

## **THEME 3: INNOVATION IN EDUCATION, POLICY AND SYSTEMS**

### **ABSTRACTS FOR ORAL AND POSTER PRESENTATIONS**

#### **ORAL PRESENTATIONS**

IEPS-O-01

#### **A model of care which includes motor proficiency and physical activity levels for children with Autism Spectrum Disorder**

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**Abstract:** Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder with core deficits in communication, social interaction, and repetitive behaviours, often accompanied by motor impairments and reduced physical activity. Current assessment and management strategies primarily target core deficits, neglecting motor issues and physical activity. A comprehensive model of care (MoC) for children with ASD, addressing motor proficiency and physical activity, is lacking. This study aimed to develop a MoC for children with ASD, incorporating motor proficiency and physical activity, by exploring the insights of clinical experts, parents, and teachers. A qualitative sequential study was conducted in three phases. Phase one involved semi-structured interviews with eleven clinicians, eight parents, and seven teachers, exploring their perceptions of motor proficiency and physical activity in ASD management. Interviews were recorded, transcribed, and analysed thematically. Phase two developed an MoC based on phase one data and literature. Phase three involved a nominal group discussion with nine participants (clinicians, teachers, and parents) to review and refine the model. Twenty-six participants contributed to the study. Key themes identified were: Teachers: brain-body disconnect, individual considerations, and curriculum disconnect. Clinicians: varied motor proficiency, barriers to exercise, and lack of appropriate assessment. Parents: barriers to activity, need for autism-specific assessments, and lack of progress tracking. The developed MoC includes five domains, focusing on individual considerations, education, appropriate assessments, interventions, and monitoring. Motor proficiency and physical activity in children with ASD are often neglected. The proposed MoC provides a framework for integrating these aspects into ASD management, emphasising a holistic, multidisciplinary, and individualised approach.

**Keywords:** Autism , model of care, physical activity, motor skills

IEPS-O-02

**Exploring roles, power dynamics, and cultural significance of elders' authority during death in rural South Africa**

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**Abstract:** In rural South African villages, the authority of elders during the process of death holds profound significance. An elder refers to an older person who holds respect and authority within their community or family. They are valued for their wisdom, experience, and role in preserving cultural traditions and values. Elders certify deaths, guide mourning, organize funerals, and transmit cultural knowledge surrounding death. We thematically analyzed 20 in-depth interviews of community members who experienced a death in the past 2 years within the Agincourt HDSS Site and 6 focus group discussions from stakeholders to investigate the role of elders in managing challenges of death rituals in distinct cultural contexts. Determinants sustaining the elder's authority included age, gender, and familial hierarchy. In some families, elders believe in miraculous resurrections and wait 2-6 hours to confirm the death. Reflecting cultural values, infants are typically buried by elderly women at sunset. These practices underscore the deep-rooted cultural significance of rituals surrounding death. Elders' knowledge of traditional customs is unfamiliar to younger generations, and their absence results in incomplete traditional customs, with subsequent misfortunes attributed to not following burial rituals. Elders hold considerable authority within the family structure, influencing decision-making processes, including whether to participate in MITS. We underscore the role of elders in rural communities as primary decision-makers in death rituals. Elders have authority in shaping communal responses to death, offering valuable cultural insights and wisdom. Recognizing elders' significance in future studies is crucial for understanding traditional customs and coping mechanisms related to death.

**Keywords: Elders' Authority, Death Rituals, Cultural Traditions, and Rural South Africa**

IEPS-O-03

**Burnout among community service doctors in South Africa**

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**Abstract:** Background: Burnout in doctors is an important issue with far-reaching consequences. Community service doctors may be particularly vulnerable because of their specific role (rural settings, junior positions, reduced supervision). Aim: This study aimed to determine the prevalence of burnout among community service doctors in South Africa (SA), the potential contributory and protective factors and consequences thereof. Setting: This was a national study of community service doctors in SA. Methods: A quantitative, descriptive cross-sectional study was performed. The Maslach Burnout Inventory was used to measure burnout. The online questionnaire also included demographic data, workplace, and individual characteristics. Results: Of the 208 community service doctors analysed, 89% and 94% had high emotional exhaustion and depersonalisation, respectively, while 97% had a low personal accomplishment. Mental illness, financial difficulties, unmanageable volume of patients and female gender, were found to be potential contributory factors. Having manageable patient volumes, satisfaction with their decision to study medicine, talking to colleagues and feeling supported by healthcare facility management were among the significant potential protective factors. Significant potential consequences of burnout included: leaving the government sector, ever being diagnosed with a mental illness, using alcohol as a coping mechanism and possible current major depression. Conclusion: Burnout among community service doctors in SA is highly prevalent with significant potential consequences. There are a number of modifiable possible contributory and protective factors identified that may be targets for mental health interventions. Contribution: Healthcare burnout research is lacking in the African and specifically SA context. This void includes community service doctors.

**Keywords:** Burnout, Junior doctors, Community service, South Africa

IEPS-O-04

### **Nudging CHWs To Improve TB Preventative Therapy Among Children Under 5 in Rural Limpopo, South Africa**

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**Abstract:** We placed a sticker in the child's medical record at home to guide community health worker (CHW) activities related to TPT for children under 5 years old, along with caregiver messages to address common barriers to TPT uptake. We conducted a pre-post intervention study in Mopani District, Limpopo Province during 2022/2023. CHWs were randomized to an intervention (IG) or control group (CG). CHWs in the IG used TPT stickers during home visits

whereas the CG had "pseudo-stickers". Trained fieldworkers conducted surveys with caregivers ( $\geq 18$  years) at enrolment and end of intervention (6 months). Data were collected from stickers and informal feedback from CHWs. Primary outcomes included: CHW TPT-related activities during home visits; changes in caregiver knowledge and behavior; and the proportion of CHWs that used the stickers. Groups were compared using chi-square test for proportions. We enrolled 150 intervention and 146 control caregiver-child dyads. The intervention changed CHW's behavior and resulted in more frequent home visits, use of the child's medical record, and increased TPT-related activities at the household compared to the CG ( $p \leq 0.05$ ). In the pre-post analysis, caregiver TPT knowledge improved ( $p \leq 0.05$ ) but barriers to TPT uptake (concerns over side effects, costs, resistance, and stigma) remained ( $p > 0.05$ ). CHWs struggled to complete certain parts of the sticker and were unsure when to refer. The tool encouraged CHWs to enhance their TPT-related activities at households. It prompted CHWs to discuss TPT with caregivers and to inquire about children  $< 5$  years old and other people living with HIV in both study and non-study households.

