

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1034	Public Health / Clinical Epidemiology
<p>Authors Z.HUANG², J.T.OW², W.E.TANG¹, A.CHOW² ¹NHG Polyclinics (Singapore), ²Tan Tock Seng Hospital (Singapore)</p> <p>Title A mobile app intervention to educate the public on antibiotic use and resistance: Determinants of improvement in knowledge score</p> <p>Background & Hypothesis Smartphone apps offer great potential to complement existing public health education. We developed an evidence-based educational serious-game app—SteWARDs Antibiotic Defence—and assessed the knowledge improvement on antibiotic use and antimicrobial resistance (AMR), and the factors associated with knowledge improvement.</p> <p>Methods We recruited 240 visitors from two polyclinics in Singapore between January–March 2023 to use the SteWARDs Antibiotic Defence app at home. Knowledge was assessed at baseline, immediately post-intervention, and 6–10 weeks post-intervention via 11 True/False questions. We assessed the independent factors associated with knowledge improvement (post-intervention change score >0) in users using a multivariable logistic regression model.</p> <p>Results Participants (n=142 completed the quest) had a mean(SD) age of 35.9(11.9) years. 46.5% and 47.9% demonstrated knowledge improvement immediately and 6–10 weeks post-intervention, respectively. Factors associated with immediate post-intervention knowledge improvement include 1)Chinese compared with the Malay race (AOR:4.02, 95%CI:11.07–14.65); 2)prior exposure to advertisements on antibiotics use and AMR (AOR:7.98, 95%CI: 1.58–40.36); 3)exposure to in-app message on not sharing or using leftover antibiotics (AOR:13.33, 95%CI: 1.54–115.30). Only education level (tertiary-educated) was associated with a significant knowledge improvement 6–10 weeks post-intervention (AOR:5.40, 95%CI: 2.10–13.94).</p> <p>Discussion & Conclusion Our serious-game app improved the short-term knowledge on antibiotic use and AMR in nearly half of participants. Knowledge improvement is more likely to be sustained in tertiary-educated individuals. These observations highlight the need for continuous knowledge reinforcements and concept-focused game mechanics designed for various target populations.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1035	Emergency Medicine
<p>Authors Z.HUANG³, K.NATARAJAN³, H.C.LIM¹, H.Y.TAN², E.SEOW², Y.WENG³, L.L.PENG⁴, J.T.OW³, W.S.KUAN⁴ A.CHOW³</p> <p>¹Changi General Hospital (Singapore), ²Khoo Teck Puat Hospital (Singapore), ³Tan Tock Seng Hospital (Singapore), ⁴National University Hospital (Singapore)</p>	
<p>Title Factors influencing patients' expectations for diagnostic tests at emergency department visits during the COVID-19 pandemic</p>	
<p>Background & Hypothesis</p> <p>The uncertainties surrounding the COVID-19 pandemic led to surges in emergency department(ED) attendances among people with upper respiratory tract infection(URTI) symptoms. We assessed the factors influencing patients' expectations for diagnostic tests(DT) in the ED for uncomplicated URTI during different pandemic phases.</p>	
<p>Methods</p> <p>We conducted a cross-sectional study at four EDs in public hospitals, March 2021–March 2022. We segmented the period into three COVID-19 pandemic phases—Containment, Transition, and Mitigation and analysed the data with multinomial logistic regression. Outcome variables included whether patients expected: a)a COVID-19-specific DT, b)a non-COVID-19-specific DT, c)both COVID-19-specific and non-COVID-19-specific DTs, or 4)no DT</p>	
<p>Results</p> <p>Outcome_a): Independent factors (AOR[95%CI]) included younger age (21–40 years:(2.98[1.04–8.55]), no prior clinical consultation (2.10[1.13–3.89]), adherence to employer's health policy (3.70[1.79–7.67]), perceived non-severity of illness (2.50[1.39–4.55]), worry about contracting COVID-19 (2.29[1.11–4.69]), and transition phase of pandemic (2.29[1.15–4.56]). Outcome_b): Being non-employed (3.8 [1.26–11.66]). Outcome_c): Younger age (21–40 years:(3.61[1.26–10.38]), adherence to employer's health policy (2.94[1.41–6.14]), worry about contracting COVID-19 (2.95 [1.45–5.99]), and transition (2.03[1.02–4.06]) and mitigation (2.02[1.03–3.97]) phases of the pandemic.</p>	
<p>Discussion & Conclusion</p> <p>Patients' expectations for diagnostic tests during ED visits were dynamic across the COVID-19 pandemic phases. Future work should enhance public communications on diagnostic services in primary care and public education on self-management of emerging infectious diseases.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1036	Psychiatry
<p>Authors R.YIN², D.RAJAPPAN³, F.H.F.CHAN², L.MARTINENGO², M.SUBRAMANIAM¹, K.GRIVA², H.E.SMITH², L.TUDOR CAR², ¹Institute of Mental Health (Singapore), ²Lee Kong Chian School of Medicine (Singapore), ³Nanyang Technological University (Singapore)</p> <p>Title Mental health self-care apps: a systematic assessment of app characteristics and their applicability to older adults</p> <p>Background & Hypothesis Depression affects 7% of older adults. Mobile applications (apps) can potentially support depressed older adults. However, it remains unknown whether any mental health self-care apps in the market are suitable for older adults. This study aimed to systematically assess the adherence to evidence-based guidelines of mental health apps for older adults.</p> <p>Methods This study used an established app assessment methodology. We searched for apps in English and Chinese on iOS and Google Play in 42Matters, Chinese Android app stores, and the first 10 pages on Google and Baidu. Two reviewers examined the apps' eligibility using predefined criteria. We extracted the basic characteristics (e.g. developer, platform, and category) and assessed clinical and technical features, including accessibility.</p> <p>Results We assessed 29 apps (7 iOS-only apps, 3 Android-only apps and 19 apps on both platforms). None of these specifically targeted older adults with depression. All apps were designed by commercial companies and most (n=27) were in English. Only two apps with chatbots described depression epidemiology in older adults. Twelve apps reported depression risk factors in older adults. Most apps incorporated cognitive behaviour therapy, mood monitoring or journaling. All but two apps had a privacy and confidentiality policy. Common accessibility issues included the lack of adaptation for users with visual or hearing impairments, small icon size and narrow spacing, and incompatibility with the phone settings.</p> <p>Discussion & Conclusion Currently available apps have limited applicability to older adults based on their clinical and technical features. Future mental health apps should consider the diverse needs and characteristics of the elderly population.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
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Abstract ID	Clinical Specialty
SHBC1100	Palliative Medicine
<p>Authors Q.W.TAN¹, Y.J.LIM¹, L.K.SIM¹, T.MUTHUSAMY¹, G.C.MAGPANTAY¹, C.H.YU¹, L.T.SU¹, Y.H.CHUNG¹, L.C.TAN¹, J.A.LOW¹</p> <p>¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title Impact of Advance Care Planning on acute hospital admission rate and length of stay of nursing home residents in their last year of life</p> <p>Background & Hypothesis Advance Care Planning (ACP) allows nursing home (NH) residents to communicate their preferred plan of care (PPOC) and preferred place of death (PPOD), thereby, honouring their preferences while potentially reducing hospital utilization. The study aimed to evaluate the effects of ACP discussions on acute hospital resources, length of stay (LOS) and concordance to ACP preferences.</p> <p>Methods This is a retrospective cohort study of 157 residents from 5 NHs in Singapore who died in 2022. Results were compared for two groups (ACP group vs no ACP group). Demographics information, mean admission rate and median LOS in their last 1 year of life were compared. Concordance to PPOC and PPOD of ACP group was computed. Descriptive statistics were used to report the results.</p> <p>Results ACP group, as compared to no ACP group, were older and were mostly female. ACP group had a higher rate of hospital admission and a lower LOS. 92% of ACP group chose NH as their PPOD with 60% of PPOD fulfilled. PPOC concordance was high, 49% chose comfort care while 51% chose limited interventions. For those who died in NHs, residents with ACP utilized lesser acute healthcare resources as compared to those without.</p> <p>Discussion & Conclusion PPOC concordance was high, PPOD concordance was lower than expected. This could be due to their preferences for limited intervention, leading to hospital transfers despite stating their preferences to die in NH. ACP would likely result in honoring of the PPOC, it might not result in honoring of the PPOD and might not necessarily reduce hospital utilization.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1103	Psychiatry
<p>Authors P.Y.LOH², L.MARTINENGO², C.HEAUKULANI³, X.Y.TAN³, M.HNG¹, Y.Y.CHEAH¹, R.J.T.MORRIS³, L.TUDOR CAR², J.LEE¹ ¹Institute of Mental Health (Singapore), ²Lee Kong Chian School of Medicine (Singapore), ³MOH Office for Healthcare Transformation (Singapore)</p> <p>Title mHealth Interventions for Adults with Psychosis: A Systematic Mapping Review</p> <p>Background & Hypothesis Mobile health (mHealth) interventions have gained popularity in augmenting psychiatric care for adults with psychosis. However, reported outcomes have been mixed, likely attributed in part to the intervention and adopted outcomes, which affected between-study comparisons. This study aims to critically review outcome measures used to evaluate mHealth interventions for adults with psychosis, in relation to mHealth intervention characteristics.</p> <p>Methods We searched PubMed, CINAHL, Embase, PsycINFO and Cochrane Libraries from 1973 to present. Selection criteria included randomized controlled studies of mHealth interventions in adults diagnosed with schizophrenia spectrum disorders. Reviewers worked in pairs to screen and extract data from included studies independently using a standardised form; disagreements were resolved by consensus with an independent reviewer. We report our findings in line with PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) guidelines.</p> <p>Results 1703 citations were screened; 29 publications were included in this review. Severity of psychosis-related symptoms (91%) was the most prevalent outcome measure, though consistently reported with patient-centric outcomes including well-being (74%) and user experience (65%). mHealth interventions for psychosis predominantly comprised a combination of features, with psychological therapy being the most-deployed feature (52%). Most interventions targeted multiple pillars of Engel's biopsychosocial model (43%), with those promoting users' self-management being the commonest single-mode intervention (26%). Notably, outcome choices remained diverse despite stratification by type of mHealth intervention.</p> <p>Discussion & Conclusion mHealth interventions encompass a wide range of modalities and employed outcome measures. mHealth interventions should be considered complex interventions and a holistic approach combining clinical and patient-centric outcomes is recommended.</p>	

