and some rejected the ongoing use of a fixed 50% pass mark, they had very limited knowledge about standard setting. CoP examiners, although broadly positive and supportive, need more information about, and a better understanding of, standard setting.

## **Assessors in assessment**

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**Background.** The assessment of clinical competence is one of the most important tasks facing medical teachers and is usually done at the end of their students' clinical course to certify a level of achievement. It is also of importance because it is central to public accountability, as medical schools have a responsibility to ensure and demonstrate that a certain level of competency has been achieved in their graduating doctor. Much has been described about the tools for assessment, and who requires assessment, but focus should also be applied to the assessors, and how they are trained to assess. Observations made during actual Purpose Structured Clinical Examinations (OSCEs) in the final-year exit examinations in the Faculty of Medicine, University of Malaya in Kuala Lumpur, Malaysia, noted assessors engaging in inappropriate behaviours, such as prompting, indicating to the candidate how they had performed in the station, and also teaching/correcting the candidate. There were also apparent differences in the way assessors used the mark sheets their departments had developed.

**Objective.** To evaluate training workshops which have focused on addressing issues of consistency in marking and assessor behaviour.

**Method.** Training workshops for OSCE assessors were initiated, focusing on assessor consistency in marking the checklists and assessor behaviour. Assessors who had undergone training were followed up in subsequent OSCE examinations to observe if there was any improvement. Observers completed checklists on assessor behaviour during the OSCEs, and their comments were analysed qualitatively.

**Results.** Trained assessors were on the whole consistent in their behaviour, with minimal or no prompting as compared to untrained assessors.

**Conclusion.** Training does help assessors become more consistent in their behaviour in OSCEs. Improving the reliability in OSCE assessors may contribute to more accurate assessment of the clinical competence of medical graduates.

## Second-year dental students' perceptions about a joint medical curriculum

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**Background.** A recent study from Australia showed that dental students participating in a joint medical curriculum were being marginalised, which may contribute to unfavourable educational outcomes.

**Objective.** Given the phenomenon of marginalisation in a joint medical curriculum elsewhere in the world, this study investigates whether there are perceptions among second-year dental students at the University of Pretoria, South Africa, that they are being marginalised in the joint medical curriculum they are participating in.

**Method.** Quantitative and qualitative analyses were performed based on anonymous information obtained from 2011 and 2012 second-year dental students' individual written reflection with regard to their first two years of study. The reflection was open to any comment the student wished to share and specific topics such as marginalisation were not mentioned as part of the instruction.

**Results.** A total of 98 students consented to the use of their comments in the study. Although there was a fair amount of positive comments about the joint curriculum, 54% of the second-year dental students were of the opinion that the joint curriculum included too much irrelevant information, which contributed little to their skills as future dentists. Furthermore, 43% noted that dental students felt excluded during lectures and were disregarded by lecturers, and 42% felt that medical students were treated superiorly by lecturers.

**Conclusion.** Universities utilising a joint medical curricula to train dental and medical students should be cognizant of the potential marginalisation of dental students. Two possible solutions may be to establish a dedicated programme to train dentists, which has the potential to improve the perceived relevance of the training, or to manage the joint curriculum to ensure that marginalisation is eliminated.

## Preparedness of graduates in occupational therapy for clinical practice: Perceptions of students and supervisors in a KwaZulu-Natal case study

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**Background.** Investigating the effect of curricular interventions and fieldwork placement on the competence and confidence of occupational therapists to

practise is an emerging field in South African occupational therapy research. It has become essential in educational research, as new graduates are often required to work autonomously during their community service.

**Objective.** This study explored the perceptions of the final-year University of KwaZulu-Natal occupational therapy students and their clinical supervisors regarding their undergraduate education and preparedness for independent clinical practice.

**Method.** Seventeen final-year students and their clinical supervisors ( $n=24$ ) participated in focus groups and semi-structured interviews. Document analysis was conducted to compare the practice for training and assessment at the local institution with the stipulated guidelines from the Guideline of the World Federation for Medical Education and the national accrediting body, i.e. the Health Professions Council of South Africa.

**Results.** Most final-year students and their supervisors indicated that students were only partially prepared and lacked confidence for clinical practice. Their confidence was better in areas of occupational therapy training that they enjoyed and experienced in a positive light during fieldwork placements. Curriculum review was identified as a priority.

**Conclusion.** Both the clinical supervisors and the students felt that students would cope as new graduates after training in basic clinical practice. However, aspects of the curriculum could be improved to ensure that newly trained clinicians are more confident about their practice and better equipped to deliver an occupational therapy service specifically for the needs of the diverse African healthcare populations and settings.

## The home visit: Still a feasible teaching tool for medical students? A pilot study for curriculum revision

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**Background.** For experienced family physicians the home visit can often re-connect them with the reasons why they practise medicine, while for students it is the ideal environment to counteract the effects of the 'hidden curriculum' in medical education. We conducted a pilot study to determine the logistic and pedagogic implications of home and clinic visits by medical students at the University of Cape Town.

**Objective.** To identify potential obstacles, pedagogic strengths and logistic implications of home visits and patient accompaniment to clinic visits for its proposed inclusion in the curriculum.

**Method.** 2nd- and 4th-year medical students were invited to participate in the patient follow-up pilot study which was conducted between May and August 2012. Quantitative and qualitative data analyses were conducted.

**Results.** Thirteen (18%) 2nd-year and 4% ( $n=5$ ) of 4th-year students completed the study. Student-initiated patient recruitment proved challenging to the majority (57%,  $n=8$ ). All found the activity worthwhile. Eighty-six per cent ( $n=12$ ) responded that the learning purposes could not have been attained without the home visit. The clinic visit accompaniment was not feasible, mainly due to the amount of time required. Ninety-three per cent ( $n=13$ ) felt that a home visit experience should be included in the medical curriculum. Recommendations were made regarding patient recruitment and selection criteria, duration of follow-up, mentorship, support and assessment.

**Conclusion.** The educational value of the home visit was confirmed; however, the clinical link must be made explicit and appropriate resources allocated to enhance the pedagogic value and feasibility of the activity.

## **Predictors of success for first-year students in health sciences: How useful are secondary school factors?**

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**Background.** Universities in South Africa generally achieve low success rates, which translate to low throughput rates, especially in the first year of study. Student dropout in the School of Health Sciences (SHS) at UKZN has a two-fold consequence. It results in the loss of students and the loss of prospective healthcare professionals who are required to address the shortage of skilled healthcare workers in the country. Thus the need to determine factors that relate to success and throughput in the first year of study.

**Objective.** This paper presents an aspect of a research project which explored factors that could be potential predictors of success in first-year students. The focus is on secondary schooling factors (area and type of schooling, matriculation point scores (APS) and matriculation subjects) in relation to first-year academic success in selected School of Health Science students over the period 2009 - 2011.

**Method.** A retrospective design with a quantitative approach was used to collect data from 713 student records, from the 2009, 2010 and 2011 intakes. Quantitative data were analysed using descriptive and inferential statistic, while the Spearman rank correlation test and the Mann-Whitney test were used to determine differences among variables related to academic success. A *p*-value of  $\leq 0.05$  was considered statistically significant. Data were analysed and presented as annual composite results as well as stratified by disciplines as appropriate.

**Results.** Overall the area of secondary schooling was not statistically significant as a variable that correlated with academic success. In contrast, the type of secondary schooling, matriculation points, and matriculation subjects investigated were statistically significant variables that correlated with academic success in the School of Health Sciences. At discipline level, physiology showed to have the most consistent correlations among variables, with a moderate correlation with matriculation subjects as well as the APS.

**Conclusion.** The results of this study yielded evidence-based admissions criteria for students into the SHS at UKZN.

## **Evaluation of a dental therapy curriculum using mixed methodology**

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**Background.** Dental therapists were introduced to the healthcare system to improve access to basic dental services for disadvantaged communities. However, studies have demonstrated that these professionals practise mainly in the private sector, serving a small minority of the population. This has perpetuated the lack of access for disadvantaged communities.

**Objective.** To evaluate the dental therapy curriculum offered at a South African university to determine whether it produced appropriately trained graduates to meet the oral health needs of the population.

**Method.** This study was conducted in four phases: context, input, product and process, which are analogous with Stufflebeam's CIPP evaluation model. A combination of qualitative and quantitative research methods was used; with the Hicks curriculum design model serving as the theoretical framework,

and pragmatism serving as its philosophical partner. Participants were selected by purposive and convenience sampling and included key external stakeholders, students and academics. Qualitative data were generated by interviews, focus group discussions and unobtrusive measures and analysed by thematic analysis. Quantitative surveys encompassed student module and competency evaluations. This information was analysed by descriptive analysis, which included frequency tables, graphs and percentages.

**Results.** The results showed that the dental therapy curriculum followed the traditional subject-centred format, with a lack of integration between the basic, preclinical and clinical sciences. Training was based on a hospital-centric, urban-based, curative training model, with little focus on primary healthcare.

**Conclusion.** In order to develop professionals to meet the health care needs of a country, curricula should be evaluated iteratively, where the cycle of analysis, design and development, evaluation and revision are conducted as an ongoing exercise, using an appropriate evaluation model. Findings of this study gave rise to an extension of the Hicks model, which focuses on curriculum evaluation of health science programmes in developing countries.

## **Assessment of the educational environment perceptions of senior medical students at the University of the Free State (UFS)**

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**Background.** The educational environment (EE) of a medical school plays a critical role in the learning of its students. It is the context or environment within which the students need to learn and master medicine. Factors that influence it include, inter alia, the learner, other learners, teachers and the physical environment (campus and hospitals). An accreditation report in 2010 by the HPCSA highlighted some concerns about our clinical training platform, and anecdotal challenges regarding the EE in the clinical departments were also surfacing from staff and senior medical students. This created the need to formally research the EE of the clinical phase of the School of Medicine (SoM) at the UFS, as perceived by the senior medical students (final 2 years – 4th and 5th year).

**Objective.** To measure the senior students' perceptions of the EE in the large clinical departments in the SoM. The effect of year group, gender, language, age and race were also investigated.

**Method.** The internationally recognised and validated DREEM questionnaire was used and contextualised for each of the 5 departments included – Internal Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, and Psychiatry. Only departments where 4th- and 5th-year students rotated in both years were included.

**Results.** Overall response rate was 88%. Non-parametric tests and indicators were used to analyse the data since the majority of data were not normally distributed. Overall median DREEM for the departments combined was 137/200. Paediatrics was consistently top rated and Obstetrics and Gynaecology consistently received the lowest ratings in all domains and subscale analyses. Gender had no influence and the other demographic elements had minor influences on the DREEM scores.

**Conclusion.** The overall EE, as measured in the 5 large clinical departments, was more positive than negative, which is good news for the SoM. Although the subscale analysis largely revealed very positive results, some particular concerns were noted in one department.

## Does a structured dermatology surgical workshop make a difference in student learning?

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**Background.** The formalised exposure of 4th-year MB ChB students to dermatology consists of a two-week clinical rotation in wards and outpatient clinics. In January 2011 a small surgical skills workshop was introduced in the first week of the rotation.

**Objective.** To determine whether attending a small surgical skills workshop: (i) enhanced student confidence in performing the procedures; (ii) enhanced student competence in performing these procedures; (iii) taught increased student willingness to appropriate practice opportunities in the clinical setting.