Keywords: TPT, Children, Behavioral insights, Caregivers

IEPS-O-05

### **Poor long-term immunogenicity following early measles vaccine administration in South Africa.**

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**Abstract:** South Africa (SA) employs a unique early measles vaccine (MCV) schedule with doses at 6 and 12 months of age, rather than 9 and 15-18 months of age, due to historically high measles incidence in infants under 9-months-old. Short-term immunogenicity data up to 13-months-old (in the same cohort as the current study) was positive but, previously, long-term immunogenicity data showing the durability of protection after early MCV administration was lacking. Following the 2022-2023 measles outbreak, it is crucial to assess the long-term immunogenicity of this schedule to guide future MCV policy. This study includes 116 HIV-unexposed (HU) and 38 HIV-exposed-uninfected (HEU) participants from Soweto, SA, who received the early MCV schedule. Participants were followed up to 5-years-old with serum samples taken at 3 and 5 years of age.

Measles immunoglobulin G (IgG) antibodies were measured at 3 and 5 years of age using the Euroimmun Measles IgG ELISA Kit (Germany). Immunogenicity was assessed by the seropositivity rate, classified as measles IgG titres >153 mIU/mL post-adjustment. This cohort was compared to a similar cohort vaccinated at 9 and 18 months, measured at 4.5 years old. Despite the good short-term immunogenicity, the early MCV schedule showed poor long-term antibody durability. Seropositivity rates declined sharply, with the overall seropositivity rate significantly lower than the similar cohort vaccinated at 9 and 18 months of age. These findings suggest that the early MCV schedule in SA may not ensure sufficient long-term protection, suggesting that a MCV booster should be considered.

**Keywords: Measles, vaccination, Immunogenicity, Schedule optimisation**

IEPS-O-06

### **The barriers and facilitators to achieving meaningful collaboration among multidisciplinary healthcare providers in South Africa**

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**Abstract:** Collaborative care is a promising approach to addressing the mental health care gap. Community psychiatry services have been integrated in some primary health care (PHC) clinics in Sedibeng district. This study explores the extent to which meaningful collaboration was achieved among multidisciplinary providers in integrated PHC settings, in order to shed light on the challenges of achieving collaboration in resource constraint settings. Qualitative interviews were conducted with 29 multidisciplinary health care providers in 2 clinics [clinic-1= 16; clinic-2= 13]. In Clinic-1, community psychiatry services are co-located in a separate outbuilding behind the main PHC clinic. In Clinic-2, the psychiatry services are fully integrated within the PHC clinic. There was some communication among providers who delivered specialty mental health services due to regular district team meetings. However, clinic-1 struggled with inadequate leadership and management within the community psychiatry service, resulting in bullying and a hostile work environment that hindered effective teamwork. In contrast, clinic-2 had a more unified management system that covered both community psychiatry and PHC, reducing hierarchical tensions and power dynamics among staff. In both clinics, there was limited communication between PHC clinicians and mental health providers due to the lack of parity between mental and physical health, overworked PHC clinicians, high caseloads, and the absence of multidisciplinary meetings. This study offers crucial insights for policy makers seeking to enhance collaborative practices within multidisciplinary health care settings. In order to achieve

meaningful collaboration, it is important to consider provider engagement, clear operational guidelines, and robust leadership to overcome barriers.

**Keywords: Severe mental disorders, Collaborative care, Primary health care, South Africa**

IEPS-O-07

**Experiences of mental health residential homes: In-depth case studies from the Sedibeng district, South Africa**

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Abstract: Since the 1990s, moving psychiatric patients from long-stay institutions to community-based supported living has increased globally. Evidence about suitable residential services is mostly from high-income countries, with little from low-middle-income countries. In this study, we explored the experiences of three mental health residential homes. We purposefully selected three organizations as in-depth case studies, conducting 91 face-to-face individual qualitative interviews with service providers, residents and their families were conducted from October 2022 to June 2023. Residents described their severe psychosocial disability while living with their families, and the improvements they experienced once living in a residential home. Organizations 1 and 3 each have several 3-4 roomed residential houses in a township area, catering for a total of 21 and 40 residents respectively. Residents had the freedom to go to the nearest shops and socialize in the community. In organization 3, residents had romantic relationships, engaged in paid work within the organization and could live independently in a small house in the grounds. Organization 2 was a school-like building with four large dormitories catering for 86 residents. Residents were not allowed offsite unless they have a healthcare appointment. Medication seemed to be used to reduce violence and sexual behavior. Organizations with fewer residents and smaller residential type houses facilitate better living conditions than those with a high number of residents in large buildings. Re-purposing institutional-type buildings leads to institutional-type care: tighter controls, overmedication, and lack of community integration. Policies and funding should support the use of residential-type houses with fewer residents.