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Abstract ID	Clinical Specialty
SHBC1206	Population Health
<p>Authors M.LEE¹, H.S.KHOO¹, C.KRISHNASAMY¹, M.E.LOO¹, S.C.CHENG¹, E.BEI¹, E.S.LEE², S.LEE², S.Y.TAN², S.WONG², P.XIE², W.E.TANG²</p> <p>¹National Healthcare Group HQ, ²NHG Polyclinics (Singapore)</p> <p>Title Lived experiences of being overweight/obese in adults with early type 2 diabetes (T2DM): A qualitative study</p> <p>Background & Hypothesis Losing excess weight has multiple health benefits for persons with T2DM who are overweight or obese. However, they face multiple personal and environmental challenges in weight management. To better understand these challenges, we sought to understand the lived experiences of adults with early T2DM and overweight/obesity, to explore the interrelations among various aspects of these experiences and the effect on attitudes towards weight management. This knowledge can inform the type of support needed for successful weight management.</p> <p>Methods Twenty-one adults with BMI 25-44 and T2DM for six years or less were recruited from NHGP polyclinics for semi-structured interviews. The anonymised interviews were audio-recorded, transcribed verbatim and analysed thematically according to a socio-ecological framework.</p> <p>Results A combination of environmental factors such as work-driven society, high visibility of and easy access to unhealthy food; social factors such as poor family support; and individual factors such as chronic pain, work-related stress, and sedentary lifestyle, pose as barriers to successful weight management for our participants. The main themes – Life in Singapore; People Around Me and Within Me interrelate to form an overarching theme: Psychosocial supports may weaken the obesogenic barriers for adults with overweight/obesity and T2DM.</p> <p>Discussion & Conclusion Our study identified individual, social and environmental factors that contributed to challenges with weight management. The interrelations among these factors underscore the need for an integrated approach to weight and diabetes management.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1210	Public Health / Clinical Epidemiology
<p>Authors R.J.Li¹, Y.G.ANG¹</p> <p>¹National Healthcare Group HQ (Singapore)</p> <p>Title Feasibility of the use of Whisper.cpp for Speech-to-Text Conversion for transcription of interviews</p> <p>Background & Hypothesis Speech-to-text conversion has raised concerns about patient privacy with cloud-based systems. The study aims to test the feasibility and users' acceptability of the use of Whisper.cpp for offline speech-to-text conversion.</p> <p>Methods We collected a dataset of interview recordings as part of another research project exploring health beliefs of participants. Whisper.cpp was used to enable offline speech-to-text conversion. Data preprocessing, model training were implemented to optimize accuracy and protect interview data. The system's performance was evaluated, and user feedback was gathered from 6 research professionals to assess usability and practicality. An exploratory test of an offline large-language-model similar to ChatGPT was used to determine if the summarising capability of the offline model is suitable for use in qualitative research.</p> <p>Results The implementation of Whisper.cpp yielded promising outcomes. The system demonstrated high accuracy in transcribing speech recordings, achieving comparable performance to human transcription. On average, for every hour of recording, it took one and a half hours of transcription. Of the six researchers, all six were satisfied with the use of whisper.cpp and would recommend their colleagues to use. Inaccurate portions could be quickly identified using the timestamps and corrected manually. The offline summarising function performed reasonably well and manage to capture the main points of the interview.</p> <p>Discussion & Conclusion Whisper.cpp achieved high accuracy, protecting privacy and can potentially be used in medical settings. This allows researchers to save time while transcribing and further work is needed to identify the limits of the model for summary and analysis using generative artificial intelligence.</p>	