**Method.** Students' surgical skills competency was assessed using an Purpose Structured Clinical Examination (OSCE). Two skills were assessed, namely punch and excisional biopsy. Qualitative and quantitative data were obtained by means of questionnaires. The first study group ( $n=24$ ) completed the dermatology rotation in September 2010 before the introduction of the workshop. OSCE assessment took place in April 2011. A second study group ( $n=22$ ) attended the workshop in September 2011. Assessment took place in March 2012. Time and student availability constraints caused a delay between attendance of the dermatology rotation (first and second study group) and workshop (second study group) and assessment of the students' skill. Knowledge and skill decay were expected.

**Results.** The students who attended the workshop demonstrated higher competence in the OSCE than the non-workshop students. Their confidence levels increased compared with the non-workshop group, and they were more willing to perform the procedures in the clinical setting.

**Conclusion.** The introduction of the Small Surgical Skills workshop enhanced student learning of the particular skills. The researchers wish to suggest that a student's request to perform more procedures under direct supervision in the clinic be strongly considered.

## Merit-based redistribution of students in anatomy dissection classes: Method revisited

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**Background.** At Melaka Manipal Medical College (Manipal Campus) we have adopted merit-based re-arrangement of students in the second term of their anatomy dissection classes in the first year of medical school. This method showed improvement in the individual scores in the subsequent examinations of the second term.

**Objective.** The above distribution caused uneasiness, especially to the students who scored least marks in the first term. Some among them complained of being depressed after the re-distribution. The purpose of our intervention was to reduce the stress and anxiety, but achieve the same or better improvement in the exam scores.

**Method.** The students were redistributed depending on the aggregate of marks of the two exams in the first term, but the groups were not assigned their meritorious ranks. Hence, the students were not told to which meritorious group they belonged, whereas the teachers were. This helped the teachers to teach to the groups accordingly.

**Results.** The students who scored less were not depressed as their scores were unrevealed to them and to their peers. Around 66% of students felt this method of redistribution is satisfactory.

**Conclusion.** Student redistribution with unrevealed ranking almost erased the earlier uneasiness. Most of them were happy and felt that the course was delivered to them at their intellectual level.

## Comparison of effects of paragraph reading and mind mapping on short-term memory

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**Background.** The Mind Map is an expression of radiant thinking. Mind maps can be used as self-learning methods that facilitate understanding of difficult concepts.

**Objective.** An attempt was made to compare the effectiveness of mind mapping and paragraph reading on visual short-term memory (VSTM) and to find out the most effective way of studying.

**Method.** The study was done among the students of Melaka Manipal Medical College (MMMM) so as to enable their study performance and to aid in the effectiveness of teaching of the faculty. Students of MBBS phase 1 stage 1 (154 students) and phase 1 stage 2 (132 students) belonging to batches 28, 29 and 30 with a total of 286 students of MMMC were included in this study. The effectiveness of both the presentations on VSTM was evaluated by a set of questionnaire.

**Results.** The results from both the groups of students were compiled and compared. These were analysed statistically by the chi-squared test. The number of correct answers of students exposed to paragraph format had a median of scoring of 5 - 10 questions correct, while the students who answered the questionnaire after exposure to mind map presentation had a higher median distribution of correct answers as 8 -13. Students would be able to recall more information from the mind maps rather than reading from the paragraph. The majority of the students in our study preferred mind maps to aid their learning process.

**Conclusion.** Mind mapping has a greater impact on VSTM compared with that of paragraph method tool of learning in our study.

## Evolving a training programme for PBL tutors at Melaka Manipal Medical College (MMMM) for enhancing their facilitation skills: Students and faculty perceptions

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**Background.** Problem-based learning (PBL) has been an integral part of our curriculum. PBL fosters students' independent learning while tutors act as facilitators. New faculty members are naive to the PBL process, are not trained in facilitating it and yet are expected to facilitate the PBL sessions. Therefore a structured PBL orientation and facilitation skills module was designed.

**Objective.** To create awareness of the PBL process and to design a training module for PBL tutors to enhance their facilitation skills and assess its effectiveness.

**Method.** MBBS students (years 1 and 2) and faculty were included. After PBL orientation, pre- and post-test questionnaires (Likert's scale with 20 items) were administered. PBL tutors later facilitated a PBL session. A pre-

intervention questionnaire (Likert's scale with 20 items) on facilitation skills was administered. A one-day activity-based training programme on PBL facilitation skills was conducted for faculty. The same PBL tutors facilitated the next PBL sessions. Post-intervention questionnaires (Likert's scale with 20 items) were administered.

**Results.** There was a statistical significant difference in the median score for all 4 domains, i.e.: What is PBL?, PBL dynamics, individual roles, general attributes among students and domains 1 and 2 among faculty for PBL orientation. For facilitation skills, year 2 students showed a significant difference in all the 5 domains, i.e. being student-centred (facilitation skills), managing group dynamics, creating a motivating environment, using questions effectively, providing constructive feedback, and evaluation. Domain 1 was found to be statistically significant for year 1 students. Qualitative analysis of data of the training programme on facilitation skills also yielded significant results.

**Conclusion.** PBL orientation and the training programme that was designed were found to be effective. Second-year students perceived that the facilitation skills of the tutors were enhanced when compared with the batch of 1st-year students. However, constant review, repeated orientation, implementation of the programme and assessment of skills are imperative.

#### **Standard setting in purpose-structured clinical examination (OSCE) in an undergraduate medical school: Will it improve the outcome?**

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**Background.** Standard is a conceptual boundary on the true-score scale between acceptable and non-acceptable performance. The outcome of assessment is determined by the standard setting method.

**Objective.** Since we did not have a valid and reliable OSCE stations and assessment system, stations were to be set and the standard setting method to be implemented, and outcome was assessed. The purposes were to: (i) develop reliable and valid OSCE assessment stations in clinical skills related to microbiology; (ii) analyse the scores obtained in OSCE using modified Angoff's method and a holistic method; (iii) collect the feedback from the students and faculty regarding the OSCE.

**Method.** Four OSCE stations were developed, and checklists prepared after peer validation. The microbiology faculty and students were orientated regarding conduct and assessment of the OSCE. The modified Angoff's method and holistic method were used for standard setting. Feedback on faculty and students' perceptions regarding the OSCE was collected. Data were analysed using Prism software and SPSS 16.

**Results.** Cronbach's alpha was 0.901 for the reliability and validity of OSCE stations. The *p*-value was not significant for inter-rater reliability (Student *t*-test). Altogether 24.5% of students had failed in the modified Angoff's method when compared with the holistic method, which had only 14.25% failures. Regarding faculty perception, 90.90% of faculty felt that the OSCE was comprehensive, valid and reliable, while 77% of students felt the purpose of the skills was clearly defined. Eighty-nine per cent of students felt that the OSCE was stressful.

**Conclusion.** Modified Angoff's method of standard setting was found to be more reliable and had good inter-rater reliability than did the holistic method. Periodic feedback helps for better conduct of the OSCE.

#### **Compilation of a WITS-CHSE database: Work in progress**

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**Background.** There is currently a large database of multiple choice questions (MCQs) in the WITS-CHSE resource base. Unfortunately clinical examiners are reluctant to use the database in its current format because of the system of classification of questions.

**Objective.** The project aimed to address the problem by reclassifying the questions using a clinically orientated model.

**Method.** A new classification model was compiled and adapted for the first phase of this project. MCQs for the MB BCh III and IV years of study were classified accordingly, spanning a duration of four years. In the original classification items were classified according to System, Discipline, Process, Transition, Taxonomy and Type, whereas the WITS-CHSE classification system uses the following categories: Discipline (29 categories), Clinical Process (12 categories), Pathological Process (19 categories), Transition, Taxonomy, Type and Statistics.

**Results.** All MCQs were classified within the parameters of the original system as well as the WITS-CHSE system. It was found that there is no alignment between the original and WITS-CHSE databases. It is envisaged that the WITS-CHSE system will provide a user-friendly means for potential examiners to identify questions for examination papers. Since this is still work in progress, a more sophisticated method could be devised in the future using a computer-based software package.

**Conclusion.** The WITS-CHSE database needs to be expanded to include MCQs for the clinical years and its use needs to be monitored. A database of MCQs adapted for the local context is necessary if it is to be useful effectively.

#### **Building together: Inter-faculty collaboration to create innovative learning opportunities and platforms for all involved students**

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**Background.** The Department of Construction Economics (CE) in collaboration with the Department Health Sciences (HS) provided the opportunity for their students to apply their theoretical knowledge by means of real-life community projects. The purpose of the programme is to provide 80 healthcare centres which will enable students to spend their community work on career-orientated projects. This is done within the sites where re-engineering of PHC is done and ward-based outreach teams (WBOTs) are established in collaboration with the Department of Health.

**Objective.** The programme integrates with the learning outcomes of CE and HS subjects, while also fulfilling the community's needs and exposing CE and HS students to the latest innovative system; CE students are exposed to the planning, the manufacturing and the erection of the building system, while HS students will be the first to experience the benefits thereof.

**Method.** An action research project was initiated, where CE and HS students were selected to participate. The action research include exposing students to concepts of planning, negotiation, networking, manufacturing, and construction in line with subject learning outcomes.

**Results.** The year 2011 was spent in planning the best innovative system. Continuous assessment in these subjects showed marked improvements in the students' conceptualisation, marks and overall involvement.

**Conclusion.** Enriching the educational experience through the application of this service-learning model and exposing students to other students, the community and industry.

## **HIV exposure incidents: An audit of reported incidents during 2012 to inform the development of a standardised protocol**

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**Background.** Medical students of the University of Pretoria are exposed to patients presenting with HIV- and AIDS-related illnesses as well as hepatitis B and C on a daily basis. Although there is a protocol for dealing with such incidents it seems that there is room for improvement. The Department of Family Medicine was tasked to set up a protocol and take charge of the care of students presenting with an exposure incident.

**Objective.** Evaluation of the management of exposure injuries.

**Method.** An audit was done on reported exposure incidents in 2012. The results from the audit were triangulated with an anonymous questionnaire administered to all medical students, and compared with data from previous years.

### **Results.**

- 125 exposure injuries reported.
- 66.4% related to percutaneous injuries,
- Most incidents happened in the casualty department and labour ward during or after venesection.
- Most of the mucocutaneous exposures were related to either suturing or putting up a drip.
- In most cases (91/125) the patient's hepatitis status was unknown.
- 29% (36/125) of incidents had a confirmed HIV-positive source.
- A wide variety of PEP regimens were used.
- Less than 1% of students followed up after the initial visit.

Data from the questionnaire still need to be analysed.

**Conclusion.** The exposure protocol needs to be revised and amended regularly. Innovative ways are discussed to deal with irresponsible practices in work-based situations, low follow-up rates, PEP regimens that are less than favourable and the unknown HBV and HCV status of patients.

## **The knowledge and perceptions of pharmacists about the commonly sold herbal mixtures that are used as African traditional medicines in community pharmacies in Tshwane Townships, Gauteng**

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**Background.** Traditional medicines (TMs) continue to play a significant role in the treatment and management of diseases in the developing world. Commercialisation and marketing have popularised the herbal mixtures. They are available ready for use from pharmacies, multi-markets and other outlets. The many herbal mixtures sold over the counter in pharmacies have not been tested for efficacy and safety. As such, although they are readily available and used, their effectiveness remain unproven and their safety and toxicity profiles remain unknown.

**Objective.** To determine the knowledge and perceptions of pharmacists about the commonly sold herbal medicines used as African TMs (ATMs) in Tshwane township pharmacies.