**Keywords: Deinstitutionalisation, Serious mental illness, Community-based care, Residential homes**

**Evidence of learning in Workplace-based assessments in a Postgraduate Family Medicine training program**

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**Abstract:** Background: Learning portfolios provide evidence of workplace-based assessments (WPBAs) in clinical settings. The use of portfolios and the types of assessments used for and of learning have not been adequately researched in sub-Saharan Africa. This study investigated the evidence of learning in registrars' learning portfolios and the influence of the training district and year of training on assessments. Methods: A descriptive cross-sectional study evaluated eighteen family medicine registrars' learning portfolios from years 1-3 across five decentralised training sites affiliated with the University of the Witwatersrand. A data collection tool was used to extract scores and self-reported skills competence from the portfolios and university records. Descriptive statistics were calculated for the scores and self-reported skills competence using STATA 14.2 software which served as proxy measures for registrars' knowledge and skills. Results: The total learning portfolio median scores ranged from 59.9 to 81.0, and quarterly assessments median scores from 61.4 to 67.3 across training years. Across training districts, the total learning portfolio median scores ranged from 62.1 to 83.5 and 62.0 to 67.5 in quarterly assessments. Registrars' self-reported competence levels varied considerably from 'only theoretical knowledge', 'able to perform under supervision' and 'able to perform independently.' Higher skills competence was reported in women's health, child health, emergency care, clinical administration, and teaching and learning domains than in orthopaedics, ENT and clinical governance domains. Discussion: Registrars' scores and self-reported competence levels across skill sets did not meet the required standards. The scores in LP sections and skill sets were variable and lacked sufficient evidence of registrar knowledge and skills progression across training years. WPBAs in learning portfolios were sub-optimally utilised as self-directed learning tools. Conclusion: Ongoing faculty development and mentoring of registrars and supervisors on WPBAs could impact work-based learning. The training district and training year influence WPBAs effectiveness in decentralised training.

**Keywords: Assessment for learning, Workplace-based assessments, Learning portfolio, Family medicine**

IEPS-O-09

**Primary school teachers' knowledge and attitude about tooth decay and practice towards oral health education at Sedibeng District- South Africa**

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Abstract: Poor oral health has an impact on individuals, populations, and health systems, with caries and periodontal disease reducing health, decreasing productivity. WHO, established the global school health initiative to strengthen health promotion and education. The initiative's goal through schools is to improve the health of children, school personnel, families, and other community members. Since the concept's introduction, the number of healthy school programs has increased in many countries. Teachers play an important role in oral health education; however, most teachers are not trained for this. Hence the aim and objective of the research was to assess the knowledge and practices towards oral health education among primary schoolteachers. A cross-sectional study design was used. Data was collected using a self-administered questionnaire assessing oral hygiene habits, knowledge about tooth decay, willingness to participate in school oral health programs. Data was captured, cleaned and coded in Microsoft Excel, then imported to STATA 17 for analysis. Knowledge assessment revealed that 64.7% knew that oral health affects general health. Regarding oral health attitude 68.6% agreed that regular dental visits are necessary and 61.7% reported toothache as the reason for their last visit. Practice assessment revealed that 59.4% of teachers brushed their teeth twice a day. A significant difference was observed between the level of education and the mean scores for Knowledge and Practices ( $P < 0.001$ ). The overall oral health knowledge and attitude was good; however the practice was poor among schoolteachers.

Keywords: Knowledge, Attitude, School teacher; Oral health

IEPS-O-10

**A visual analytics approach to characterising disease progression among adults with chronic diseases in rural Agincourt northeast South Africa**

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**Abstract:** Chronic diseases pose a significant challenge to the healthcare systems in South Africa, calling for innovative approaches for comprehensive understanding and management. This research study utilizes the Agincourt HDSS-Clinic dataset to design and implement a visual analytics system using the R Shiny web application framework. Focused on adults with chronic diseases, the tool employs dynamic visualizations to show patterns of healthcare utilization and disease progression. Through the R Shiny platform, the system provides a user-friendly interface for exploring and interpreting complex data, offering valuable insights into patient healthcare behaviours and the dynamics of chronic illnesses. The study comprises of a total of 26 413 patients and of those 8 522 (75%) were female patients while 2 891 (25%) were male patients. The study reveals compelling results unveiling previously unrecognized associations between specific chronic conditions; there is a substantial intersection between HIV, Hypertension, and Diabetes with 101 patients experiencing the coexistence of all three conditions. Notably, the visual analytics system facilitated the identification of distinct healthcare utilization patterns across different demographic groups highlighting the most frequently visited health facility accounted for 5 912 patient visits overall while the least visited health facility accounted for 1 447 patient visits. The implications of these findings extend beyond the immediate research scope, influencing healthcare strategies and contributing to the ongoing discussions on innovative solutions for chronic disease management. This study contributes to the evolving field of visual analytics in healthcare, demonstrating the potential for such tools to inform decision-making and enhance patient outcomes.

**Keywords:** Visual analytics, Chronic diseases, Disease progression, Healthcare utilization

IEPS-O-11

### **The paediatric liver transplant experience in Johannesburg, South Africa: A broad overview and update**

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**Abstract:** Background: Wits Transplant Unit, Johannesburg, South Africa (SA), performed its first paediatric liver transplant in 2005. Since then, significant progress has been made in building the capacity of the unit, improving outcomes and enhancing service delivery. Objectives: To present a broad overview of the unit's 17-year experience. Methods: A retrospective review of all paediatric liver transplants performed in Johannesburg from 1 January 2005 to 31 December 2021 with a minimum 1-year follow-up was done. The following data were collected: donor and

recipient sociodemographic and clinical characteristics, details of transplant procedures, and donor graft and recipient outcomes (postoperative complications, and graft and recipient survival). Results: 270 transplants were performed during the review period. Two-thirds of the liver recipients (n=180; 66.7%) were <5 years and half received a living-donor graft. Biliary atresia was the most common transplant indication. Unadjusted recipient survival was 80.1% (95% confidence interval (CI) 75 - 85) at 1 year and 68.2% (95% CI 59 - 75) at 5 years. Waiting-list mortality decreased from 27.3% in 2017 to 5.9% in 2021. One hundred and fifty-four recipients (57.0%) experienced at least one type of surgical complication that required intervention, the most common being biliary in nature (n=91; 33.7%). Conclusion: A sustainable paediatric liver transplantation service has been established in Johannesburg. Living-donor, split and ABO-incompatible liver transplants have been incorporated in response to the severe organ shortage in SA. However, our outcomes can be improved. Additionally, a more comprehensive national transplant initiative is advised.