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Abstract ID	Clinical Specialty
SHBC1276	Public Health / Clinical Epidemiology
<p>Authors J.M.TEE¹, N.MAIN¹ ¹Ng Teng Fong General Hospital (Singapore)</p> <p>Title Understanding knowledge, attitude and practice towards Advance Care Planning (ACP) among doctors at a community hospital in Singapore</p> <p>Background & Hypothesis Advance care planning (ACP) is a voluntary, non-legally binding discussion and documentation of patient's goals-of-care and healthcare preferences in the context of an anticipated deterioration in health condition with loss of mental capacity. While ACP is widely campaigned as a pre-planning tool that empowers medical teams and patients to provide and receive goal-concordant care, ACP referral and completion rates remain low in Singapore with both doctor and patient factors commonly cited as barriers to uptake.</p> <p>Methods A cross-sectional, anonymous survey on knowledge, attitude and practice towards ACP was administered to all doctors working at a community hospital in Singapore in July 2022. The transtheoretical model (TTM) was applied to measure doctors' self-reported readiness to integrate ACP in their clinical practice. The five stages of changes are pre-contemplation, contemplation, preparation, action and maintenance. Open-ended questions were posed to understand the enablers and barriers to ACP uptake among doctors. Knowledge about ACP was assessed.</p> <p>Results 18 out of 26 doctors participated in the survey. Senior doctors' self-reported readiness in integrating ACP in their clinical practice were concentrated at "action" and "maintenance" while junior doctors' responses were dispersed across all five stages of change. One-third of junior doctors reported low self-efficacy in initiating ACP with patients under their care. A mean correct response rate of 66.7% was obtained for questions on ACP knowledge.</p> <p>Discussion & Conclusion Doctors play an integral role in the successful implementation of ACP. TTM stage-matched interventions are needed to equip junior doctors with knowledge and skills to honour patients' ACP and provide patient-centred care.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1279	Palliative Medicine
<p>Authors G.C. MAGPANTAY¹, T. MUTHUSAMY¹, Q.W.TAN¹, Y.J.LIM¹, L.K.SIM,¹ C.H.YU¹, J.A.LOW¹, L.C.TAN¹</p> <p>Khoo Teck Puat Hospital (Singapore)</p> <p>Title Healthcare Utilisation of Nursing Home Residents in the Last Year of Life: A GeriCare Study</p> <p>Background & Hypothesis Identification of palliative care (PC) needs, and provision of PC can improve quality of life and reduce acute healthcare utilisation. GeriCare is an interventional programme that screens for and provides PC to nursing home (NH) residents. The study aims to investigate the impact of GeriCare interventions on NH residents in their last year of life.</p> <p>Methods All residents who died in 2022 from five NHs were studied. The number of hospital admissions, length of stay (LOS) and acute hospitalisation cost in the last 1 year of life per decedent were compared between PC and non-PC residents. Advance care planning concordance for preferred plan of care (PPC) and preferred place of death (PPOD) were compared between two groups.</p> <p>Results There were 157 decedents. The average age at death was 82, 57% were female and majority were Chinese. 65% decedents were PC residents. Compared to non-PC residents, more PC residents had hospital admissions (75% vs 62%) and had more admissions per resident per year (2.6 vs 2.0) but a lower LOS per resident per year (27.9 vs 37.2 days), a lower acute hospitalisation cost per resident per year (\$22,646 vs \$29,478) and a lower hospital death (59 % vs 71%). Concordance for PPC was higher for PC residents but lower for PPOD.</p> <p>Discussion & Conclusion A programme that provides PC can reduce the LOS and hospitalisation cost in the last year of life for NH residents. Further study on the characteristics of non-PC residents could improve the care for residents in their last year of life.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1282	Public Health / Clinical Epidemiology
<p>Authors L.GE¹, H.Y.LOKE¹, R.KARTHIGAYAN¹, H.T.FOO¹, T.C.WEI¹, M.J.CHUA¹, J.A.D.C.MOLINA¹, C.F.ONG, , , , , , , ,</p> <p>¹National Healthcare Group HQ¹</p> <p>Title Measuring School Children’s Health Activation: Using Cognitive Interviewing to Improve the Development of the Instrument</p> <p>Background & Hypothesis The health activation level of an individual significantly influences their adoption of health behaviour. To address the gap in available instruments, we developed a measure to assess student health activation. This study described results from cognitive interviews conducted as part of the development and psychometric testing to inform revisions to the new SHA measure.</p> <p>Methods A cognitive interview guide was developed following Tourangeau’s four-stage question-and-answer model. A convenience sample of 24 primary school students aged 8-11 years was recruited. The measure was administered via FormSG and face-to-face cognitive interviews were conducted between January-March 2023. Verbal probing and observations were used to assess how participants understood and answered questions. The problems for individual items were identified and summarized from the analyses of the transcripts. Decisions were made on whether an item should be retained, deleted, or modified and whether additional items should be added upon discussions.</p> <p>Results The interviews lasted for 20 mins on average (range: 10-40 mins). One participant each indicated “Do not understand” for three items. Most issues detected were related to comprehension of phrases/terms, retrieval of information, and judgement. Participants generally found the four-point Likert scale ranging from “Strongly disagree” to “Strongly agree” appropriate for answering the questions. According to the findings, 4 items remained unchanged, 16 items were reworded or rephased, and 2 items were added.</p> <p>Discussion & Conclusion Cognitive interviewing with primary school children is feasible, and it is a necessary and valuable approach for identifying problems and suggesting modifications for the development and validation of an instrument catered for children.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1308	Ophthalmology
<p>Authors KON M.H.A², M.J. PEREIRA¹, J.A.D.C. MOLINA¹, V. YIP³, B.H. HENG¹, J.A. ABISHEGANADEN¹, W.F. YIP¹</p> <p>¹National Healthcare Group HQ (Singapore), ²National University of Ireland Galway (Ireland), ³Tan Tock Seng Hospital (Singapore)</p> <p>Title Eyes on AI: Unraveling ChatGPT's Potential in Summarising Qualitative In-Depth Interviews</p> <p>Background & Hypothesis To our knowledge, no studies have compared Chat Generative Pre-Trained Transformer(ChatGPT), an artificial intelligence(AI) language model, in generating themes from in-depth interviews with traditional human analysis. Our study aimed to compare themes generated by ChatGPT with traditional human analysis from in-depth interviews.</p> <p>Methods Three transcripts understanding patients' experiences from a community eye clinic(CEC) evaluation study were obtained. Transcripts were first analysed by an independent researcher using framework analysis. Next, specific aims, instructions, and de-identified transcripts were uploaded to ChatGPT 3.5 and ChatGPT 4.0. Transcripts were uploaded in 4-page batches to accommodate word limit. Concordance in the themes was calculated as the number of themes generated by ChatGPT divided by the number of themes generated by the researcher. The number of unrelated themes by both ChatGPT was also described.</p> <p>Results The average time taken per transcript was 11.5 minutes, 11.9 minutes, and 4 hours for ChatGPT3.5, ChatGPT4.0, and researcher respectively. Six themes were identified by the researcher: i)CEC's accessibility, ii)patients' awareness, iii)trust and satisfaction, iv)patients' expectations, v)willingness to return, and vi)explanation of CEC by referral source. Concordance for ChatGPT3.5 and 4.0 ranged from 66-100%. ChatGPT3.5 produced 17 additional irrelevant subthemes, compared to 11 by ChatGPT4.0.</p> <p>Discussion & Conclusion Our preliminary results showed that ChatGPT significantly reduced analysis time with moderate to good concordance compared with current practice. This highlighted the potential adoption of ChatGPT to facilitate rapid preliminary analysis. However, re-categorisation of subthemes and in-depth analysis will still need to be conducted by a researcher.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1317	Public Health / Clinical Epidemiology
<p>Authors W.F.YIP¹, L.G¹, B.H.H¹, W.S.T¹</p> <p>¹National Healthcare Group HQ (Singapore)</p> <p>Title Self-reported physical function limitations as a mediator in the association between age and incident falls</p> <p>Background & Hypothesis It remains unclear whether the association between age and incident falls is mediated by the severity of physical limitations. This study aimed to explore the mediating role of physical function limitations in the relationship between age and incident falls among community-dwelling adults.</p> <p>Methods Baseline and 1-year follow up data were obtained from a representative sample of residents in Singapore's central region. Participants aged ≥40years, without baseline falls were included. Physical function limitations were scored using the Late-Life Function and Disability Instrument(LLFDI). Incident falls were defined as falls occurring between baseline and follow up. Logistic regression analyses determined the total direct effects of age on incident falls, adjusting for gender, ethnicity, polypharmacy, loneliness status, presence of vision impairment/hearing impairment and depression status. Regression-based mediation analyses were employed to evaluate the indirect effects of age on incident falls through physical function limitations, adjusting for similar covariates.</p> <p>Results Of the 1,053 participants, 7.7%(109) experienced an incident fall. After adjustments, older age was associated with incident falls(odds ratio[OR],1.87;95%confidence interval[CI],1.16–2.99). There was no significant indirect effect of increasing age through basic physical limitations. There were significant indirect effect of increasing age through advanced physical limitations(OR,1.45;95%CI,1.05–1.97). Proportion mediated by advanced physical limitations was 54.6%.</p> <p>Discussion & Conclusion Mediation analyses revealed that the effect of age on incident falls was mediated only by advanced physical limitations. Screening for early physical limitations is crucial to prevent the progression to an advanced stage, reducing an individual's fall risk.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1321	Public Health / Clinical Epidemiology
<p>Authors W.LAU¹ ¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title Determinants of choice of Singapore Residents when selecting elective specialist care</p> <p>Background & Hypothesis Singapore residents are increasingly empowered to make healthcare provider choices. They are influenced by healthcare consumerism, and they bear a greater proportion of healthcare costs through private health insurance ownership. The aim of the study was to understand the sociodemographic factors and healthcare provider attributes that influenced Singapore residents in the choice of a public or private healthcare provider for the treatment of an elective condition that required specialised care.</p> <p>Methods A cross-sectional, online-distributed, self-administered questionnaire was performed. There were 29 items that included 21 healthcare provider attributes on a five-point attitudinal scale, 7 demographic attributes of the respondent, and 1 respondent choice item (public patient in a public hospital, private patient in a public hospital, or private patient in a private hospital or clinic).</p> <p>Results “Public care” respondents assigned higher importance to “near to home” and “transportation access”. “Private care” respondents assigned higher importance to “personal experience”, “reputation of the specialist”, “ability to see specialist of choice”, and “specialist medical skill and experience”. Age less than 50 years old (OR 2.039, p=0.006), degree or other professional qualification (OR 2.945, p<0.001), average monthly household \$6000 and above (OR 2.641, p<0.001), and private health insurance ownership (OR 1.961, p=0.025) was associated with greater likelihood of choosing “private care”.</p> <p>Discussion & Conclusion Public healthcare institutions play an important role in the provision of older-person-centred care around regional health systems. Conversely, the private care consumer is younger, better educated, high income, and preferred an ability to choose the specialist of choice.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1327	Public Health / Clinical Epidemiology
<p>Authors Q.HUANG¹, L.Y.Tan¹</p> <p>¹Singapore Cancer Society (Singapore)</p> <p>Title Factors Influencing Human Papillomavirus Vaccination Uptake among Young Women Aged 18-26 Years in Singapore: A Cross-Sectional Study</p> <p>Background & Hypothesis Human Papillomavirus (HPV) vaccines are effective in preventing cervical cancer. Despite being target population for HPV vaccination in Singapore, uptake among young women aged 18-26 years remains suboptimal. This study aimed to identify factors influencing HPV vaccination uptake among this segment.</p> <p>Methods A questionnaire-based survey was conducted online to gather data on sociodemographic characteristics, knowledge regarding HPV vaccination and cervical cancer, and HPV vaccination practices. Multivariate logistic regression analysis was performed to identify factors independently associated with HPV vaccination.</p> <p>Results Of the 402 female participants aged between 18-26 years, only 74 (18.4%) received the HPV vaccination. Multivariate logistic regression analysis revealed that Chinese were more likely to have received the HPV vaccine (OR 2.41; 95%CI 1.04-5.59). Those with post-secondary education were significantly more likely to be vaccinated (OR 9.42; 95% CI 1.22-72.60). Furthermore, participants who exhibited a higher level of knowledge on HPV vaccination and cervical cancer were more likely to be vaccinated (OR 5.65; 95%CI 3.18-10.03). Among the unvaccinated participants, 249 (76.1%) expressed interest to receive HPV vaccination in future after being educated on HPV infection and benefits of HPV vaccination.</p> <p>Discussion & Conclusion The study highlights the need for targeted interventions to enhance HPV vaccination uptake among young women aged 18-26 years in Singapore. Public health initiatives should focus on empowering minority groups and individuals with lower education levels to address the knowledge gaps and improve HPV vaccination uptake.</p>	