**Method.** The study population for this study was the qualified and registered pharmacists working in community pharmacies in Tshwane

townships. Both qualitative and quantitative data were collected by means of self-administered questionnaires.

**Results.** Most of the participants were aware of the use of ATMs and the recognition of ATMs by the National Department of Health. The majority believed that ATMs were used owing to their affordability and that the users trusted the medicines as they were considered to be natural products. They perceived it was appropriate for them to dispense ATMs, yet only 50% of them took safety aspects into consideration during dispensing. Although 83% of the participants had no formal teaching or training about TMs, the majority knew that the medicines are derived from plants. They knew the indications, routes of administration and storage conditions of most of the 10 commonly sold medicines, but not their safety aspects or interactions.

**Conclusion.** The pharmacists perceived that although the safety aspects of the medicines are unknown, some ATMs are effective and trusted; hence it is appropriate that pharmacists dispense them. There are some knowledge gaps that exist due to unavailability of information about the medicines and their uses. To include aspects of ATMs in the pharmacy curriculum, as well as to regulate and standardise the TMs and their information.

## **Prevalence of myopia among students: A cross-sectional study in a South Indian Medical College**

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**Background.** Myopia is not only inherited but also caused by excessive reading and other close-up work. Generally, myopia first begins in school-age children, since the eye continues to grow during childhood until about the age of 20.

**Objective.** The purpose of the present study was to establish the various genetic and environmental factors contributing to the occurrence of myopia among students.

**Method.** The prevalence of myopia among first-year medical students ( $N=115$ ) of MMMC Manipal India was assessed using a questionnaire. These Malaysian medical students belonged to different ethnic groups, e.g. Chinese, Malaysian and Indian.

**Results.** Our survey showed that females had a higher prevalence of myopia when compared with males of the same age group. A higher percentage of Chinese medical students were found to have myopia than other Malaysian races. The survey of myopia indicated the prevalence of myopia among several of our medical students. It also showed the different hereditary and environmental factors which could have led to the development of myopia in these students. Since our students work on computers and read often there is every chance of a non-myopic student developing myopia.

**Conclusion.** Although there was an association with the level of education, gender, ethnicity and origin with the prevalence of myopia, its occurrence may be reduced by suitable awareness programmes and proper knowledge on development of myopia by environmental factors.

## **Awareness about the side-effects of tattoos among medical undergraduate students of Melaka Manipal Medical College (Manipal Campus), India**

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**Background.** While tattoos have been around for centuries, in recent years they have become increasingly popular, especially among teenagers.

However, as the popularity grows, so do the concerns over the safety and risks of tattoos. Little attention has been directed to the potential latent health effects of tattoos. Some of the risks that come with a tattoo are infection at the site of the tattoo, an allergic reaction to the tattoo dye, the spread of disease such as HIV and hepatitis C, granulomas and keloid formation.

**Objective.** To investigate the awareness about the side-effects of tattoos among medical undergraduate students of Melaka Manipal Medical College (Manipal Campus), India.

**Method.** A total of 200 students from Melaka Manipal Medical College (Manipal Campus) participated in this study. Awareness about side-effects of tattoos was analysed using pre-set questionnaires.

**Results.** Of 200 students who responded to questionnaires, we found 11% have a tattoo, 38% are considering getting a tattoo and 70% do not have a tattoo. Only 17% of the students were aware of needle sterilisation. Altogether 70.5% of students were aware of the hazards of tattoos and diseases transmitted by needle-stick tattoos. From the data obtained, we can come to a firm conclusion that the hypothesis is accepted that 62% of respondents do not have adequate awareness about the side-effects of tattoos.

**Conclusion.** Different cultures have their own perception regarding tattoos. It's important to create awareness about side-effects of tattoos among teenagers to prevent transmission of infectious diseases such as human immune deficiency virus, hepatitis B and C virus.

## **International classification of functioning, disability and health (ICF): A framework for transformative interprofessional education**

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**Background.** To promote health equity, a focus is needed on providing patient-centred and community-based care. This is a challenge for health professions educationalists as they advocate for instructional and institutional reform, which includes interprofessional education (IPE). As a solution the WHO recommends using the ICF framework. Since 2010 Stellenbosch University's IPE strategy has promoted the ICF. Clinical training of undergraduate health professions students includes rural placements where students use the ICF framework in managing and presenting patients, and are assessed by interprofessional teams of local healthcare professionals.

**Objective.** To establish how applying the ICF framework as IPE strategy contributed to (i) instructional reform; (ii) institutional reform; (iii) interprofessional practice; and (iv) functioning of health systems.

**Method.** Associative group analysis – an unstructured method of qualitative research used to reconstruct people's subjective images from the spontaneous distributions of their free associations – was used to conduct this study. Questionnaires were administered to 70 participants: 37 fourth-year students, 18 facilitators of learning, and 15 patients. Free word associations were used to reconstruct the internal world and subjective meanings expressed by more direct methods.

**Results.** Students indicated that they adopted a patient-centred approach which improved patient outcomes and satisfaction. This was confirmed by health professionals, who felt they were indirectly challenged to practise patient-centred, interprofessional care as a result of them assessing students applying the ICF. They reported improved interprofessional collaboration, interprofessional practice and job satisfaction as they started applying the

ICF in clinical practice. Patients appreciated the improved quality of care.

**Conclusion.** The assessment of student presentations using the ICF framework drives interprofessional practice among healthcare students and professionals, facilitates the bio-psycho-social-spiritual approach to patient-centred care and results in improved patient outcomes and strengthened health systems.

## **Journey from transformative education to transformational leadership**

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**Background.** Transformative education is characterised by a change of 'habits of the mind and heart'. Medical education has been recognised, like other educations and apprenticeships into professions, as a self-altering course of identity construction (and reconstruction). Transformational leadership implies that the change within has influenced others and brought about change without. All medical practitioners are arguably leaders in society due to the status and position afforded them by virtue of their qualification. Yet the field has generally lagged behind in the adoption of contemporary transformational leadership models which are more likely to effect meaningful change in healthcare systems.

**Objective.** The study aimed at better understanding the development of a professional identity as medical students become doctors. Various factors that influence aspirations, motivations and trajectories of newly qualified doctors (NQDs) are being explored in an on-going study.

**Method.** Six graduates of a PBL curriculum participated in a narrative study of medical internship experiences. Qualitative data in the form of written reflections 3 years post-graduation were analysed using sociolinguistic methods. The same participants were followed up with one-on-one, in-depth interviews 6 years post-graduation. Interpretative evaluation enabled insight into their journeys as professionals while reflecting back on internship experiences from a more mature perspective.

**Results.** A synopsis of how graduates reached their current professional positions 6 years post-graduation showed that in addition to knowledge, skills and values participants' experiences relating to 'life and fate' have an unexpectedly profound bearing on career choices. Relationships to others and to institutions, both pre- and post-graduation, were found to be a central theme in the trajectories of NQDs. In addition, national policies governing post-internship placement of practitioners in community service were a further compounding factor highlighted by participants' narratives.

**Conclusion.** Beyond transformative undergraduate medical education lies a liminal space fraught with complexity, unpredictability and uncertainty. NQDs should be equipped to deal with contextual and cultural aspects of medical practice in order to develop as transformational leaders.

## **Enhancement of postgraduate skills through an educational programme**

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**Background.** All healthcare professionals must be registered with the Health Professions Council of South Africa (HPCSA). The council requires healthcare professionals to register as a professional with the required education and training, to conduct themselves in an ethical manner, to continuously develop professional skills (CPD) and to comply to healthcare standards as set out by the Health Professions Act No. 56.

**Objective.** The study, as one of its possible outcomes, evaluated the effectiveness of utilising an educational programme (offered as a CPD event) to enhance a specific professional skill (neonatal chest image quality) of postgraduates (radiographers).

**Method.** An essential skill required from all radiographers in clinical practice was evaluated in three institutions. The skill was evaluated by means of an international standardised checklist. Areas in need of enhancement, found in the skill, were identified and addressed through an educational programme, offered as a CPD event. The programme consisted of various contact sessions, practical sessions and poster presentations. The effectiveness of the programme was established by re-evaluation of the specific skill of the radiographers found in three institutions, both private and governmental.

**Results.** The quantitative and qualitative results indicate that most participants (radiographers) found the educational programme both informative and enlightening. However, quantitative results from the re-evaluation of the skill in clinical practice showed a low percentage of enhancement. This indicates that even though CPD events strive to improve skills and develop professionals, it is not guaranteed to be successful.

**Conclusion.** CPD skill development plans through educational programmes should be thoroughly revisited and re-evaluated to establish if it truly can enhance a professional's skill.

#### **Collaborative learning as a transformative force for social inclusion**

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**Background.** Among the challenges faced in South African education is the need to transform its face, its function and its folk, drawing the three aspects away from the divisive apartheid past towards a more inclusive, affirming and enabling future. The thrust of transformation underscores the tension between eliminating the inequities of our past and remaining conscious of our people's underlying diversity. Collaborative learning is ideally suited to helping students mediate and explore the tensions of transformation as well as the discomfort of diversity.

**Objective.** To explore the use of collaborative learning as a transformative tool for social cohesion in higher education.

**Method.** In this study, data from focus group interviews conducted among a stratified sample of second-year medical students and teachers of problem-based learning (PBL) were analysed using Mezirow's first phase of the process of transformation. This phase poses 'a disorienting dilemma' – a situation in which new information clashes with past beliefs, leading to self-examination, critical assessment of assumptions and a new perspective.

**Results.** Four major transformational dilemmas are identified. We show what aspects of diversity are operating in our student population and suggest what may be done to maintain a constructive balance between the polarities.

**Conclusion.** We argue that collaborative learning is an effective way of presenting these aspects to a diverse, heterogeneous student population for their reflection towards personal transformation. As highlighted by Mezirow (2003), transformative learning involves critical reflection on assumptions that may occur in group interactions. Our findings support the role of collaborative learning as a transformative force in higher education.

#### **Situation analysis of the training of eye healthcare professionals in four African countries**

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**Background.** The Vision2020 global initiative aims to eliminate avoidable blindness in the world by 2020. One of its three core strategies is human resource development for eye care.

**Objective.** The research aimed to assess the educational quality of training programmes for eye care professionals in Eritrea, Ethiopia, Kenya and Rwanda.

**Method.** All but two of the recognised training programmes were identified and sampled. Following negotiations with national bodies and training institutions, on-site visits to each programme were carried out over a period of three months. Data collection instruments were developed for interviews with managers, teachers, students and graduates, and structured observation of the training environment and documentation.

**Results.** Altogether 16 programmes were evaluated: four for ophthalmologists, four for optometrists and eight for mid-level workers. Considerable strides have been made in establishing training programmes, often with severe resource limitations. Most curricula revealed deficiencies due to not having been derived through a rigorous process of task analysis based on a prepared list of capabilities. The quality of teaching and assisting student learning varied: one-way lectures were commonly used, lesson plans were absent, and support material for knowledge and skills learning was significantly lacking. Skills teaching mostly followed a relatively unsystematic apprenticeship model. Assessment of learning was problematical in terms of validity, reliability and technical quality for cognitive and skills assessment. Explicit educational quality assurance systems were not found. In addition to these educational findings it became clear that training is significantly affected by wider systems issues such as cadre recognition, accreditation, and human and physical resources for training and in the workplace.

**Conclusion.** There is a clear need for educational expertise in the programmes. Based on the findings of the evaluation, an educational package is being developed. Training programmes for health professionals may lack basic educational expertise.