**Keywords: Transplant, Liver, Paediatric, Johannesburg**

IEPS-O-12

## **Knowledge of and Attitudes Towards Electroconvulsive Therapy in an Academic Psychiatric Department**

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Abstract: Background: A negative attitude towards electroconvulsive therapy among health professionals has been attributed to a lack of knowledge of the procedure, despite improvements in administration and evidence for its efficacy in certain psychiatric conditions. Aim: This study aims to assess the knowledge and attitudes toward electroconvulsive therapy (ECT) among psychiatry and clinical psychology professionals. Setting: The University of the Witwatersrand Department of Psychiatry, Johannesburg, South Africa. Methods: This study is a quantitative cross-sectional design. All psychiatry and clinical psychology professionals associated with the University of the Witwatersrand were invited to participate in an anonymous online survey between 01 September 2022 - 30 June 2023. Results: The response rate was 49.6% (n=58) among psychiatrists and psychiatry registrars, and 22.2% (n=22) among clinical psychology professionals. Psychiatry professionals had a higher knowledge of, and a more favourable attitude compared to clinical psychology professionals. Fewer clinical psychology professionals (45.5%) than psychiatry professionals (93.1%) had exposure to ECT in a professional setting. There was a significant association between the overall knowledge and attitude scores (p=0.009, odds ratio 6.7). Most psychology professionals (86.4%) recommend that ECT theoretical training be included

in the curriculum of clinical psychologists. Conclusion Greater knowledge regarding ECT is associated with an improved attitude towards it. Training should seek to increase knowledge of ECT and thereby assist with improving attitudes towards ECT, particularly for psychology professionals. Contribution This study provides insights into the current knowledge and attitudes regarding ECT among psychiatry and psychology professionals in a psychiatry department at a university in Johannesburg.

**Keywords: Electroconvulsive therapy, Knowledge, Attitudes, Psychiatry**

IEPS-O-13

**Collaborative Maternity Care: The Relationship between independent midwives and interprofessional care providers in Johannesburg, South Africa**

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Abstract: This research study explored the relationships among independent midwives, obstetricians, and referral facilities in the government health care sector and how these relationships influence the quality of maternity care provided within a multi-disciplinary team. Interprofessional collaboration aims to improve communication, ensure improved, efficient, quality patient care, provide increased access to care and assist with providing financial relief by lowering health care expenses. It is vital in maternity care environments. An exploratory, descriptive qualitative design was followed. The participants consisted of eleven independent midwives practicing in Johannesburg, two obstetricians who offer back-up to independent midwives and two labour complex managers in public tertiary hospitals. Interviews were conducted with all participants. All interviews were audiotaped and transcribed verbatim. Data was analysed using thematic analysis. The current relationships between the participants are described and defined. Requirements for effective collaboration that were identified in this study include trust, respect, clear role clarification and safe practices. Interprofessional collaboration is a process that was found to develop over time. Barriers to effective collaborations that were identified include ineffective knowledge of each other's role, lack of formal policies and guidelines, reputational damage, and in-effective communication. Other barriers identified include negative attitudes and perceptions towards the independent midwives and their clients, challenges in the public sector and malpractice, unsafe and unethical behaviour. The support of management, effective communication, standardised documentation, collaborative education, and promoting mutual understanding were identified as strategies to

improve collaboration. The study's limitations were identified and recommendations for practice, nursing education and research are made.

Keywords: Interprofessional collaboration, Independent midwife

IEPS-O-14

### **Beyond the Impact: Need for Innovative Approaches to Concussion Care in South Africa**

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Abstract: Sports-related concussion is a global health concern requiring proper management to prevent further injuries and ensure a safe return to play and learning. However, access to care is hindered by busy emergency departments, poor reporting and diagnosis, high treatment costs, lack of public awareness, and limited availability of trained practitioners. Furthermore, the lack of a unified multi-disciplinary team approach limits a person's access to rehabilitation after a concussion. This study examined current concussion care practices in South Africa through semi-structured interviews with 13 healthcare practitioners, including sports physicians, occupational therapists, physiotherapists, neuropsychologists, and a behavioural optometrist. Most participants had concussion-specific training through professional development or university education. Analysis using Invivo coding and Reflexive Thematic Analysis revealed five main themes: Education and Awareness, Multi-disciplinary Approach, Complexity of the Condition, Cost of Care, and Contextual Challenges in Practice. These themes reflect both local and international challenges in concussion treatment. A multi-faceted, flexible, and affordable care model is needed in South Africa. This model of care should emphasise education (for health science students and the general population), cost-effective diagnosis and treatment methods, and implementation of a multi-disciplinary team approach within the primary healthcare system. As South Africa moves towards National Health Insurance, this model should prioritise contextual responsiveness and accessibility for all. This model of care should provide an innovative approach to concussion management by South Africans for South Africans and the Global South.

**Keywords: Concussion, Innovative, Occupational therapy, Mild traumatic brain injury**

IEPS-O-15

**Factors affecting masters students' throughput in the School of Oral Health Sciences, University of the Witwatersrand**

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**Abstract:** Postgraduate students' throughput rate remains a concern in higher education institutions worldwide. Master of Science in Dentistry (MSc Dent) program at Wits is set to be completed in one year (on full-time basis) or two years (on part-time basis) with students usually taking longer to complete. This study aimed to determine possible factors that may influence the length of time that MSc Dent students take to complete the program. A retrospective cross-sectional study was conducted in which students enrolled for the MSc Dent program from 2015 to 2019 were requested to participate. The questionnaire was set up online using Microsoft forms to collect data on factors affecting progress and throughput rate of the students. The obtained data was analysed using descriptive statistics and logistic regression analysis. Of 160 potential participants, 54 responded (n=54) making a response rate of 33.75%. None of the analysed sociodemographic variables influenced the throughput rate of the respondents (p-values > 0.05). The engagement in evidence-based practices prior to enrolment had a significant effect (p=,048) on the students' throughput. The model of the program showed positive correlation (0,3071) and was statistically significant (p = 0,024). Most of the support services available at Wits were overall rated as good by the participants. Evidence-based practices prior to enrolment and the model of the program influenced the students' throughput rate. Since most of the support services offered at Wits benefited the students during their enrolment, those that were rated average to poor should be improved by the University.