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Abstract ID	Clinical Specialty
SHBC1344	Public Health / Clinical Epidemiology
<p>Authors J.T.Ow², Z.Huang², W.E.Tang¹, A.Chow² ¹NHG Polyclinics, ²Tan Tock Seng Hospital (Singapore)</p> <p>Title User satisfaction in serious games for public health education: Insights from the "SteWARdS Antibiotic Defence" app</p> <p>Background & Hypothesis The ubiquity of mobile game applications (apps) presents opportunities for public health education efforts to increase population outreach. However, rapid user disengagement from these apps limits their effectiveness in promoting public health, underscoring untapped potential in utilising this modality for public health education. Investigating user satisfaction is crucial in optimising apps' potential. Hence, we sought to assess user satisfaction for our serious game app—"SteWARdS Antibiotic Defence"—designed to educate the public on appropriate antibiotic use and AMR.</p> <p>Methods We conducted a cross-sectional study on 240 participants who were invited to complete the game quests in the "SteWARdS Antibiotic Defence" app on Android smartphones. Those who completed the quests answered a satisfaction survey. The survey assessed participants' app satisfaction via four five-point Likert scales and three open-ended questions. We used descriptive statistics to analyse quantitative data and inductive thematic analyses for open-ended questions.</p> <p>Results 142 (59.2%) participants completed the satisfaction survey. Most respondents agreed that the app improved their awareness of antibiotic use (95.1%) and antibiotic resistance (95.8%) and is easy (73.9%) and enjoyable (69.9%) to use. 85.2% of respondents would recommend the app to others. Three themes contributing to user satisfaction were identified: 1) player acceptance (e.g., enjoyment), 2) value in learning concepts, and 3) usability (e.g., user-friendliness).</p> <p>Discussion & Conclusion Users were generally satisfied with our serious game app and would recommend it to others. Pertinent factors contributing to user satisfaction, such as optimising game mechanics, should be considered during the early stages of game design to sustain user engagement and improve outcomes.</p>	

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Abstract Details	
Abstract ID	Clinical Specialty
SHBC1364	Public Health / Clinical Epidemiology

Authors

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Title

Alcohol's Harm to Others in Singapore: Perpetrator and Victim Data on Prevalence and Risk Factors

Background & Hypothesis

Alcohol's harm to others (AHTO) – the negative impacts drinkers have on their environment, family, and peers – is a significant public health concern. This study investigated the prevalence and risk factors for AHTO among youth and adults in Singapore.

Methods

Individuals (aged 15-65 years) with AHTO data in a nationally-representative sample (n=6,468) were analysed. Perpetrators and victims reported on four dimensions of AHTO: (1)Assault; (2)Family/marriage difficulties; (3)Financial troubles; (4)Vandalism; and the Patient Health Questionnaire-9, General Anxiety Disorder-7, and Insomnia Severity Index. Weighted logistic regression models explored associations of sociodemographic and clinical attributes on exposure to AHTO among perpetrators and victims respectively.