#### **Peer assessment of quality in teaching and learning**

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**Background.** Quality teaching is a central tenet to the retention and success of students in higher education, but teaching quality measures and indicators have not enjoyed debate and discourse within the higher education sector as much as research has. Quality measures such as pass rates, student and peer evaluations of teaching, moderator and external examiner reports, reports from student support personnel, feedback from experiential learning supervisors and institutional research on teaching and learning may be used to inform quality improvements in teaching and learning.

**Objective.** To evaluate the use of peer evaluations of teaching to inform quality improvements in teaching and learning.

**Method.** Peer evaluations were conducted using a team approach with the team consisting of an internal academic, an academic external to the

University and a healthcare professional in clinical practice. Peers were provided with comprehensive information on the module, including but not limited to content, assessments, notes, practical/experiential learning manuals/log books, past test and examination papers and performance trends prior to conducting evaluations. Each peer individually completed a peer evaluation questionnaire after all peers observed teaching practice as a team and submitted a team report.

**Results.** Academic participants unanimously agreed that qualitative data from peers were best able to highlight strengths and weaknesses as well as assess standard of content at national professional/peer level and qualitative data provided the most useful data to inform changes in teaching practice. The qualitative data engendered and enhanced reflective practice and were of greatest use for teaching portfolios.

**Conclusion.** Peer evaluation is a suitable tool/indicator/measure for quality teaching as it provides holistic feedback and engenders reflective practice, positively impacting on the quality of teaching.

#### **Prizes and surprises: Evaluation of the SAFRI fellowship programme**

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**Background.** The sub-Saharan Africa FAIMER Regional Institute (SAFRI) delivers a faculty development fellowship which is aimed at capacity building for educators of health professionals. A traditional approach aligned with Kirkpatrick's four-level model has previously provided a useful framework for evaluating the fellowship. This model interrogates reaction/experience, learning, behaviour change and results/impact. However, a recent paper by Haji *et al.* (2013) encourages us to rethink evaluation of education programmes by considering whether it worked, how, why and what else happened.

**Objective.** To consider how a different approach can be used to rethink evaluation of the SAFRI fellowship.

**Method.** A number of different evaluation tools are used, including daily surveys to collect data on reaction and learning, a retro-pre-post survey on perceptions of learning, assessment and evaluation of online distance learning, an online portfolio of professional development for documenting activities, leadership roles, and scholarly achievements. Fellows present education intervention projects and share personal and career successes.

**Results.** The information gathered provides valuable feedback at all four Kirkpatrick levels, strongly indicating that the fellowship 'works'. How and why it works emerges from the individual stories shared by fellows at the on-site sessions and on the dedicated listserv. Their accounts emphasise the important role played by the mentorship and support they receive as part of the community of learners which they have joined. Context-related surprises have included the spread of the programme to include fellows from beyond southern Africa, necessitating a name change of the institute, and the rapid appointment of a number of fellows to senior leadership positions.

**Conclusion.** Evolving concepts of evaluation encourage a richer understanding of programme outcomes.

#### **Transforming the examination process of the Examination Council of Health Sciences of the University of Zambia School of Medicine**

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**Background.** The Examination Council of Health Sciences (ECoHS) oversees the examination process of affiliated health sciences programmes at colleges in Zambia. Examination malpractices have been a chronic problem despite the presence of control mechanisms and penalties including prosecution in court. The types and levels of examination malpractices were especially alarming in the December examinations of 2011. An instituted ad-hoc committee found that examination malpractices were rampant with intricate mechanisms of evading identification at the student, trainer levels and possibly the ECoHS centre itself. Notably, weaknesses were identified in the trainers' preparation of the examination papers, security in the examination hall and trainers marking schedules.

**Objective.** To address the examination malpractices of affiliated health sciences programmes at colleges in Zambia.

**Method.** Prepare examination questions from the prescribed and recommended readings guided by the curricula of each affiliated programme to create a bank of questions in ECoHS. One person activates and prepares the examination paper using a specially designed software programme with features that include unique access codes, random selection of examination questions and weighting in terms of difficulty from mild, moderate to difficult. The printing and auto-packaging of the examination paper will be on camera with an inbuilt mechanism of tracking any spoiled papers that have to be signed for and destroyed on camera. The chief invigilator with newly trained personnel secures the examination venue and entrants as well as collecting all answer sheets including spoiled ones and notes for submission to ECoHS. Correction of answer sheets, compilation and submission of marks will be under supervision at a single venue.

**Results.** SouthernSoft Technologies are developing the software programme and ECoHS holds the bank of questions.

**Conclusion.** Security of the examination process has to be equal or better to types of examination malpractices in order to improve or maintain the integrity of the qualification.

#### **An assessment of the impact of academic development officers' interventions in challenging modules in the College of Health Sciences at the University of KwaZulu-Natal**

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**Background.** The College of Health Sciences comprises four schools (School of Clinical Medicine, Health Sciences, Laboratory Medicine and Medical Sciences and School of Nursing and Public Health). Two core modules, anatomy and physiology, are common to all disciplines within the College. Over the years, these modules have proven to be challenging to many students. The poor performance in these modules has impacted negatively on student throughput within the College.

**Objective.** In an effort to combat this poor performance challenge, the College implemented various forms of interventions including the appointment of academic development officers (ADOs). Students who have failed modules, were made aware of the academic development interventions available to them in order to improve their performance. However, students access the ADO services on a voluntary basis.

**Method.** The performance of students who accessed the ADO programme was monitored throughout the semester. A retrospective data review was conducted with regard to mid- and year-end examination performance of repeat students.

**Results.** Our findings have shown that students who accessed ADO intervention improved their academic performance in physiology and anatomy, in comparison to those who did not make use of the service.

**Conclusion.** This finding underscores the importance of providing academic support to students through ADOs.

## **Success v. failure: An evaluation of student success in the emergency medical care programme against the course selection criteria at Central University of Technology, Free State**

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**Background.** Selection of candidates for admission to the National Diploma: Emergency Medical Care programme (NDip: EMC) at the Central University of Technology (CUT) remains a challenging process. Admission criteria provide clear guidelines for school-leaving applicants, but grey areas exist with the selection of mature learners ( $\geq 24$  years of age) and those between leaving school and the mature category. The use of the Matric Score (M-score) with prerequisite subjects is standard practice. The General Scholastic Aptitude Test (GSAT), considered a valid tool measuring academic potential, is also used. Besides academic criteria for admission to the programme, physical fitness and environmental tolerance criteria need to be met.

**Objective.** To explore a correlation between student success and academic admission criteria.

**Method.** A retrospective analysis of selection results for admitted candidates to the NDip: EMC at CUT from 2004 to 2010 will be conducted together with an analysis of corresponding graduates from 2006 to 2012. Correlation between selection test results and graduate success of students will be identified.

**Results.** The hypothesis is that there is a relationship between traditional selection criteria and successful achievement of the qualification. The cohort of students in the mature category who have demonstrated success without having met all the prerequisite admission criteria may point to other characteristics that can be used to predict success in the programme.

**Conclusion.** The anticipated outcome of this study is to identify criteria that are predictors of success that can be used when selecting older students for the Emergency Medical Care programme at CUT.

## **Student support: Developing a consultation framework**

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**Background.** There is mounting pressure on medical schools in South Africa to increase the intake of health science students and ensure optimal

throughput of its recruits. Primary and high school education has undergone many changes over the last decade in the country, causing uncertainty about the preparedness of recruits for tertiary education. Additionally constraints in facilities to deal with the numbers and the shrinking base of health science educators call for greater support of the student who may not be adapting. Formal or informal accessible student support structures exist at most institutions. At a 2012 SAAHE workshop it became apparent that a diversity of professionals were involved in student support, viz. lecturers, family physicians, physicians, psychologists, social workers, and educationists.

**Objective.** To develop a standardised framework to interview students identified for support.

**Method.** Reflect retrospectively on students presenting for student support. Identify literature to substantiate the reasons for utilisation of support. Develop consultation guidelines which can be generalised for use by student supporters.

**Results.** Students entering health science institutions in South Africa are predominantly in the late adolescent stage of emotional development and top performers from an economically stratified range of schools. When they start underperforming they go through a spiral of psychological changes including feelings of embarrassment, social withdrawal and alienation to overindulgence and seeking of power positions in non-academic activities. It is also an age group where there is an increasing incidence of psychiatric morbidity and where they are not forthcoming with the reasons for underperformance. Many student supporters work in isolation, sometimes perceived as a threat to students and faculty.

**Conclusion.** A standard approach to deal with the complexities that come in the guise of academic underperformance is necessary to implement remediation and exclude pathology.

## **Students' experiences and perceptions of a community-based medical education programme at the University of KwaZulu-Natal**

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**Background.** In 2013 the University of KwaZulu-Natal introduced a community-based education programme for 4th-year medical students in Family Medicine. The programme involves provision of accommodation, transport, tutors and IT facilities by the UKZN Medical Education Partnership Initiative (MEPI) to enable groups of 30 - 40 students to conduct clinical rotations in urban and rural primary healthcare centres.

**Objective.** A formative evaluation to investigate the students' experiences and perceived effectiveness of such a programme in achieving predetermined learning purposes.

**Method.** All students who completed the rotation in the first 2 quarters of the 2013 programme were invited to complete a survey questionnaire to evaluate their perceptions and experiences of the programme. The main outcome measures were self-assessments of knowledge and skills pre- and post-introduction of the community-based education programme as well as an evaluation of the teaching methods.

**Results.** Between January and May 2013, there were 89 students who underwent the rotation (half the class) and completed the evaluation. The overall satisfaction of the students with community-based placements was high (83%). More students felt that small group tutorials (88.9%) and bedside teaching (86.7%) were effective teaching methods compared with

lectures (70%) and an online platform – MOODLE (73%). Based on the mean difference (MD) of pre- and post- perception scores computed on a scale of 1 - 5, the most significant gain that students perceived was in their understanding of chronic illnesses (MD -1.27). The learning purpose of understanding patient context was also well met (MD -1.05). However, students' perceived gain in patient communication only reflected a MD of -0.88. More than 80% of respondents indicated that the relationship with their supervisor and facility staff was positive and enhanced the learning experience.

**Conclusion.** Training health professionals in the community is resource-intensive and requires innovative pedagogy in order to achieve the desired purposes. However, in this Family Medicine programme at UKZN, attaining specific learning purposes such as understanding patients' context and chronic diseases has been demonstrated to be effective with community-based education. Further evaluation of community placements and pedagogies required is needed to inform educators of how to best implement community-based education.

#### **Developing students' isiXhosa and Afrikaans communication skills for the clinical consultation: A Stellenbosch University Faculty of Medicine and Health Sciences initiative**

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**Background.** In a multilingual country comprising 11 official languages nationally and at least three in each of the nine provinces, communication (language and cultural) barriers experienced between healthcare professionals and non-language concordant patients are well documented and perceived as a major challenge to quality healthcare in South Africa. Since 2011, Stellenbosch University Faculty of Medicine and Health Sciences (SUFMHS) embarked on a distinctive roll-out initiative to integrate the teaching and learning of isiXhosa and Afrikaans communication skills into the clinical consultation. This initiative is being rolled out in all 5 undergraduate programmes at SUFMHS.

**Objective.** This presentation provides an overview of past trends that have led to the implementation of current as well as future anticipated innovations designed to optimise SUFMHS medical and allied trained health professions students' isiXhosa and Afrikaans communication skills for the clinical consultation.