**Keywords:** Throughput, Sociodemographic, Academic preparedness, Support services

IEPS-O-16

**Targeted Next-Generation Sequencing Unveils Genetic Alterations in Oral Cancer**

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**Abstract:** Oral squamous cell carcinoma (OSCC) is a significant global health issue with high morbidity and mortality rates. Genetic mutations play a crucial role in the pathogenesis and progression of this disease. This study aims to identify the mutation profile of OSCC using targeted next-generation sequencing (NGS). Tissue samples from 12 patients with OSCC were

included in the study along with their adjacent normal tissues. Total nucleic acid was extracted from formalin fixed paraffin embedded (FFPE) tissues using the RecoverAll Total Nucleic Acid Isolation Kit. The DNA was sequenced using AmpliSeq for Illumina Cancer HotSpot Panel on Miseq machine. We analysed both somatic copy number variations (CNVs) and single nucleotide variants (SNVs) using several methods. The results revealed a diverse mutational landscape in the oral cancer samples. CNV analysis identified 61 genes with copy number variations. Single nucleotide variant analysis identified the most common single nucleotide variant as single nucleotide polymorphisms (SNPs), primarily causing a C>T change, leading to missense mutations. The top three mutated genes were TP53, SMAD4, and KRAS. Specifically, TP53 mutations were detected in 6 out of 12 samples (50%), predominantly consisting of missense mutations located in the DNA-binding domain, which are known to disrupt its tumour suppressor function. This study highlights the significant prevalence of TP53, SMAD4, and KRAS mutations in OSCC, reinforcing their pivotal roles in the disease's pathogenesis. The targeted NGS approach provided a comprehensive mutation profile, identifying potential genetic drivers and therapeutic targets.

**Keywords:** Oral squamous cell carcinoma , Mutation profile, TP53, SMAD4

IEPS-O-17

### **Sales of over-the-counter codeine-containing medicines in South Africa, 2019-2020: A retrospective observational study**

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**Abstract:** Codeine-containing medicines (CCMs) contribute to irrational codeine use in South Africa (SA) with many CCMs being affordable and available as over-the-counter (OTC) medicines, thus increasing risks of misuse. Furthermore, this leads to misconceptions of codeine's safety as a product that is so readily available and not strictly scheduled. The study aimed to review factors contributing to CCM sales. A quantitative retrospective observational analysis of South African codeine sales data, from an IQVIA dataset was used for descriptive and inferential analyses, using STATA, to determine the sales trends and associations significantly associated with OTC CCM sales in SA. In total, 36 065 459 OTC CCM script line items were analysed. Gauteng, Western Cape and Eastern Cape descriptively displayed the greatest OTC CCM sales, through cash payments in chain pharmacies, at the onset of winter. Of the "codeine hotspot" provinces, logistic regressions showed significant results, with Gauteng displaying increased OTC CCM sales, particularly generic oral liquid products, acquired with cash and purchased as smaller pack sizes ( $p < 0.001$ ). In understanding OTC CCM sales trends and its associated factors, it can enhance codeine

knowledge, and aid policymakers in implementing effective interventions to combat irrational CCM misuse in SA.

**Keywords:** Codeine, Over-the-counter, Codeine misuse, South Africa

IEPS-O-18

**Community understanding and patients' experiences with the ward-based outreach teams (WBOT) programme in Lesedi sub-district**

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**Abstract:** South Africa implemented the ward-based outreach teams (WBOT) programmes in 2011 to bridge health disparities and improve health outcomes. However, the programme has not been successful in achieving its objectives. Many researchers have studied the programme from the perspective of the health providers to improve it. This study explored the perspectives and experiences of the patients and community representatives who are recipients of care. This was a qualitative multiple case study that used secondary data collected as part of the Bathlokamedi project which studied six WBOTs in the Gauteng Province with variation in supervision and location. Purposive and snowball sampling were used to recruit patients and community representatives and data were analysed thematically. Findings were that CHWs played a significant caregiving role and communities had varying access to CHWs which led to variation in satisfaction with the services of the WBOT. Employment of local CHWs and active collaboration enabled functioning of the WBOT, while lack of community engagement, resources and non-comprehensive services impeded success of the programme. In conclusion, WBOTs are able to extend health services to people in the communities. However, to increase success services should be comprehensive and integrated to the existing health system and community structures.

**Keywords:** Community health workers, Ward-based outreach teams programme, Primary healthcare, Patients and Community representatives

**POSTER PRESENTATIONS**

IEPS-P-01

**The assessment of antifungal stewardship implementation in a tertiary care hospital in South Africa: Evaluating knowledge, attitudes and practices of healthcare professionals and developing evidence-based guidelines**

## **Kiara Sudu**

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**Abstract:** Antifungal resistance is a growing global public health threat, severely impacting treatment outcomes for fungal infections particularly in South Africa, where a high burden of fungal diseases is exacerbated by a large immunocompromised population due to HIV and tuberculosis. The limited antifungal agents available necessitate judicious use. This study aimed to evaluate the knowledge, attitudes, and practices of doctors, pharmacists, and nurses towards antifungal stewardship in a South African tertiary care hospital to propose an effective treatment protocol. Analysis of 370 antifungal prescriptions from the medical, ICU, ARV outpatient, and surgical departments revealed that only 37.03% were appropriate as per recommended guidelines. Microbiological culturing was only performed 10.54% of cases, with susceptibility testing in only 0.27%. Fluconazole was the most frequently prescribed antifungal. A quantitative approach using structured questionnaires assessed healthcare professionals' knowledge and attitudes towards antifungal stewardship. Results showed that 60.6% lacked confidence in their knowledge and practices related to antifungal agents, with only 14.5% familiar with local guidelines. A significant 96% agreed on the need for more education on invasive fungal infections, and 91.8% recognized the need for a rational use framework. The primary factor contributing to inappropriate use was the prescribers' lack of knowledge on antifungal agents. The study highlights the urgent need for improved antifungal stewardship through enhanced education and training. Addressing knowledge gaps and promoting guideline adherence can improve prescribing practices, developing structured educational programs and a culture of continuous learning is essential for optimizing antifungal use and improving patient outcomes.