Results

Thirteen percent of the sample experienced AHTO. Alcohol-related assaults were the most prevalent type of harm affecting 1 in 14 victims. Being of Indian ethnicity (vs Chinese; OR:1.95, p<0.01); separated, widowed, or divorced (vs married; OR:3.05, p=0.01); and with hazardous alcohol use (vs non-drinkers; OR:3.00, p=0.01) were associated with greater risks of experiencing ≥2 AHTO among victims. Perpetrators were responsible for ≥2 AHTO if separated, widowed, or divorced (OR:5.96, p=0.02), and with hazardous alcohol use (OR:7.71, p<0.001). Victims experiencing AHTO were more likely to be clinically diagnosed with anxiety (OR:1.76, p=0.02), depression (OR:2.20, p=0.01), and insomnia (OR:5.63, p<0.001).

Discussion & Conclusion

Individuals with marital disruptions and ethnic Indians are at considerable risks of becoming victims of harm from drinkers. Hazardous drinking exacerbates harm to both drinkers and others. Legislation with structural interventions can protect vulnerable others from alcohol's harm.

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1365	Geriatric Medicine
<p>Authors L.K.LAU¹, N.X.TOU¹, H.W.A.CHIA³, K.Y.J. HO³, S.M.CHUA³, R.K.L.YOONG³, S.M.LIM³, Y.H.EE³, W.K.LAI³, R.P.LEE³, B.K.CHAN³, P.C.CHAN³, S.Y.L.AU, M.J.PEREIRA², Y.Y.DING¹, M.Y.M.TAN³ ¹Geriatric Education and Research Institute (Singapore), ²National Healthcare Group HQ (Singapore), ³Ng Teng Fong General Hospital (Singapore)</p> <p>Title Implementation of a geriatric inpatient mobility intervention: A qualitative study of nurses' perspectives.</p> <p>Background & Hypothesis Older adults experience reduced mobilisation during hospitalisation. This can lead to functional decline and increased risk of adverse health outcomes. Hence, the adoption of early mobility interventions in the acute care settings becomes paramount in minimising functional loss. This qualitative study explored the attitude and experiences of nurses in relation to the implementation of a multicomponent, mobility-focused intervention in the acute care setting of Singapore.</p> <p>Methods Semi-structured interviews were conducted with a purposive sampling of nine nurses who were involved in the intervention. An inductive approach and thematic content analysis were employed.</p> <p>Results The mobility intervention was acceptable to most nurses. Two main themes were identified: (1) enhanced patient care and professional autonomy, and (2) manpower constraints. The nurses believed that the multicomponent, mobility intervention was beneficial to patients. They observed improved social interactions between patients during the group-based intervention. The intervention enhances patients' care and management due to better understanding of patients' condition. Most of the nurses perceived that this resulted in improved competency levels and professional autonomy. However, some implementation issues did arise, which clouded the sustainability of the intervention. The main barrier highlighted by nurses was manpower constraints due to competing duties. Patients' resistance to mobility interventions and their underlying medical conditions challenged the feasibility of the implementation.</p> <p>Discussion & Conclusion Overall, the intervention was acceptable among nurses, and perceived to be beneficial for patients. However, the implementation challenges undermine the intervention sustainability. Measures that should be addressed include adaptation of manpower, and clear communication on the goal of intervention to staff.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1367	Pharmacy Practice
<p>Authors V.TEO⁷, S.F.LOW⁸, M.HENG³, J.W.OH², K.F.LAM¹, B.K.LI⁴, E.S.LEE⁶, T.M.NG⁷, P.C.TAN⁵, W.Y.C.TAN⁵, H.S.CHIA⁵, S.H.NEO⁴, S.Y.PANG³</p> <p>¹Institute of Mental Health (Singapore), ²Khoo Teck Puat Hospital (Singapore), ³National Healthcare Group HQ (Singapore), ⁴National Skin Centre (Singapore), ⁵NHG Pharmacy (Singapore), ⁶NHG Polyclinics (Singapore), ⁷Tan Tock Seng Hospital (Singapore), ⁸Yishun Community Hospital (Singapore),</p>	
<p>Title Patient's degree of Adherence, Challenges & preferences towards medicine Taking (PACT)</p>	
<p>Background & Hypothesis</p> <p>Medication nonadherence is a prevalent public health problem that compromises patients' health outcomes and increases healthcare expenditures. Existing studies are largely characterised by specific settings and clinical conditions, limiting their extrapolation to patients with other clinical conditions and multi-morbidity. This study aimed to (1) examine the prevalence and reasons of medication nonadherence among people with different clinical conditions across different settings and (2) investigate possible associations with their preferred intervention for improving adherence.</p>	
<p>Methods</p> <p>This multi-site cross-sectional study took place at six primary and tertiary care healthcare institutions in Singapore. Eligible patients or caregivers for patients with any long-term medication were invited to self-administer an anonymous online survey when they received their routine care at the study sites between March to November 2022.</p>	
<p>Results</p> <p>1248 participants completed the survey and 56.4% of them were nonadherent to their medications. Common reasons for nonadherence included "I forgot", "I was out of my routine" and "I was too late with my dose". More than 40% of the participants prefer using pillbox, learning to maintain medication list and having access to medication information. Significant but weak correlations were observed between reasons "I forgot", "I was out of my routine", "I was too late with my dose" and mobile application reminders.</p>	
<p>Discussion & Conclusion</p> <p>This study showed a significant burden of medication nonadherence in Singapore. The common factors of nonadherence and patients' preference on possible interventions found will help to develop better interventions for our ageing and growing population with multimorbidity.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1368	Palliative Medicine
<p>Authors Z.Y.CHIAM², S.H.X.NG¹, J.A.MOLINA¹, J.W.Y.HA¹, W.Y.GOH², Z.Y.V.NG², H.Q.V.HOON², Y.J.LOH², H.Y.XU², Y.M.A.HUM², W.S.TAN¹, H.Y.NEO² ¹National Healthcare Group HQ (Singapore), ²Tan Tock Seng Hospital (Singapore)</p> <p>Title A Mixed Methods Research Study Protocol of a Novel Palliative Rehabilitation Service at Day Rehabilitation Centres</p> <p>Background & Hypothesis Chronic lung diseases and heart failures are leading causes of repeat hospitalisations in Singapore and associated with high symptoms burden. We propose a 10-week palliative rehabilitation program in Day Rehabilitation Centres (DRCs) to meet the needs of the larger group of more robust patients with chronic heart or lung conditions. This program will provide symptoms palliation, pulmonary rehabilitation and educations on chronic disease self-management to patients with chronic lung and heart diseases.</p> <p>Methods We plan to use a mixed-methods research to evaluate effects of this program. a.Qualitative Evaluation: Involves in-depth interviews and focus group discussions with key stakeholders, to identify factors that impact service implementation. b.Quantitative Evaluation: A retrospective cohort study will compare healthcare expenditure such as frequency and length of hospitalisations between participants of the programme and a propensity score-matched comparator group. It will also compare participants' pre- and post- outcomes on breathlessness severity, quality-of-life using EQ5D-5L and functional capacity such as 6 minute walking distance and gait speed.</p> <p>Results Program participants will be followed up for 6 months, with scheduled interviews and functional assessments. Participants will be matched 1-to-1 to controls by age, respiratory diagnosis, Charlson Comorbidity Index, socioeconomic strata, and healthcare utilizations.</p> <p>Discussion & Conclusion When implemented, this will be the first community based integrated palliative rehabilitation program at Day Rehabilitation Centre for non-cancer patients in the world. Functional rehabilitation, medical consultations, patient education and peer support activities will be integrated to meet the complex needs of these patients.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1405	Public Health / Clinical Epidemiology
<p>Authors E.H.TAY¹, S.SHAFIE¹, S.SHAHWAN¹, Y.J.ZHANG¹, P.Z.WANG¹, P.SATGHARE¹, F.DEVI¹, S.C.TAN¹, M.SUBRAMANIAM¹ ¹Institute of Mental Health (Singapore)</p> <p>Title Adherence to COVID-19 measures and the associated factors: evidence from a two-wave longitudinal study in Singapore</p> <p>Background & Hypothesis At the beginning of COVID19, governments worldwide relied on public health measures (i.e., Social-distancing) to curb rising infection rates as pharmaceutical interventions were not readily available. Despite the importance of such measures, some nations reported low adherence rates amongst their residents. Current research studying factors that improve adherence rates had contradictory results, and majority were conducted using pre-lockdown data. Hence, we seek to identify factors associated with greater adherence throughout the pandemic in Singapore.</p> <p>Methods Data were collected from a two-wave COVID19 study held from May 2020 to September 2022. Participants (n=858) were Singapore residents, aged above 18, and able to speak English, Chinese or Malay. Weighted univariate logistic regression was performed to detect significant differences in adherence rates across timepoints. Weighted multivariable logistic regression was conducted to identify sociodemographic factors associated with adherence to the COVID19 measures.</p> <p>Results Adherence rates declined over time; with the measure 'Avoiding people with flu' having the highest decrease (7.4%). Significant factors associated with greater adherence were older age-groups (35-49: OR=2.28, 50-65: OR=3.03, ≥65: OR=3.53), having high trust in local public-health experts (OR=2.21), and being afraid that family and friends might be infected with COVID19 (OR=2.19).</p> <p>Discussion & Conclusion Our findings suggest that participants became less wary of the COVID19 virus over time, leading to lowered adherence, especially with the prevalence of vaccinations. Soft interventions like nudges can be installed at crowded places to remind the public how easily the virus spreads to their loved-ones. Increasing media presence of public-health experts can be a viable alternative to improve adherence.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1414	Public Health / Clinical Epidemiology
<p>Authors K.L.TEOW¹, G.Y.ANG¹, S.H.X.NG¹</p> <p>¹National Healthcare Group Corporate Office (Singapore)</p> <p>Title Using a Large Language Model to aid abstract screening in systematic reviews</p> <p>Background & Hypothesis A time-consuming step in the conduct of systematic reviews is the screening of articles to decide on its subsequent inclusion for full-text review. Two reviewers are required to go through the articles, and a third reviewer when there is a tie. Artificial Intelligence (AI) has helped to reduce this workload. However, most reports were based on earlier generations of natural language processing models. We used the more recent Bidirectional Encoder Representations from Transformers (BERT) architecture to assess its performance on a completed review on prognostic factors of end-stage lung disease.</p> <p>Methods Of 21,645 abstracts retrieved, 530 (2.5%) were included by the reviewers. We resampled the abstracts to achieve a dataset of 530 included abstracts and 2,124 excluded abstracts. We tested 2 BERT models. The first was the “original” BERT pre-trained for English on the Wikipedia and BooksCorpus (BERT). The second was from TensorFlow Official Model Garden, pretrained on MEDLINE/PubMed (PubMed BERT), and split into 75% training and 25% testing. The AI models read the abstracts and decisions.</p> <p>Results PubMed BERT converged faster and produced a more accurate result compared to BERT, with AUCs of 0.91 vs 0.85. Setting the Recall (Sensitivity) at 93%, the Precision for PubMed BERT and BERT were 49% and 33%, and F1 score of 0.64 and 0.48 respectively.</p> <p>Discussion & Conclusion BERT was able to accurately identify relevant abstracts from text information, and PubMed BERT outperformed the original BERT model. Reviewers could incorporate AI into the systematic review process to reduce their workload.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1415	Psychiatry