**Method.** Various innovations, ranging from the implementation of communicative-based teaching and learning classroom practices and assessment procedures accompanied by the introduction of two novel technologically based platforms will be reflected upon and discussed as ways to (i) support and reinforce students' isiXhosa and Afrikaans communication skills; and to (ii) ultimately optimise students' isiXhosa and Afrikaans communicative competency for the clinical consultation.

**Results.** The importance of sharing on-going teaching and learning innovations among peers interested in implementing similar related initiatives is expressed and encouraged. To demonstrate the contribution provided by such integral innovations, a video will be presented and briefly discussed to illustrate students' acquired isiXhosa communicative competency while engaging with an isiXhosa-speaking simulated patient during a clinical consultation.

**Conclusion.** South Africa is faced with huge communication barrier challenges in the healthcare sector. Faculties of Medicine and Health

Sciences are encouraged to be more involved with innovative initiatives that will become integral to the complete training of a health professional in a multilingual society.

#### **Trends in Xhosa language teaching and learning at faculties of medicine and health sciences: Findings and new initiatives**

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**Background.** Communication problems between healthcare workers and patients are perceived as a major barrier to quality healthcare. There are generally very few effective language programmes that equip student professionals with communicative skills in the context of their profession. Therefore, the education system produces healthcare professionals who are communicatively incompetent in the languages of their patients. In 2011, Stellenbosch University Faculty of Medicine and Health Sciences (SUFMHS) embarked on a new initiative. This initiative includes the implementation of communicative-based Xhosa courses in all undergraduate programmes with the focus on learning how to communicate in a clinical context.

**Objective.** This is a comparative study conducted on Speech-Language and Hearing Therapy I and II students to determine their perceptions about their Xhosa proficiency in the respective Xhosa courses they have received.

**Method.** Two groups of students are participating in this particular study, i.e. Speech-Language and Hearing Therapy I and II students. Each group comprises approximately 30 students. The students participating in this study are not first-language speakers of Xhosa and furthermore they have not received the same Xhosa course. The study made use of a survey, consisting of open and closed questions, as well as open-ended questions, which determined the perceptions and attitudes of students towards the teaching and learning trends of the respective Xhosa courses they attended. A second component comprises students having to express their feelings by the use of drawings on the Xhosa course they have received.

**Results.** The data will be captured through the specific questionnaire and then be analysed by comparing the responses obtained. The information of the two respective groups will be compared. The results will be finalised in May 2013.

**Conclusion.** Faculties of medicine and health sciences are encouraged to expose students to communicative-based classroom settings that nurture meaningful and interactive clinical communication skills in order for them to become an integral part of the community.

#### **Family medicine training as a specialty: The University of Limpopo (UL) experience (the new family medicine specialisation training will be discussed with the lessons from this new course)**

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**Background.** The district health system was adapted as the vehicle for healthcare delivery in South Africa in 1994. Family medicine and primary health care were identified as a key pillar of the district health system. Therefore, the 8 academic departments of family medicine aligned their undergraduate and postgraduate training to this national priority. Until 2007, family medicine Masters programmes were part-time vocational courses at all universities. In 2008, UL developed a new curriculum based on the outcomes set by the Family Medicine Education Consortium (FaMEC)

and a full-time residency programme. Provincial departments of health developed training platforms for the universities. Within this platform district training complexes were developed. There were joint appointment of trainers between provincial departments of health and universities.

**Results and Discussion.** The context of training was identified as the district health services. Training complexes were accredited by the HPCSA in 3 provinces (Gauteng, Limpopo, North West). UL prepared for this new course by training 17 family physicians from University of Limpopo to become facilitators in the new programme which was conducted with extensive learning from the Belgian family medicine training programme. The HPCSA accredited 60 Family Medicine registrar training positions for the University of Limpopo. The curriculum is structured into 36 Modules (17 in year 1, 10 in year 2, and 11 in year 3), with 3 training sessions at the university and 3 at a provincial training site per year for 2 days. There was constant supervision by a Family Physician at the training site and weekly seminars by all registrars at the site. Challenges of running the training include a limited number of funded registrar posts by the provincial health authorities (employer), shortage of supervisors to meet the needs, change management in implementing the intensive on-site supervision, limited interest and understanding of family medicine specialisation among generalists

Lessons learnt:

- need for proper planning and marketing of family medicine specialty.
- crucial stakeholder buy-in, particularly from the Department of Health that employs registrars and specialists.
- national consensus of medical schools on standardisation of training and outcomes
- need to customise the curriculum to address local country needs and improve on retention of specialists

**Conclusion.** The University of Limpopo has made significant strides in the implementation of training of family medicine as a speciality in the district health context. Collaboration between academic institutions and provincial health authorities is crucial in the success of training of family physicians.

### Curriculum issues affecting rural-origin health science students across three South African medical schools

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**Background.** Recruitment and retention of staff to rural health facilities is a global challenge. Past research suggests that students from rural backgrounds are more likely to go into rural practice. However, these students face a number of challenges. Overcoming those challenges is key to ensuring their retention and success through the academic programme and to increase the likelihood of their subsequent decision to practise in rural communities.

**Objective.** This paper examines to what extent the curriculum influences such decisions and interrogates students' opinions as to their exposure to rural health and the challenges that rural students face during their undergraduate education that may affect their final decision to practise in a rural area.

**Method.** A study conducted at three South African medical schools was conducted using a self-administered questionnaire. First- and final-year

students from all health science disciplines were sampled. Data were entered into Epidata and analysed using SPSS (version 19). Chi-square tests were utilised to determine statistical significance of the quantitative data while qualitative data were analysed thematically.

**Results.** The majority of students (59.9%) knew of modules exposing them to rural health and believed that this was sufficient. Students felt that such modules should be introduced early and sustained throughout the curriculum and that such exposure was important in terms of preparing them for future practice. The biggest challenges for rural students were the language of teaching, technological and financial issues. Academic course content, personal challenges or adaptation to urban life were no more challenging for rural than urban students.

**Conclusion.** Students reflected past research that rural health should be introduced early and sustained throughout the curriculum. Language support and technological skills training may be required to assist rural students. Seeking ways to alleviate or reduce these stresses may well influence future recruitment of rural students to rural practice.

### Review of final-year medical students' rural attachment at district hospitals in KZN

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**Background.** Many medical schools utilise community-based training facilities to expose students to undifferentiated patients presenting to primary healthcare facilities within the community. The programme at UKZN has been in existence for some time but no formal evaluation of the programme has yet taken place. **Objective.** In preparation for a new 6-week attachment commencing in 2015, this review aimed to investigate the programme from the viewpoint of the site supervisors and students.

**Method.** An exploratory research design was used. Purposive sampling of supervisors involved with the training at the time of the review was undertaken and in-depth interviews were conducted using a semi-structured interview guide. Data were collected from students by means of a self-administered questionnaire at the end of the block. Interviews were transcribed and a thematic analysis of the data is presented in this review. Quantitative data were analysed using SPSS (version 19). Ethical approval was granted by the UKZN Humanities and Social Science Ethics committee (HSS/1347/010).

**Results.** Communication issues, including frequent liaison between academic institutions and hospitals, preparation of supervisors and frequent visits from university staff were highlighted to be of importance. Assisting with the structuring of a programme and providing daily rosters and clear lines of delegation of students were also essential. Preparation of students was seen to be an essential factor in the overall success of the programme. Support structures including accommodation, technical support and recreational opportunities were seen to be important factors to address.

**Conclusion.** Regular review of such programmes is vital in order to ensure its sustainability and gain the best possible outcome for students, supervisors and institutions to which they belong. The activities performed by the students should be under-pinned by a theoretical perspective and focus not just on skills acquisition but on the broader experience of life and work in a rural district hospital.

## Career and practice intentions of health science students across three South African medical schools

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**Background.** The distribution and accessibility of healthcare professionals as well as the quality of healthcare service are significantly affected by the career choices of health science graduates.

**Objective.** This study aimed to provide insight into the future career plans of health science students across three South African medical schools, and to identify some of the factors which most strongly affect these preferences.

**Method.** A self-administered survey was conducted of first- and final-year health science students at the University of Cape Town, University of KwaZulu-Natal and University of Limpopo. All data were entered into Epidata and exported for analysis using SPSS.

**Results.** The overall response rate was 52% ( $n=1\ 676$ ). Just under half of all respondents (49%,  $n=771$ ) intend to work after completing their undergraduate studies, 43% ( $n=333$ ) of whom would like to work in a rural area. The most popular choices of institutions were district hospitals, private hospitals and tertiary hospitals. Forty-one per cent ( $n=654$ ) of respondents intend to further their studies, and for medical students ( $n=396$ ), the most popular specialties included surgery, paediatrics, cardiology, neurology, obstetrics and gynaecology, and internal medicine. Just under half of all respondents intend to work in another country (47%;  $n=748$ ), primarily motivated by career development, financial reasons and wanting to learn about a new culture.

**Conclusion.** The findings demonstrate that students are influenced by a multitude of factors in making their career choices and emphasise the need to design specific strategies to overcome the maldistribution of health professionals across sectors, geographical areas and specialties.

## Why medicine? A survey of medical students at the University of Botswana

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**Background.** Botswana is a large country with a population of  $\pm 2$  million. However, the number of doctors is very low. There is no direct entry into the School of Medicine (SOM) and students have to apply for admission. If we can identify early why students choose medicine we hope that they will not only stay in medicine, but will practise anywhere in the country for the benefit of its citizens.

**Objective.** To determine the reasons why medical students at the University of Botswana SOM chose medicine as a career.

**Method.** An online survey using Survey Monkey™ was developed using comments and suggestions from focus group discussions conducted separately with lecturers and students. The survey included questions on influences and reasons to study medicine, alternative career choices (if any), strengths of studying in Botswana, expectations for student achievement at the SOM and expectations on graduation. The 2nd-, 3rd- and 4th-year students were invited by e-mail to participate in the online survey.

**Results.** Forty students responded (response rate = 50%). Altogether 74% ( $n=28$ ) indicated their greatest influence for studying medicine

was personal experience rather than parents and relatives (2.6% each), while 28.1% ( $n=9$ ) indicated their choice of medicine was to have a stable job after graduation. When asked what they would have studied if not medicine, 41.7% ( $n=15$ ) responded that they would have studied another health sciences field (e.g. dentistry, nursing, pharmacy, physiotherapy). On the choice to study medicine in Botswana, 80.6% ( $n=29$ ) responded that the relevant conditions they might see when they start practising medicine was a strong factor, as they would be familiar with certain conditions that they would have encountered in the course of their studies.

**Conclusion.** Students are interested in medicine. Their experiences play an important role in choosing medicine as a career.

## Challenges faced by rural-origin health science students across three South African medical schools: A focus on support

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**Background.** There is vast body of literature that suggests those students most at risk for drop-out, or non-persistence, are students from disadvantaged backgrounds (Braunstein, Lesser, and Pescatrice, 2008), students whose language for learning is not their mother tongue and students who enter the tertiary education sector ill prepared academically owing to the existing disparities in the primary and secondary levels of education. Many of these students who enter the tertiary education sector ill prepared are from rural backgrounds. A student who feels alienated, alone and unsupported is at high risk for 'non-persistence' or drop-out (Quarterman, 2008). Therefore, in order to improve retention it is essential to ensure students feel supported, included and socially integrated at university.

**Objective.** The focus of this paper is on the support required and accessed by students from rural backgrounds in particular.