**Keywords:** Antifungal resistance, stewardship, knowledge, guidelines

IEPS-P-02

## **SOUTH AFRICAN MENTAL HEALTHCARE PROVIDERS' VIEWS ABOUT EXERCISE FOR PEOPLE WITH MENTAL ILLNESS**

### **Belinda Marais**

#### **Department of Psychiatry**

**Abstract:** Background: People living with mental illness (PWMI) have significantly reduced life expectancy compared to the general population, yet mental healthcare providers (MHCPs) do not regularly prescribe exercise, despite its proven health benefits. Aim: To evaluate South African MHCPs views regarding exercise for PWMI. Setting: A cross-sectional descriptive study conducted across five public sector specialised psychiatric units in Gauteng. Methods: MHCPs



were surveyed using the Exercise in Mental Illness Questionnaire- Health Professionals Version. Results: Most participants were nurses (49.1%) and doctors (26.2%) and reported no prior formal training in exercise prescription (79.4%). The vast majority (up to 89.7%) agreed regarding the physical benefits of exercise, particularly cardiometabolic benefits. The most common barriers, as perceived by MHCPs, to exercise participation for PWMI were: stigma (56.5%) and medication side-effects (56.5%). The majority (76.2%) reported prescribing exercise for PWMI at least 'occasionally'. The method most frequently used was personal discussion (77.3%) and aerobic exercise was most frequently recommended (81.0%). Specific instructions regarding physical activity recommendations however were often not provided. Regarding MHCPs personal exercise habits, only a third (34%) met physical activity guidelines. Most MHCPs (92.1%) indicated an interest in further training regarding exercise for PWMI. Conclusion: MHCPs were supportive of exercise for PWMI. Strategies to address stigma around mental illness and medication side-effects, improve training regarding exercise prescription, as well as the exercise habits of MHCPs themselves, and collaboration with exercise professionals and organisations are recommended. Contribution: This study provides insight into the views of South African MHCPs regarding exercise for PWMI.

**Keywords: mental health care providers; views; physical activity; exercise prescription**

IEPS-P-03

**Challenges related to providing dental care for children with special needs at South African academic hospitals: Perspectives of oral health professionals**

**Nancy Njoroge**

**Orthodontics Oral Health Sciences**

**Abstract:** Background: Children with special healthcare needs (CSHCN) may experience poorer general and oral health than healthy children requiring specialised healthcare services provided through multi-disciplinary teams at tertiary hospitals. Aim: To investigate the dental care provided to CSHCN including challenges faced from the experiences of oral health professionals (OHP) at academic dental hospitals (ADHs) in South Africa (SA). Methods: A mixed methods sequential research design. The population included OHP (n=100) providing dental care for CSHCN at ADHs (n=5). Purposive sampling was used. Data were collected using self-administered online questionnaire and later focus group discussion. Descriptive analyses were computed for the survey data. The qualitative data were analysed thematically. Both findings were presented by narrative synthesis. Results Fifty OHP from 4 academic hospitals completed the survey and 5 participated in the discussion. Most of the OHP (86%) provided dental care to between 2-5 CSHCN per month (59%). Dental care services provided for CSHCN were mainly extractions for pain relief

(52%). Oral surgery and/or rehabilitation (22%) and orthodontics (20%) for CSHCN with craniofacial anomalies. Challenges reported by OHP included: concerns over the child's medical condition (risk of care), inadequate resources (facilities, human resources, time) and lack of supportive environment (poor inter-disciplinary collaboration). Conclusion Dental care provided to CSHCN consisted mainly of emergency pain relief, and some specialty dental services. Resource constraints affected dental care for CSHCN. There is a need to provide adequate resources and a supportive clinical environment to enhance service delivery to CSHCN to improve quality of care at ADHs.

**Keywords: Dental care, children with special healthcare needs, oral health professionals, academic hospitals**

IEPS-P-04

**An evaluation of a decentralised Family Medicine training programme at the University of the Witwatersrand, South Africa, using the logic model**

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**Abstract: Background:** Theory-informed clinical programme evaluations are uncommon in sub-Saharan primary healthcare contexts. This study evaluated a South African postgraduate family medicine decentralised training programme using the logic model. The study explored family physicians' and registrars' perceptions of the resources and support, clinical and educational supervision and work-based learning as inputs and processes. Supervisory feedback in learning portfolios and registrars' knowledge and skills as evidence for learning in workplace-based assessments were evaluated as outputs and outcomes of the logic model. **Methods:** This parallel convergent mixed-methods instrumental case study was based on a conceptual framework using complex programme evaluation logic model. Semi-structured interviews were conducted with purposively sampled family physicians (n=11) and registrars (n=11) from five decentralised training sites affiliated with Wits University. Registrars' learning portfolio (n=18) components were statistically analysed. The quantitative results were transformed into qualitative findings and integrated and consolidated to draw meta-inferences. A final adapted model with key recommendations for identified areas for improvement was developed. **Results:** More resources and standardisation, better supervision and work-based learning opportunities, and a more supportive learning environment were identified. Supervisors' knowledge, skills, and behaviours varied, and their feedback quality was deficient, especially in 'soft skills.' Registrars did not meet the skills competence standards in workplace-based assessments across training years and

districts, and their interpersonal interactions, district activity engagements, and self-learning strategies were not utilised maximally. Discussion: The university to advocate for better programme recognition from the National Department of Health and regular site visits to assess standards and annual supervisor accreditation. Faculty development for clinical and educational supervision and providing feedback is crucial. Registrars should be prepared for work-based learning, engagement with learning portfolios and feedback. National guidelines should make provision for an enabling decentralised learning environment. Conclusion: Theory-based evaluations are essential to optimise decentralised training programmes in sub-Saharan district health systems.