Authors

R.YIN², L.MARTINENGO², H.E.SMITH², M.SUBRAMANIAM¹, L.TUDOR CAR², , , , , , , , , , ,

¹Institute of Mental Health (Singapore), ²Lee Kong Chian School of Medicine (Singapore)

Title

Older adults' adoption of digital mental health interventions: a qualitative systematic review of barriers and facilitators

Background & Hypothesis

Digital mental health interventions (DMHIs) are increasingly used and many of them have been shown to be effective. However, they appear to be designed for younger populations. This study aimed to explore older adults' views on the barriers and facilitators to using DMHIs for enhancing mental well-being or self-management of mental health disorders.

Methods

We performed a qualitative systematic review. We searched PubMed, Embase, CINAHL, Web of Science, PsychInfo, and the first 100 results of Google Scholar for eligible studies. We included qualitative or mixed-methods studies assessing the views on DMHIs of people 50 years or older.

Results

A total of 28 papers reporting 26 studies were included. The interventions were delivered using mobile applications (n=10), videoconferencing tools (n=6), websites (n=5), and virtual reality (n=2). The participants were homebound or community-dwelling older adults, and veterans with or without a mental health disorder. The factors influencing DMHI use were misunderstandings about ageing and mental disorders, user characteristics, interpersonal influence, intervention- and technology-related factors, and the perceived benefits and risks of using DMHIs. Commonly reported barriers included ageism and stigma, lack of relevant intervention content, poor accessibility, and privacy concerns. Key facilitators included human support, detailed instructions, perceived usefulness, and improved mental health and well-being after using DMHIs.

Discussion & Conclusion

Older adults are willing to use digital technology provided that there are sufficient support and detailed instructions. Future DMHIs for older adults should also offer personalised content, adopt accessibility features and address privacy and confidentiality issues.