**Method.** This study was conducted at three South African universities. Health science students in their first and final years of study completed self-administered questionnaires. Students identified themselves as either of rural or urban origin in the questionnaires. Data were analysed according to those two categories. Data were entered into Epidata and analysed using SPSS (version 19). Chi-square tests were utilised to determine statistical significance of the quantitative data while qualitative data were analysed thematically.

**Results.** Rural students report requiring support to overcome the following challenges: the language of teaching and learning, computer literacy and other technological issues, and financial constraints. Support is accessed from family and friends, and religious communities, in a similar way to urban students. However, peer mentors were considered less supportive unless they too shared a rural background. Rural students also reported teachers as being supportive more frequently than urban students.

**Conclusion.** Universities should consider ensuring that student support is relevant. Results indicate that students from rural backgrounds access academic, financial and social support from various sectors but rely most on peers who know and understand their context, family and the broader community 'back home'. It is important for universities to consider the type and nature of support that students need in order to address gaps in support programmes.

## Assessing the efficacy of posters as educational intervention for paediatric sample collection in forensic pathology practice at the Tygerberg Medico-legal Mortuary

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**Background.** Published literature in South Africa focusing on investigations into sudden unexpected death in infants (SUDI) is limited. Such studies are further restricted by the lack of a universally recognised SUDI investigation protocol for South Africa. Challenges to facilitate training of Forensic Pathology Officers (FPOs) in SUDI specimen collection to assist SUDI investigations include personnel shortage and work rotations. Although FPOs receive basic training in collection of autopsy specimens, the need was identified for further training in the collection of special swabs for the purposes of an ongoing study of virological infections. As an adjuvant to training, specimen collection procedures were indicated algorithmically on a mini-poster and introduced in the Medico-legal Mortuary.

**Objective.** To determine the efficacy of instructional mini-posters in guiding FPOs with SUDI autopsy specimen collection procedures.

**Method.** This was a qualitative, retrospective, pre- then post-assessment study conducted at the Tygerberg Medico-legal Mortuary in Cape Town, South Africa. FPOs were evaluated with a questionnaire and focus group session to determine the efficacy of the mini-posters placed at this centre.

**Results.** Preliminary observations indicated that posters, in isolation, were ineffective in guiding SUDI autopsy procedures. Continuous verbal guidance was frequently required during the course of the sample collection procedure. Therefore it became apparent that different approaches are needed to increase awareness and adherence to the poster content in order to effectively guide SUDI specimen collection procedures.

**Conclusion.** Effective strategies are required to improve awareness of instructional posters to streamline standard SUDI autopsy specimen collection procedures. This urges the need for larger follow-up studies to aid in the development of a more structured and feasible forensic pathology service training programme in the Western Cape.

## Final-year MB ChB assessment mapping: What value does this add?

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**Background.** In high stakes examinations, tests of clinical competence, which allow decisions to be made about medical qualifications and fitness to practise, need to provide reliable and valid measurements of student performance. There is an extensive body of literature devoted to the challenges of clinical assessment. There are also widely accepted criteria for sound assessment. At Stellenbosch University, there is also an assessment policy to provide a framework and to bring the assessment practices of the University in line with current, research-based views and standards regarding assessment. An investigation was undertaken to determine what current assessment methods are being used at exit level in the Bachelor of Medicine and Bachelor of Surgery (MB ChB) programme at Stellenbosch University and how these assessment methods are described in official module documents.

**Objective.** To map what assessment methods are used and how they are used in the exit level MB ChB programme at Stellenbosch University, as described to students in relevant documentation.

**Method.** Document analysis of study guides for exit-level modules was done for information relating to methods of assessment and their use. Assessment methods, divided into written and non-written formats, were mapped on an Excel spreadsheet against modules to provide an overall view of assessment for all final-year modules.

**Results.** Assessment practice varied across modules based on (i) the approaches and number of assessments; (ii) weighting of individual components; and (iii) the use of assessment tools.

**Conclusion.** Mapping the assessments can provide a useful reference overview for module and programme co-ordinators. The next step in this research would be to determine if there is sound assessment taking place and would provide some indication of the degree of alignment with the Stellenbosch University Assessment Policy as well as with international criteria.

## Evaluating the knowledge of clinical teachers required to implement OSCE as an alternative clinical assessment method at the Catholic University of Health and Allied Sciences (CUHAS) in Mwanza, Tanzania

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**Background.** Long and short case clinical examinations have been traditionally and widely accepted as a means of clinical skills assessment in various institutions. However, using both methods at CUHAS with more than 700 students and only 45 clinical teachers, these methods are usually time intensive to both students and teachers alike. The Objective Structured Clinical Examination (OSCE) which is more objective is not used as a method of assessment at CUHAS.

**Objective.** To assess the knowledge of OSCEs among clinical teachers required to implement this as an alternative clinical skills assessment method at CUHAS.

**Method.** We conducted a cross-sectional study among clinical teachers from 4 clinical departments (Surgery, Gynaecology, Paediatrics and Internal Medicine). Data were collected using a pre-tested structured questionnaire. Simple analysis of the data was done.

**Results.** A total of 34 questionnaires were distributed and there was a return rate of 82%. The majority of respondents (68%) were junior faculty (assistant lecturers and tutorial assistants). Median age of the respondents was 35 years (range 28 - 55 years). Although 96% of respondents had heard about OSCE before and 71% heard about it in the medical school, the proportion of respondents who were able to write in full what the term 'OSCE' stood for was only 58%. Sixty-three per cent of the respondents were not able to define basic concepts of assessment, including validity and reliability, and 60% were not able to state the types of skills that OSCE can assess.

**Conclusion.** Clinical teachers require training to use OSCE effectively as an assessment method.

## A dashboard for monitoring hospital practice for third- and fourth-year medical students at Wits University

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**Background.** Following anecdotal reports of problems in programme delivery a comprehensive evaluation of clinical teaching in years 3 and 4 was carried out (Cassim, 2009). Despite the implementation of improvements many problems still persisted.

**Objective.** The Hospital Day dashboard initiative aimed to monitor and improve third- and fourth-year medical students' clinical teaching during hospital and community site visits. The strategy was developed by having transparent weekly feedback from students about each clinical site.

**Method.** Weekly student surveys were carried out over a period of five months. Data collection questionnaires were developed, allowing quantitative and qualitative evaluation. The results were analysed and widely distributed weekly in dashboard format. Problems identified were individually followed up and rectified.

**Results.** The weekly performance reports to all stakeholders resulted in progressive and significant improvement in the educational quality of the events, as well as greater satisfaction among the students. The report format made it possible to identify specific weaknesses and remedy them without delay. Some of these weaknesses were found to be administrative, such as poor communication, resulting in students and tutors not meeting as planned, specific transport problems, and monitoring of student attendance. Others were educational: unsystematic skills teaching and one-way lecturing, and students not using their initiative and expecting to be spoon-fed.

**Conclusion.** There is a clear need for transparent and meticulous weekly follow-up in such programmes. As a result of the 'dashboard' system student satisfaction, student attendance and quality of clinical teaching are being advanced. Clinical training of third- and fourth-year medical students benefits by thorough, continuous and transparent weekly surveys.

#### **Writing and its significance to problem-based learning research: An innovative way of contributing to medical education research**

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**Background.** Medical education research illustrates that medical schools experience benefits and challenges in both implementing and using problem-based learning (PBL) curricula. In terms of the challenges, studies tend to highlight one of two themes: those related to teaching and learning or those related to institutional implementation. In the context of developing countries, particularly the context of various African countries, as new medical schools open and implement PBL or hybrid curricula, research is also beginning to emerge on this issue; yet, most of these studies focus on implementation as opposed to teaching and learning-related challenges. Interestingly though, the University of Botswana's recently opened School of Medicine (UBSOM) has identified and started to investigate a teaching and learning challenge potentially connected to its use of a PBL curriculum. This challenge is the difficulties first-year medical students have writing for PBL purposes.

**Objective.** To present preliminary findings from this study at UBSOM to demonstrate how studying the activity of writing, specifically the writing challenges of first-year medical students, can uncover particular teaching and learning challenges that emerge from using a PBL curriculum

**Method.** Situated in the qualitative research paradigm, and using a constructivist grounded theory methodology, these findings come from interviews with UBSOM's first-year PBL teaching staff and purposively sampled first-year medical students. The interviews focused on both groups' perceptions of first-year medical students' challenges writing for PBL purposes.

**Results.** The discussion will focus on overarching themes emerging from interviews with teaching staff and students about the challenges medical

students experience writing for PBL purposes. These themes will be connected to larger teaching and learning challenges emerging from the literature about using PBL curriculums in medical schools.

**Conclusion.** Investigating the writing-related challenges of medical students can highlight important teaching and learning challenges that come from implementing and using PBL curriculums in medical schools.

#### **A South-South elective: Helping to establish a role for family medicine in Rwanda**

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**Background.** Postgraduate education in Family Medicine in Rwanda started in 2008. Family medicine does not yet have a place in the Rwandan healthcare system and residents are therefore unsure about their future professional role. Therefore, when offered the opportunity, five out of six Rwandan final-year residents selected a 4-week elective in South Africa to experience family medicine.

**Objective.** To explore how an elective in South Africa adds value to the Rwandan postgraduate family medicine training.

**Method.** An existing bilateral co-operation facilitated the establishment of a 4-week elective at Limpopo University, South Africa. A qualitative descriptive study was conducted, doing semi-structured individual interviews with all five residents who completed the elective. Interviews were transcribed and inductive thematic analysis was undertaken.

**Results.** Residents' purposes for the electives were to increase knowledge of and gain practical experience in several areas. These areas were divided into patient care, the South African health care system, family medicine in the South African setting and postgraduate family medicine education in South Africa. The last purpose was to identify useful aspects to implement in the new Rwandan family medicine context. Most knowledge-related purposes were met and the elective was considered to have added good value. However, purposes in practical skills were not met. Residents also reflected that due to contextual difference, not everything observed could be applied in the Rwandan setting. In addition to residents' purposes, interviews revealed that the elective increased their confidence as family physicians and enhanced their attitude towards family medicine as a profession in Rwanda.

**Conclusion.** A South-South elective in an African country with an established role for family medicine can add value to a Rwandan family medicine curriculum. Experiencing the role of family medicine in the South African healthcare system enhanced Rwandan residents' sense of professional identity. Adapting the format of the elective to the Rwandan context will further enhance this learning opportunity.

#### **Quality improvement projects as a way to achieve transformative learning**

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**Background.** Medical and BCMP students at the University of Pretoria are required to do a Quality Improvement Project (QIP) during their final year of study. Every year 200 medical students do their community obstetrics and family medicine rotation in district hospitals and clinics in Gauteng and Mpumalanga. Each group of students is required to do a QIP in their Clinical Learning Centre (CLC). Clinical Associate students spend a full

year at a CLC, usually in a district hospital, and are also required to write an assignment on the functioning and performance of an aspect of the health services.

**Method.** In this way about 250 students are involved in the assessment of the health services and become actively involved in the analysis of the weak and strong points of healthcare delivery. After a study of the relevant literature, an intervention plan is made that has to be presented to the local health team that is responsible for this service and has to implement the recommended improvements.

**Results and Conclusion.** Medical and Clinical Associate students can be involved in transformative learning by doing QIPs and become important team members of an on-going quality improvement spiral in district hospitals. In this way learning is no longer informative or formative but transformative and in line with the recommendations of the Lancet Commission report.