**Keywords: Postgraduate family medicine training, Programme evaluation, Logic model, Mixed methods case study**

IEPS-P-05

**Knowledge, attitude and practices of nursing students in the management of oral complications arising from cancer therapy at an academic institution in Johannesburg**

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**Community Dentistry Oral Health Sciences**

**Abstract:** Treatment for head and neck cancer often causes oral complications like mucositis and xerostomia, leading to pain, dysphagia and dysarthria. This cross-sectional study examined 2nd, 3rd and 4th year nursing students' knowledge, attitudes, and practices in managing oral complications from anti-cancer therapy. A modified questionnaire, based on Mokale and Thekiso's (2016) study, was used. Data was analysed using Microsoft Excel and STATA software, employing t-tests for continuous data like age and Pearson's Chi-squared test for categorical data like practices. Significance was set at  $p \leq 0.05$ . Ethical clearance obtained from the HREC (M230126). 68 students participated and the response rate was 65.4% . Most of the students were female (88%), with 10% being male and 2% not disclosing their sex. Majority showed a high level of knowledge at 80.6%. The years of study in the program did however have a significant impact. The final year students had the highest proficiency at 28.57%, followed by 3rd year students at 14.29% and 2nd year students at 12.9%. 96.61%, exhibited a positive attitude, while 3.39% had poor attitude. The attitude towards oral health management among nursing students is generally positive. Nursing students' understanding of oral health management in cancer patients is not consistent with their practices. Enhanced training programs focusing on routine practices, complication identification, and interventions are needed. Clinical rotations should offer hands-on experiences and collaboration with oral health professionals. Implementing

strategies to overcome practical challenges like resource limitations and communication barriers can enhance nursing students' oral health management practices during cancer therapy.

**Keywords: Oral Complications, Cancer Therapy, Nursing Students**

IEPS-P-06

**Family planning among university students: An investigation into knowledge, access, and utilisation.**

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Abstract: University students have a higher likelihood of engaging in risky sexual behaviour and frequently encounter obstacles such as socio-cultural beliefs, insufficient knowledge and awareness, and limited access to healthcare when seeking family planning services. The aim of this study was to assess students' knowledge, access to and utilisation of family planning services in a tertiary institution in Johannesburg, South Africa. A cross-sectional study was conducted using a self-developed, researcher administered questionnaire. A total of 449 university students were approached to complete the questionnaire using a convenience sampling technique, yielding 404 completed responses. Majority of the respondents were female (68.9%) and between the ages of 18 to 21 (64.6%). Approximately 90.8% of university students are familiar with the concept of family planning, with the internet being the most prevalent source of knowledge on family planning. Some students mistakenly believed that hormonal injections (6.4%) and vasectomy (9.2%) are effective in preventing Sexually Transmitted Infections (STIs). The male condom was the most widely recognised and utilised family planning method. The primary reason for utilising contraception was to prevent unintended pregnancies. Overall, students found it easy to access family planning services, however, a few students faced barriers, primarily concerns about side effects. Similar to other studies, students in this study demonstrated an appropriate level of awareness of family planning, however, misconceptions persist, indicating a need for further educational efforts.

**Keywords: Family planning; university; access; utilisation**

IEPS-P-07

**A 3D-Printed Regenerative Scaffold for Tissue Restoration and Regeneration After Liver Trauma.**

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Abstract: Hepato-trauma is the leading cause of mortality in abdominal trauma. Severe trauma results in repair mechanism overload, excessive collagen deposition, scar formation and hepato-structural alterations. "One-size-fits-all" treatment approaches are insufficient for individual patient needs. A novel 3D-printed non-stoichiometric interpolyelectrolyte complex (NIPEC), designed through blending Cationic Gelatin (CG) and Sodium Alginate (SA) and crosslinked with Genipin and Calcium Chloride, is presented for potential hepato-regeneration. High printing resolution was achieved with a 0.2 mm bore needle, extrusion pressure between 3.8-4.3 bar and a speed of 10 mm/s (10x10 mm). Differential Scanning Calorimetry (DSC) exhibited greater protein stability in the gelatin helix for the crosslinked NIPEC (223.84 °C) in comparison to the non-crosslinked NIPEC (201.04 °C). Additionally, in accordance with the native liver stiffness, the NIPEC withstands compression between 2-7kPa indicating the elastic deformation ability of the NIPEC to lower further tissue damage during scaffold implantation. The NIPEC promotes high in vitro cell viability (Huh-7 cells), attachment, and migration, indicating a suitable artificial micro-environment. A 3D-spheroid model is being optimized to assist in the clinical modelling of the NIPEC in vivo. The 3D-printed NIPEC may provide a promising solution to the current limitations for hepato-trauma by assisting in liver restoration and regeneration.

**Keywords: 3D-Printing, Tissue Regeneration, Liver Regeneration**

IEPS-P-08

**IS IT FAIR TO LIMIT ACCESS TO HPV VACCINATIONS TO ONLY GIRLS IN PUBLIC SCHOOLS IN SOUTH AFRICA?**

**Vanessa Scheepers**

**Faculty of Health Sciences; Steve Biko Centre for Bioethics**

**Abstract:** Human Papillomavirus (HPV) vaccination is the principal preventative measure against HPV infection for both men and women. The World Health Organisation supports gender-neutral HPV vaccination, and this approach has been implemented in several high-income countries. In South Africa, only girls aged nine to 14 in public schools receive free HPV vaccination. This free HPV vaccination does not extend to girls in private schools and excludes boys. I advocate for a more just and ethical approach by applying the moral theories of Kantianism and rule utilitarianism to show that a gender-neutral approach to HPV vaccination aligns more with the

South African Constitution. I use Kantianism to assess the ethical aspects of South Africa's HPV vaccination policy, revealing substantial deficiencies in terms of equality, autonomy, and universality. I demonstrate that this exclusionary policy contradicts the principles of rule utilitarianism because it fails to maximise overall well-being, perpetuates inequalities, deters optimal vaccine coverage, and overlooks the potential benefits of gender-neutral HPV vaccination. Thereafter, I address potential counterarguments and recommend policy changes aligned with both Kantian and utilitarian principles. I conclude that a gender-neutral coverage of HPV vaccination ensures free and equitable access to all adolescents who can benefit from it, irrespective of sex, gender, school type, or socio-economic circumstances, and thus aligns more with the South African Constitution.