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1424	Infectious Diseases
<p>Authors P.SIM², C.LOCK⁴, T.MINA², B.E.YOUNG³, N.C.H.KEONG⁴, S.H.PUAH⁵, J.LEE¹, J.CHAMBERS², K.GRIVA² ²Nanyang Technological University, National Neuroscience Institute, Nanyang Technological University, ³National Centre for Infectious Diseases, ⁴National Neuroscience Institute, ⁵Tan Tock Seng Hospital, ¹Institute of Mental Health, Nanyang Technological University, Nanyang Technological University</p> <p>Title SARS-CoV-2 infection is associated with cognitive impairment and complaints – matched case-control analyses with Health for Life in Singapore Study</p> <p>Background & Hypothesis Despite evidence on the cognitive sequelae in patients with severe COVID-19, the risk of subjective cognitive complaints and cognitive deficits across the spectrum of symptom severity are not well understood. The aims of this study were to document and compare rates of cognitive complaints and impairments in post-symptomatic and -asymptomatic COVID-19 patients, associations with sociodemographic and clinical parameters, and compared against matched controls.</p> <p>Methods Using a prospective design, N=85 (M=48.19, SD=13.63; Female=47%) were assessed with computerized neuropsychological test batteries (memory, executive function, processing speed, attention), and self-report questionnaires on subjective complaints (PAOFI), mood, and fatigue measures at 6 to 18 months post-COVID infection.</p> <p>Results Overall, 48.2% of participants reported subjective complaints on PAOFI across the domains of memory (60.2%), language (33.7%), and higher cognition (28.9%), and motor (21.7%), with rates significantly higher among symptomatic patients for language and higher cognition compared to asymptomatic patients. Compared to matched controls, a higher prevalence of depression (13.4%) and anxiety (9.6%) was found among post-COVID patients. Although no difference was found in neuropsychological test performance between symptomatic and asymptomatic patients, post-COVID patients, in general, showed poorer performance in processing speed, working memory, and attention compared to matched controls.</p> <p>Discussion & Conclusion The findings of this study help to reveal the differential effects of COVID-19 affecting cognition and mood among patients across the severity spectrum and to determine the domains with persistent impairments that can be targeted in interventions to provide rehabilitative support to recovering patients.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1431	Public Health / Clinical Epidemiology
<p>Authors S.MOHAMED SHAHWAN¹, B.C.W. TAN¹, B.W.Z. LIM¹, S.SHAFIE¹, S. GUNASEKARAN¹, Y.B. TAN¹, S.A. CHONG¹, M. SUBRAMANIAM¹ ¹Institute of Mental Health (Singapore)</p> <p>Title Breaking the stigma towards mental illness: How far have we come?</p> <p>Background & Hypothesis Stigma or negative beliefs and behaviours towards persons with mental health conditions (PMHC) have been implicated as having worse consequences than the conditions themselves. In the last demi-decade, concerted efforts such as national mental health awareness campaigns and anti-discrimination employment policies have been implemented. This study aims to examine whether stigma towards depression (DP), alcohol addiction (AA), schizophrenia (SZ), dementia (DM) and obsessive-compulsive disorder (OCD) has reduced since 2014-2015.</p> <p>Methods The first Mind Matters survey which was a nationwide study of mental health literacy, was conducted in 2014-2015 (n=3006) and the second, from 2022-present (n=2252) employed the same methodology. Stigma towards the five abovementioned conditions was assessed through a vignette-approach by trained interviewers. The Personal Stigma Scale measures the extent to which respondents perceive PMHC as 'Weak-not-sick' and 'Dangerous/Unpredictable', and the Social Distance Scale measures unwillingness to interact with PMHCs.</p> <p>Results AA was associated with the highest 'Weak-not-sick' and 'Dangerous/Unpredictable' scores while SZ was associated with the highest social distance scores at both time-points. T-tests showed that in comparison to the first study, 'Weak-not-sick' scores reduced across all five conditions and 'Dangerous/Unpredictable' scores reduced for all conditions except AA and OCD. Social distance scores reduced only for OCD.</p> <p>Discussion & Conclusion Negative attitudes towards PMHC significantly reduced since 2014-2015, suggesting cumulative positive impact of the recent years' initiatives . However, there is still considerable reluctance among Singapore residents to interact with PMHC. Contact-based interventions demonstrating promising results in improving willingness to interact with PMHC can be incorporated in future anti-stigma efforts.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1435	Public Health / Clinical Epidemiology
<p>Authors S.H.S.CHANG¹, M.SUBRAMANIAM¹, C.W.B.TAN¹, J.A.VAINGANKAR¹, E.SAMARI¹, Y.W.B.TAN¹, E.B.ABDIN¹, B.Y.CHUA¹, S.B.SHAFIE¹, R.SAMBASIVAM¹, Y.Z.C.TANG¹, Y.P.LEE¹, C.E.C.ANG¹, S.K.VERMA¹</p> <p>¹Institute of Mental Health (Singapore)</p> <p>Title An exploration of coping strategies among youths in Singapore</p> <p>Background & Hypothesis The ability to cope with life stressors is a fundamental skill for youths navigating the transition from adolescence to adulthood. This study aimed to understand preferences in coping strategies among youths in Singapore and examine differences in these preferences across sociodemographic groups.</p> <p>Methods Data was collected from 2,600 youths aged 15-35 years in a cross-sectional epidemiological study. The participants completed a series of questionnaires including the Coping Strategy Indicator (CSI) and sociodemographic information was collected. Subscale scores of the CSI were computed and linear regression was used to explore associations between the scores and sociodemographic factors.</p> <p>Results Among the three coping strategies examined in the CSI, the most preferred strategy used by participants was Problem Solving (PS; M= 26.25, 95% CI [26.04, 26.46]), followed by Seeking Social Support (SS; M= 24.31, 95% CI [24.06, 24.55]) and Avoidance (AV; M=22.18, 95% CI [21.96, 22.41]). Compared to youths aged 30-35 years, youths in the younger age groups demonstrated significantly less use of PS and greater use of AV as coping strategies in response to stressful situations. Females used PS less and SS more as compared to males. Significant differences in scores were also observed across ethnicity, education attainment, marital status, religious affiliation, and employment status.</p> <p>Discussion & Conclusion The findings indicate variations in coping strategies among youths based on sociodemographic characteristics. Understanding these preferences can better inform professionals and individuals involved in youth support services, enabling them to offer personalized assistance and guidance to manage life stressors effectively.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1439	Public Health / Clinical Epidemiology
<p>Authors P.WANG¹, E.H.TAY¹, S.SHAFIE¹, S.SHAHWAN¹, Y.ZHANG¹, F.DEVI¹, S.C.TAN¹, P.SATGHARE¹, J.A.VAINGANKAR¹, M.SUBRAMANIAM¹, S.A.CHONG¹</p> <p>¹Institute of Mental Health (Singapore)</p> <p>Title Impact of COVID-19 pandemic on positive mental health in Singapore</p> <p>Background & Hypothesis Positive Mental Health (PMH) encompasses emotional, psychological, and social well-being. Globally, society has been affected by the COVID-19 pandemic. Studies have looked at mortality rate, depression, and other health consequences. Yet, the effects of this pandemic on one's positive mental health has not been studied. Hence, this study looked at the level of PMH across 2 timepoints and the socio-demographic correlates.</p> <p>Methods This longitudinal study was conducted at two timepoints from May 2020 to June 2021 (N=1129) and October 2021 to September 2022 (N=858). The six-item Rapid Positive Mental Health Instrument (R-PMHI) was used to assess total PMH, with higher scores indicative of better PMH. Socio-demographic information were collected. Multivariable linear regression was conducted to identify socio-demographic factors associated with PMH while controlling for the two time points.</p> <p>Results Overall, total PMH mean scores were not significantly different across the two timepoints. Significant factors associated with lower PMH score were those age between 35-49 years old (vs 21-34) (B= -1.15), male gender (B= -1.06), never married (vs married) (B= -1.27), unemployed (vs employed) (B= -2.07) and below primary school education (vs university) (B= -3.55). Higher PMH score were associated with those of Malay (B= 1.42) and Indian (B= 0.89) ethnicities.</p> <p>Discussion & Conclusion Our findings suggest that PMH in the population remained stable over time. Findings are consistent with previous study whereby females, and those of non-Chinese ethnicities had higher levels of PMH. More social and financial support is needed among unemployed and never married, who may face difficulties during such challenging times.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1441	Population Health
<p>Authors Y.S.HENG¹, X.J.ZHANG¹, K.H.LEO¹, A.CHOW¹, B.Y.THONG¹, Y.L.CHONG¹, P.C.M.CHAN¹, B.K.CHONG¹</p> <p>¹Tan Tock Seng Hospital (Singapore)</p>	