### Designing a faculty development workshop on integrating research into teaching and learning

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**Background.** A paucity of information regarding the impact of faculty development initiatives to improve the integration of research into teaching and learning exists. Many academics do not possess the knowledge and skills to integrate research into teaching and learning, and faculty development in this area is therefore required. Workshops can be used to develop academics' understanding of the strengths and limitations of incorporating research into teaching and learning, as well as to give them an opportunity to apply knowledge gained in their practice of teaching modules.

**Objective.** To describe the procedures that were used to plan and implement a faculty workshop related to integrating research into teaching and learning.

**Method.** The 'backwards instructional design' was used to plan the workshop. This design aims to address three main questions: what does an accomplished learner know?, How does a learner demonstrate their knowledge?, and What activities will provide an opportunity for practice and 'uncovering' knowledge? The description of the faculty development programme will be focused on the guiding principles for the backward instructional design and the content.

**Results.** Backward design uses a question format rather than measurable purposes to identify desired results of the workshop. By answering key questions, participants deepen their learning about the content and experience an enduring understanding. In addition, the facilitators formulated the questions with the desired outcome in mind. During stage 2 in the design process facilitators defined activities that will demonstrate that the participants acquired the knowledge, understanding and skill to answer the questions. Finally, stage 3 incorporated planning the learning experience that will equip participants to develop and demonstrate the desired understanding.

**Conclusion.** Backward design assists facilitators to incorporate research findings in designing learning programmes that have clear goals and purposes and include activities that are aligned to these goals.

### Evaluation of a research capacity intervention for academic staff within the Appreciative Inquiry Framework

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**Background.** The development of research capacity of health professionals could result in improved provision of healthcare. Evaluating interventions aimed at developing research capacity is vital to determine their value and need. As a framework used for organisational change, the Appreciative Inquiry framework is suitable for the evaluation of research capacity development interventions.

**Objective.** To explore academic staff experiences of a research capacity development intervention in the Faculty of Community and Health Sciences at the University of the Western Cape using the Appreciative Inquiry framework.

**Method.** This study used a qualitative contextual exploratory design. All the academics that had completed a research capacity development programme in the preceding year were approached to take part in the study. Five academics volunteered to participate in a focus group discussion which explored their experiences of the research capacity intervention. An interview guide was used to collect the data. Content analysis using the Appreciative Inquiry framework was used to analyse the data. Ethical clearance was obtained from the University of the Western Cape's ethics committee.

**Results.** The themes that emerged from the focus group discussions are presented according to the appreciative inquiry phases. Within the discovery and description phase were active contextualisation of teaching and learning concepts, emotion-based intrinsic factors related to the intervention, and interaction with facilitators. Within the dream phase the participants visualised the need for continued mentorship and support. Within the designing and destiny phase were recommendations relating to the content and format of the intervention.

**Conclusion.** Analysis of the focus group discussion using the Appreciative Inquiry framework highlighted that while the capacity development intervention had been a very positive experience, there was still room to develop post-intervention support initiatives to help faculty cope with the disablers encountered in their everyday work environment.

### Participating then using: What gets the academic racehorse to the faculty development water trough and what makes it drink?

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**Background.** Much advice about faculty development (FD) practice is based on intuition, experience and isolated empirical evidence rather than being grounded in a conceptual framework (CF). To be useful, a CF for FD would need to address human behaviour in a complex social context. Health behaviour theory (HBT) does this. Eaton *et al.* (2003) proposed a CF relating inter alia to personal factors, interpersonal factors and organisational factors as influences on behaviour.

**Objective.** To explore the utility of a CF drawn from HBT to understand the participation of academics in FD initiatives and their subsequent application of what they learn.

**Method.** Structured interviews were conducted with 14 purposively sampled academics. Interview data and concepts from a HBT informed the design of a questionnaire. A total of 495 academics who had participated in an FD retreat over a 12-year period were surveyed using closed-ended and open items.

**Results.** A total of 246 academics (49.7%) responded. Participation was influenced more strongly by personal and organisational factors than by interpersonal factors. Personal factors included intrinsic motivation and perceived utility of activities. Organisational factors included workload (administrative and teaching) and pressure to do and reward for research. Utilisation was also influenced more by personal and organisational, than interpersonal, factors. Utilisation was enabled by intrinsic motivation, perceived utility and feasibility of ideas and a departmental climate supportive of teaching. Utilisation was hindered by workload (administrative, undergraduate teaching, research and postgraduate teaching), but not by a lack of either confidence or a sense of self-efficacy.

**Conclusion.** While the HBT CF proved useful, qualitative data we collected added dimensions to our results that transcended those of the CF used. Our data align better with a recently published refinement of a model of the transfer of training. Applying CFs should contribute to the design of conceptually stronger FD programs.

#### **Time to get online: Ibadan postgraduates root for distance learning**

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**Background.** The Master of Public Health (MPH) degree is a mandatory requirement for appointment of public health officers in both the private and public health sectors in Nigeria. Unfortunately, admission has been limited owing to infrastructural constraints. Delivery of the MPH curriculum as distance learning offers a solution.

**Objective.** This study examined the feasibility and acceptability of a distance learning MPH programme to applicants as a necessary condition to determine its introduction in the institution.

**Method.** A self-administered questionnaire was used to collect data on demographic variables, nature of employment, desirability of a distance-learning module and motivation to enrol for a distance-learning MPH programme.

**Results.** Many applicants (40%) are engaged in paid employment and 67.8% worked 6 - 8 hours daily. Applicants indicate access (96.5) to personal computers, mainly laptops (92.9%). Internet access ranges from all day (45.4%) to only 2 - 3 hours daily (8.5%). Most applicants access the internet at home (35.5%), at both home and office (22%) and by mobile telephone devices (24.8%). Most considered themselves skilful (95.1%) in its use. About 49.6% of the applicants have previous experience accessing online instruction and are willing (84.4%) and enthusiastic (75.9%) to receive online modules of instruction. About half (53.9%) consider such modules effective and of the same quality (50.4%) as traditional learning. Reasons for preferring online instruction include inconveniences of large classes (50.4%), ease of learning (16.3%) and having other commitments (14.9%). Blended audiovisuals with written modules (53.9%) is the preferred online mode of course delivery.

**Conclusion.** The findings from this study indicate that infrastructural capacity and attitudinal disposition to uptake of online mode of instruction are high among applicants to the MPH degree programme. Institutional

policy change and curriculum development are therefore required to exploit the opportunity.

#### **Postgraduate students' perception of online learning in a selected nursing education institution in KwaZulu-Natal**

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**Background.** Online learning is becoming an indispensable complementary teaching and learning tool and has been an integral aspect of education in many tertiary institutions around the world. In nurse education and training, online learning, web-based learning or e-learning is a fundamental necessity, especially in the light of the growing shift into information and communication technology (ICT).

**Objective.** To explore the online learning experiences of postgraduate nursing education students at a selected nursing education institution in KwaZulu-Natal.

**Method.** A qualitative exploratory design was used. Data were collected through semi-structured interviews from 16 postgraduate nursing education students and thematic data analysis was used. Ethical approval to conduct the study was secured from the University Ethics Committee.

**Results.** Themes that emerged focused on specific areas – engaging with information technology, online learning process, facilitator's role and expertise, knowledge construction process, empowerment personally and academically, challenges and recommendations. The role and expertise of the online facilitator emerged as critical in guiding, supporting the learning process and ensuring that all participants engage in the learning process to facilitate intensive learning. Intensive engagement with learning material before the online session, engaging with and critiquing work posted online by peers, the process of generating new knowledge or context-driven knowledge, easy access, convenience and flexibility in terms of time emerged as benefits associated with online learning. Asynchronicity and flexibility regarding time to engage with online content, availability of a facilitator to engage with students online, financial cost and technical expertise emerged as challenges.

**Conclusion.** Although a large majority of participants had never taken an online class prior to this course, the overall perception of online learning was positive. The positive aspect outweighed the negative aspects. Online learning is a worthwhile experience that facilitates personal and academic development.

#### **The neglected grass-root adoption of mobile phones as learning tools in resource-limited settings: A study from advanced midwifery education in KwaZulu-Natal, South Africa**

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**Background.** Many m-health and m-learning interventions fail, because they adopt a technocentric view and ignore the local context.

**Objective.** To address the above, the present study investigated the 'organic' adoption and educational usage of mobile phones by health workers in rural health settings.

**Method.** A qualitative study was conducted, interviewing nursing/advanced midwifery students, facilitators and nursing managers from rural, resource-constrained regions in the province of KwaZulu-Natal, South Africa.

Content analysis used the concepts of Community of Inquiry theory as 'a priori-constructs'.

**Results.** The research revealed a number of unexpected learning and teaching practices, based on the grass-root adoption of mobile phone functions and in particular social apps. These practices involved cognitive, teaching and social presence as well as reflective practice and enabled rich educational experiences – according to the Community of Inquiry Theory. Theoretical discussion: 'Traditional' communities of inquiry are based on predetermined online environments. By contrast, learners used bundles of phone-based functions/apps to embed mobile and blended communities and other resources that were fragmented across social, temporal, topical, geographical, digital and 'real' spaces in the inquiry process in very dynamic ways.

**Conclusion.** In view of future mHealth and mobile learning efforts, mobile phones appear to be particularly suitable to facilitate competence development in the following ways: (a) problem solving and situated co-construction of local knowledge; (b) sociocultural participation – to alleviate professional isolation; (c) connecting learning in workplaces with formal education systems; and (d) addressing unpredictable opportunities and challenges that are typical for the changing and provisional (health) contexts observed. Instead of ignoring the revealed practices, health and education institutions are well advised to support learners in media literacy, enabling them to more effectively and critically use existing (mobile) technologies.

#### **Enhanced video podcasting and its potential for transformative learning** **S Walsh,\* M de Villiers**

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**Background.** To assist our students with learning, we created enhanced podcasts of all the second-year MB ChB lectures during 2012. Our study used enhanced non-segmented podcasts with a conceptual focus for receptive viewing.

**Method.** The lecturer's PowerPoint slideshow together with the audio of their lecture was converted into an enhanced podcast (video) of the lecture and placed on the Blackboard Learning Management System for the class to view and download. Data were collected by means of a questionnaire and a focus group to evaluate the intervention. Examination results from 2012 were compared with those of previous classes.

**Results.** Ninety-five per cent of students rated the podcasts as beneficial or extremely beneficial. Our students came up with a novel uses of podcasts: playing the podcast at 1.5 times its normal speed; podcasts benefited with language issues; they could evaluate the quality of the lecture; and object to test questions they felt were unfair because the content was not covered in class. One of the major hurdles we had to overcome was how podcasting impacts on copyright and aspects of this are discussed. Feedback from our lecturers and the student's focus group indicated that podcasts did not result in significant non-attendance of classes.

**Conclusion.** The medical curriculum is acknowledged to suffer from information overload. Our students mostly found podcasts beneficial for clarifying concepts they did not grasp in class. The feedback provided useful pointers for improving the process and has resulted in all podcasts being made available online to all students and faculty. We see the podcasts as one of the foundational enablers in implementing transformative learning, as podcasts can facilitate the flipped classroom approach.

#### **Out-of-the-box teaching: Teaching for different learning styles**

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**Background.** Historically, teaching has been left to the interpretation of the respective teacher, creating as many views and methods as there are teachers. Traditionally, the way the teacher learns becomes the way they view learning, which impacts on the way they teach. In essence 'we teach students to receive information, the way we believe information is received'. What determines how information is received is thus influenced by the learning style of the individual. Learning styles in this context are referred as classed in the VAK Learning Styles Self-Assessment Questionnaire, viz. visual, auditory and kinesthetic. These learning styles promote successful lifelong learning, as the focus is on how you learn rather than what you learn. There are those students whose learning needs are not met by traditional teaching methods; and this has created the birth of innovative teaching methods.