Keywords: Human Papillomavirus Kantianism Utilitarianism

IEPS-P-09

### **The Acceptability of Minimally Invasive Tissue Sampling for Cause of Death Determination in rural South Africa: A qualitative analysis**

**Laura-Lynne Brandt**, Kathleen Kahn, Ryan Wagner, Jessica Price

**School of Public Health, Rural Public Health and Health Transitions Research Unit (Agincourt)**

**Abstract:** Minimally invasive tissue sampling (MITS) is increasingly being used to strengthen cause of death data in resource-limited settings. However, information on the acceptability of MITS for community deaths across all ages is scarce, as most studies have focused on child and facility deaths. This qualitative study describes factors influencing the acceptability of MITS for community deaths in a rural South African community and reviews the utility of the theoretical framework for acceptability (TFA). We conducted thematic analysis of 20 in-depth interviews with community members from the Agincourt Health and socio-Demographic Surveillance System site who experienced a death in the last 24 months, and 6 focus group discussions with religious leaders, mortuary workers, healthcare workers, traditional healers, and community members. Most community members had positive attitudes towards MITS as knowing cause of death would provide closure, help prevent further deaths and reduce witchcraft accusations. Local beliefs did not forbid participation in MITS, but infants and traditional healers must be buried within one day of death, which might limit participation of these groups. Rumours of organ-trafficking during autopsies made some participants wary of the MITS. Engaging with local traditional leaders and community education about MITS was considered crucial to improve uptake and trust. Empathizing with grieving families will facilitate consent and assist with the grieving process. Our findings were largely in line with the TFA; however, the framework failed

to account for trust between providers and participants. We propose the modification of the TFA to account for this factor.

Keywords: minimally invasive tissue sampling, cause of death, acceptability

IEPS-P-10

### **A unique case of neovascularised synovial overgrowth onto femoral cartilage in knee arthrofibrosis**

**Vishad Naidoo**, Nyiko Chauke, Sebastian Magobotha

#### **Orthopaedic Surgery, Clinical Medicine**

**Abstract:** The spine is a common extra-pulmonary site of tuberculosis (TB) infection and is associated with severe anatomical and neurological deficits. Pathogenesis is classically due to haematogenous spread with local spread usually subligamentous in nature. The typical anatomical sites of spinal TB infection are the lower thoracic and upper lumbar regions with the cervical region much more rarely affected. We present a compelling case of a fifteen-year-old male with angular post-TB kyphosis, who presented with severe thoracic myelopathy. MRI revealed C7-T1 destruction with ankylosis of the posterior elements of the sub-axial and upper thoracic spine, resulting in a kyphotic deformity with a bony apex stenosing the upper thoracic spinal canal. An un-instrumented vertebral column resection and decompression, via posterior approach, was performed. The patient initially worsened, neurologically, with inability to stand unaided. But, over the subsequent eighteen months, rehabilitated to a level of ambulation and function comparable to his pre-operative state, with ameliorated myelopathic signs.

**Keywords: Arthrofibrosis, Neovascularisation, Synovium, Novel**

IEPS-P-11

### **Exclusive Breastfeeding among HIV-positive mothers**

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**Abstract:** EBF is considered the gold standard of infant feeding. Globally, infant feeding practices vary widely, influenced by geographic location, culture, economics, and education. Breastfeeding among mothers with HIV provides a double shield for their babies offering crucial protection against infections and diseases. The intersection of EBF and HIV presents challenges, particularly

in resource-constrained settings. This study explored EBF among HIV-positive mothers in Kenya. This exploratory qualitative study combined in-depth interviews and observation. HIV-positive breastfeeding mothers with infants younger than six months were recruited. Interviews were conducted with a total of 27 consenting mothers who met the inclusion criteria. Every interview was audio recorded then transcribed directly from Kiswahili into English. The data was analyzed thematically with the support of MAXQDA 2022. Mothers reported different feeding practices. Actual feeding practices were influenced by mixed maternal attitudes resulted from competing knowledge(s), tough economic realities, and stigma. Feeding decisions were impacted by cultural norms and beliefs associated with breastfeeding HIV-exposed infants. The clinic set-up played a vital role in supporting mothers while breastfeeding, although the environment resulted in accidental disclosure of their HIV status. Creating an empathetic and supportive community for HIV-positive mothers opting to breastfeed is necessary to improve EBF uptake. Building individual confidence and a supportive environment is paramount for these mothers. This includes dispelling community misconceptions about HIV and breastfeeding. This study serves as a call to action, urging collective efforts in fostering a transformative environment for the well-being of HIV-positive mothers and their infants.

**Keywords: Exclusive breastfeeding, Infant feeding, HIV-exposed infants, Kenya**

IEPS-P-12

### **The Utilisation of Genetic Counselling Services Amongst Prenatal Healthcare Providers in Gauteng, South Africa**

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#### **Division of Human Genetics**

Abstract: Breast cancer is a prevalent global issue influenced by genetics, lifestyle, and environment, with about 5-10% of cases being hereditary due to pathogenic variants in genes like BRCA1 and BRCA2. Genetic testing for hereditary breast cancer (HBC) plays a vital role, offering both diagnostic and predictive insights, particularly for high-risk individuals and their families. In South Africa, advancements like next-generation sequencing have broadened testing capabilities, aligning with international guidelines for the management and surveillance of hereditary cancer syndromes. However, challenges persist in communicating risk and facilitating the uptake of risk-reducing procedures among at-risk family members. Family communication on hereditary breast cancer in South Africa lacks exploration. Challenges such as lower health literacy, communication barriers, and cultural differences may impact communication and



predictive testing uptake. The study aims to qualitatively explore the perceived value of genetic counselling and testing for South African patients and families at increased risk for HBC and how family communication may impact this. This study will utilise focus group discussions (FGDs) with local genetic counsellors and medical geneticists as well as interviews with patients and at-risk family members to explore the value of genetic counselling and testing for HBC. Data will be analysed using reflexive thematic analysis. Findings from the genetic counsellor and medical geneticist FGDs will be presented. These insights will inform tailored strategies and policies for optimal utilisation of hereditary breast cancer genetic counselling services in South Africa.

**Keywords: Breast cancer, family communication, hereditary cancer, genetic counselling**