**Objective.** To introduce learning styles in higher education and review the relationship between the application of learning styles in order to address the shortfalls of traditional teaching by introducing innovative teaching methods.

**Method.** The study covered two programmes: clinical technology and dental assisting in the Faculty of Health and Environmental Sciences. A total of 76 first-year students participated and completed a VAK Learning Styles Self-Assessment Questionnaire which addressed their learning styles.

**Results.** The data revealed 28 visual, 15 auditory, 30 kinaesthetic, and one with an equal score in all categories and one who scored equal in auditory and kinaesthetic.

**Conclusion.** The majority of the students are kinaesthetic and visual so the teaching elements in both programmes need to consider the needs of these students. It's important to know learning styles to be able to address student needs and innovative teaching must be introduced for shortfalls discovered.

#### **The effect of teaching methods used as experienced and perceived by student nurses at a nursing college in the Western Cape Province**

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**Background.** The 21st century teaching environment is unique in its diversity, and challenges academic staff to create a teaching environment that is conducive to all current learners. Various teaching methods are available and affordable, but technology remains an essential investment for the future of higher education institutions.

**Objective.** To evaluate the perceptions of student nurses regarding the effectiveness of the teaching methods which they experienced at a nursing college in the Western Cape Province.

**Method.** An explorative, descriptive research design with a quantitative approach. The target population of 1 238 nursing students following the R425 programme. Stratified random sampling selected the sample of participants ( $n=267$ ). A self-administered questionnaire with predominantly closed questions was personally administered by researcher.

**Results.** Results include a significant difference in generation X participants and the green/whiteboard teaching methods (Spearman  $p=0.02$ ) and their preference of the traditional lecture as a teaching method (Spearman  $p<0.01$ ). The perceived effectiveness of the teaching methods on student

performance varied between very helpful and not helpful. Only 49 (19%) of participants experienced the traditional lecture as being very helpful on their general academic performance compared with the effect of group work ( $n=69$ ; 26%) and self-activity ( $n=102$ ; 39%). Open-ended questions showed that participants regarded the teaching strategies as boring and ancient and that much of the unhappiness expressed stems from the difference in the needs of millennials and the lack of change and obstinacy existing among academics.

**Conclusion.** Should recommendations be implemented, a complete transformation of the college under study will result. It may force the education institution to move out of complacency, to a more vigorous and dynamic education environment that enables them to emerge as a Higher Education Institution (HEI) of good standing. Recommendations include an increase in the use of technology, a blended approach to teaching, the re-training of academic staff, and measures in counteracting a boring classroom environment.

### **Nursing students' experiences using simulation as a clinical teaching method in South Africa**

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**Background.** Given the pivotal role that simulation plays in teaching students clinical skills, it is important to understand the experience students have utilising simulation laboratories.

**Objective.** Exploring the experience of primary healthcare students utilising simulation laboratories.

**Method.** A descriptive qualitative research design was applied. Purposive sampling of 10 individual interviews and a focus group of seven participants was drawn from the primary healthcare students who successfully completed the programme the preceding year. Data were collected by two trained fieldworkers and transcribed by the researcher. Ethics approval was obtained from the Stellenbosch University and informed consent from the participants.

**Results.** These showed that the students are in favour of simulation as a foundation phase in their programme but preferred to be introduced to an actual human being. '... it already began laying the foundation to work with the patients and staff. It gives reassurance that you at least know something.' Students felt more confident and competent after practising on human beings. Member checking was done to determine the validity of data analyses.

**Conclusion.** Simulation as a clinical teaching method ensured a good foundation phase, but students felt more competent and confident after practising on human beings. The use of mannequins for the foundation phase should be maintained. However, the introduction of human beings for students to practise on after practising on a mannequin should become part of the learning opportunities.

### **Multidisciplinary learning: Joint patient encounters with undergraduate medical and pharmacy students**

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**Background.** Multidisciplinary approaches in the education of pharmacy and medical students have had reported benefits. Medical students are perceived to have stronger diagnostic skills while pharmacy students are

seen to have superior medication knowledge. The Wits Faculty of Health Sciences offers degrees in both pharmacy and medicine on the same campus and is therefore in an ideal situation to implement and assess interdisciplinary learning encounters between these two groups of students.

**Objective.** To, firstly, implement combined clinical learning opportunities where medical and pharmacy students would jointly see patients and, secondly, establish the students' perceptions of these joint learning opportunities.

**Method.** A total of 45 registered students comprising 15 final-year pharmacy students and 30 third-year medical students were invited to participate in the joint patient encounter. Fifteen groups were formed from the pool of participants. Each group consisted of two medical students paired with one pharmacy student. The students remained in these groups for the 8-week period of the study at Charlotte Maxeke Johannesburg Academic Hospital. During the study, they jointly assessed patient records and participated in the patient consultation, guided by a supervising doctor. Students who participated in the encounter were invited to attend a discipline-specific focus group discussion where they shared their perceptions and experiences. The two discipline-specific focus groups were asked the same primary and probing questions by interviewers.

**Results.** Three themes were identified: the meeting of professions, the value of the shared experience, and the patient as a source of learning.

**Conclusion.** There are potential benefits for both healthcare professionals and patients when adopting multidisciplinary approaches in teaching and learning.

### **Introducing a novel assessment instrument designed to address students' Xhosa language skills in the clinical consultation**

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**Background.** In 2011, Stellenbosch University Faculty of Medicine and Health Sciences (SUFMHS) embarked on a new initiative in teaching students language in communication with patients so as to improve healthcare service delivery. This includes the implementation of Xhosa and Afrikaans courses in the undergraduate programmes, starting with the Bachelor of Speech-Language and Hearing Therapy and Bachelor of Science in Dietetics degrees. As the focus for students is on learning how to communicate competently in a clinical context, there is also a need to develop effective and appropriate assessment instruments.

**Objective.** To refine an existing assessment instrument in order to make it more appropriate for the purpose of assessing language of communication skills in a clinical context, and implement its use at SUFMHS.

**Method.** An assessment instrument, with emphasis on assessing a student's ability to incorporate relevant clinical skills in a communicatively competent manner, was refined and developed jointly by linguists and clinicians. This is used to assess Human Nutrition students in role plays with simulated patients. Simulated patients are also required to assess students on aspects they consider important for improving quality of patient care. Students, lecturers and simulated patients are then surveyed on their perceptions of the newly refined assessment instrument to gauge its acceptability.

**Results.** This is an ongoing study. The process of refining, developing and implementing the assessment instrument is described. The assessment by the simulated patients, as well as the responses from the survey, will be summarised and documented.

**Conclusion.** This study is striving towards further development of this novel assessment instrument designed to address students' Xhosa language skills in the clinical consultation. Interprofessional participation and collaboration has been critical in the refinement and development of this assessment instrument.

## **Putting the click into clickers: A novel formative assessment approach developed for isiXhosa clinical communication**

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**Background.** The necessity to improve the increasing communication challenges experienced among health professionals and patients is a focal point in the South African multilingual society. This predicament is currently being addressed by many universities in the country. Stellenbosch University Faculty of Medicine and Health Sciences (SUFMHS) has embarked on numerous innovative initiatives to develop and improve students' clinical communication proficiencies with non-language concordant patients. This presentation reflects on the development and application of student response systems (SRS) as a formative assessment tool in isiXhosa teaching and learning interventions.

**Objective.** This presentation aims to demonstrate the design, development and application of this technologically based tool to assist with clinical consultation assessment procedures in learning isiXhosa and to prepare students for simulated OSCEs. The implementation is informed by a study designed to investigate students' user-satisfaction and application of the SRS platform for isiXhosa.

**Method.** Experiences with the development and application of SRSs used in isiXhosa formative assessment procedures together with its strengths and challenges are reported by the presenter. This project is also informed by a pilot study focusing on students' and lecturers' user-satisfaction views on this alternative assessment approach.

**Results.** Fifty Occupational Therapy first-year students have been identified to participate in this pilot study. The findings of the study will be available by October 2013 and will open avenues to further analyses to improve the application of future SRS-related developments as well as envisaged endeavours to support and reinforce students' isiXhosa communication skills.

**Conclusion.** South Africa is faced with huge language barriers in the healthcare sector. We trust that by developing this novel formative assessment approach for isiXhosa teaching and learning we will be able to contribute towards enhancing the learning of an African language for health professionals in order to improve quality patient care in our health services.

## **Supervisor-student engagement: Do we ask the right questions?**

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**Background.** The roles and responsibilities of the research supervisor are not universally agreed upon, and so this is an area that creates active debate in the literature. The function of the research supervisor is to assist the student in completing a script, a dissertation or a thesis and by doing so attain the outcomes of research. The supervisor also has to provide 'information to transformation' to support the student in becoming an

independent professional researcher and scholar as well as develop critical thinking and problem-solving abilities.

**Objective.** The question was if the right questions are asked during research supervision so that outcomes such as critical thinking and problem solving are attained.

**Method.** A qualitative study exploring the perceptions of supervisors was conducted at a university of technology as a case study. Postgraduate research supervisors in the Faculty of Health and Environmental Sciences responded to an e-mail request to provide details of their approaches in postgraduate supervision. Content analysis was used to analyse the data. Concepts were created and grouped according to sub-themes.

**Results.** Three themes emerged from the data collected from the supervisors who responded, namely the mechanics of the supervision, the environment in which the supervision was performed, and the attitude of the supervisor. Additionally, supervisors indicated a preference for discourse rather than just feedback, a preference for face-to-face meetings and that feedback needs to be regular.

**Conclusion.** Supervisors were silent about challenging the students to facilitate critical thinking during the feedback sessions. The postgraduate supervision process should aim to transform the student into an independent scholar, attain the research outcomes and encourage critical thinking and problem solving. For this reason the right questions need to be asked.

## **A patient's experience of critical illness: Informing those who cure/care** **C Drenth\***

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**Background.** Critical illness, admission to an intensive care unit and prolonged hospitalisation all impact on the psychosocial functioning of an individual.

**Objective.** There is a dearth of qualitative studies on the patient's psychosocial reactions to critical care. In this presentation I explore my own experience as a critically ill patient (being hospitalised for 127 days) and the recovery from this illness.

**Method.** I conducted an auto-ethnographic study to add knowledge to the scarcity of research from the patient's point of view. In auto-ethnography the researcher draws on his/her own lived experience and makes a connection between the self and others within the same context.

**Results.** The following themes were identified from the data: uncertainty and the need to be kept informed, pain and suffering, meaning making and post-loss growth, and a whirlpool of emotions. My experience as a social worker in healthcare for more than 30 years certainly brought with it an understanding of some issues impacting on the patient who experiences a critical illness. Being dependent on the doctors' calls, care of nursing staff and dependency on my husband after discharge influenced my self-image. I feared being alone and was trapped in my own small world of uncertainty. The themes emerging from the data may not be new, but certainly emphasise the importance of this knowledge for the interdisciplinary team engaging in the world of the critically ill patient.

**Conclusion.** Psychosocial care for patients in intensive care has lagged behind because of physical problems. The importance of monitoring the ICU patient's psychosocial outcome and not just their physical outcome is highlighted by several authors and confirmed by my experience. My experience of critical illness leads to recommendations for care of the patient in ICU.