<p>Title Understanding factors associated with inpatient length of stay in a hospital, using statistical modelling</p>	
<p>Background & Hypothesis Length of Stay (LOS) is defined as the number of days that an admitted inpatient will stay in hospital and is widely used to gauge hospitals' efficiency. This study aims to identify the relative contributions of various factors on LOS, to guide interventions to reduce LOS.</p>	
<p>Methods Inpatient discharges between 1 January 2016 and 29 July 2022 (n=398,219) from Tan Tock Seng Hospital were extracted for this study. Negative binomial (NB) generalized linear models (GLMs) were built to provide insights on how 20 identified factors were associated with LOS. Factors considered included administrative, demographics, acuity, medical, psychosocial and the need for the intermediate/long term care. Possible interactions between factors were included in the model. To detect possible changes in factors' relative importance over the years, separate models were fitted for data in each year in addition to an overall model.</p>	
<p>Results The NB GLM model explained 53% of the deviance. Factors which consistently contributed to the greatest improvement in model fit were discharge specialty, referrals to Community Hospital (CH) and referrals to Nursing Home (NH), based on the likelihood-ratio test ($p < 0.001$). According to main effects, cases referred to NH had 5.73 (95% CI: 5.53-5.95) times higher LOS compared to those who were not. Similarly, cases referred to CH had 2.56 (95% CI: 2.52-2.60) times higher LOS compared to those who were not.</p>	
<p>Discussion & Conclusion Referrals to NH and CH respectively were major contributors of LOS. Addressing reasons for the delay in transfers to NHs and CHs could reduce LOS in acute hospitals.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1444	Endocrinology
<p>Authors P.V.PATINADAN², M.D.A.MAHADZIR¹, S.J.LIM¹, A.C.S.ANG¹, A.PIENKOWSKA¹, S.TRIPATHI¹, I.BOJIC¹, H.LIEW³, J.CAR¹, A.H.Y.HO² ¹Lee Kong Chian School of Medicine (Singapore), ²Nanyang Technological University (Singapore), ³Tan Tock Seng Hospital (Singapore)</p> <p>Title “What They Know and How We Help them”: A Qualitative Study on Health Care Professionals’ Perceptions of Patient Health Literacy and Health Promotion for the Prevention of Diabetic Foot Ulcers</p> <p>Background & Hypothesis Diabetic Foot Ulcers (DFU) are a serious, highly morbid consequence of enduring and poorly managed diabetes. This multifactorial condition can result in minor or major amputation and even premature death. Patients living with DFU are also observed to exhibit a myriad of psychosocial complaints. The condition, however, is highly preventable given proper preventative care; with patients’ agency in adhering to treatment and eliciting proper lifestyle changes being a major variable for prevention, management, and treatment. Such agency is scaffolded by how patients know about their condition, as well as how Health Care Professionals (HCPs) educate them. The current study seeks to qualitatively explore HCPs’ perceptions of patient health literacy and health promotion needs surrounding DFU.</p> <p>Methods Data from 8 Focus Group Discussions sampling 19 HCPs from various vocations across four hospitals was thematically analyzed via a social-constructivist paradigm.</p> <p>Results Three major themes with six subthemes were emerged from the analysis to illustrate the interplay between: 1) Health Literacy Complexities (encompassing the subthemes of (a) Balancing Knowledge Levels, Sources, and Belief System, (b) Competing Priorities: Life over Diabetes, (c) Caregiving Literacy and Family Empowerment); 2) Holistic Health Promotion, (encompassing the subthemes of (d) Class is in Session: Consolidating Pedagogies; (e) Prevention is better than Cure: Pre-emptive Health Promotion, (f) Patient as Primary Change Agent), and 3) Multidisciplinary Structural Support in preventing DFU and supporting patients’ health.</p> <p>Discussion & Conclusion Clinical implications of the findings are discussed, including the use of narrative strategies for health promotion, therapeutic patient education, and community-level policy considerations.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1463	Public Health / Clinical Epidemiology
<p>Authors K.Y.L.LIM¹, W.M. KYAW¹, DEBORAH HL NG¹, JEFFERY L CUTTER¹</p> <p>¹National Centre for Infectious Diseases (Singapore)</p> <p>Title Factors associated with late presentation among notified TB patients in Singapore</p> <p>Background & Hypothesis Delayed diagnosis of tuberculosis has impact on both clinical management and the timely initiation of public health interventions. We identify the factors associated with late presentation among notified TB patients.</p> <p>Methods This is a retrospective case-control review on pulmonary tuberculosis cases notified to the National TB Registry for the 10-year period, 2013-2022.</p> <p>Results During the study period, 24,827 pulmonary tuberculosis cases were notified. Of these, 11,169 (45.0%) presented with cough, including 7,075 (63.3%) with cough of >3 weeks (28.5%). Cases with >3 weeks of cough were more likely to be males (63.1% vs 59.7%), aged >65 years-old (27.7% vs 20.0%), living in a 1-2 room HDB flat (10.6% vs 7.5%), unemployed (17.7% vs 13.4%), have cavitary changes on their chest radiograph (29.5% vs 12.3%), or have AFB smear grading 3+ or 4+ (29.8% vs 6.4%). On multivariate analysis, male gender (AOR 1.09, 95%CI 1.03-1.16), aged >65 (AOR 1.38, 95%CI 1.27-1.50), being unemployed (AOR 1.19, 95%CI 1.08-1.32) and living in a 1-2 room HDB flat (AOR 1.35, 95%CI 1.22-1.49) were independently associated with having cough >3 weeks at presentation.</p> <p>Discussion & Conclusion The results suggest the need for interventions to encourage persons with cough of 3 weeks to seek medical attention early to avoid progression to more infectious and severe disease, especially in elderly patients or those less well-off financially.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1464	Palliative Medicine
<p>Authors S.NG¹, W.S.TAN¹, J.S.RETNAM², R.CHONG², L.YIU², R.NG³, A.LAM², , , , , , , , ,</p> <p>¹National Healthcare Group HQ (Singapore), ²Tan Tock Seng Hospital (Singapore), ³Woodlands Health (Singapore)</p> <p>Title Training and mentoring of nursing home staff in Advance Care Planning facilitation: a multi-method evaluation</p> <p>Background & Hypothesis Advance Care Planning (ACP) is especially relevant in the nursing home (NH) setting, where residents are often frail and would benefit from pre-emptive end-of-life care planning. However, NH staff may not be trained to facilitate these ACP discussions. Project RESPECT conducts a one-day ACP facilitation training for NH staff, and mentors trained staff in discussions. We aimed to evaluate the impact of training and mentorship in ACP facilitation on NH staff.</p> <p>Methods A multiple-methods approach was adopted. Staff were surveyed before and 3 months after training on their knowledge, attitudes and confidence towards ACP facilitation. We conducted interviews with NH ACP leaders to understand the role of Project RESPECT in training and mentoring NH staff.</p> <p>Results 48 staff completed the baseline and follow-up surveys. At follow-up, more participants demonstrated adequate knowledge in ACP (baseline: 69%; follow-up: 79%). Most participants reported increased agreement with the importance, responsibilities and need for advocacy for ACP in the NHs (62%), and increased confidence in ACP facilitation skills (73%). From the NH leads' perspective, RESPECT provided easy access to training, and supported trained staff through co-facilitation of discussions with residents and their next-of-kin, direct observation and providing immediate feedback.</p> <p>Discussion & Conclusion Project RESPECT improved the capability and confidence of NH staff in ACP facilitation, and supported them to translate their training into practice. Active involvement of trained staff in actual discussions under the mentorship of experienced facilitators is pertinent to support practice of ACP in the NH setting sustainably.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1473	Geriatric Medicine
<p>Authors S.TOH¹, A.LIM¹, T.TANG¹</p> <p>¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title The role of Personalised Care and Support Planning (PCSP) in Integrated Medical Clinic (IMC)</p> <p>Background & Hypothesis PCSP is a series of facilitated conversations between a person and healthcare professionals (HCPs). In PCSP, the person is engaged and comes prepared. This replaces the traditional consultation where HCPs lead and decide on management plans. PCSP integrates the person's life experiences; explores his challenges and goals, thereby allowing him to act on decisions made by himself. This effectively improves compliance and success.</p> <p>Methods 26 IMC patients were selected for PCSP recruitment between January and February 2023. All were briefed on PCSP and given a "My Living Well Plan" booklet. They were advised to reflect and plan in their booklets prior to their subsequent discussions. 19 "My Living Well Plan" booklets were successfully completed in the following appointments. After finishing their PCSP conversations, these patients completed a Consultation and Relational Empathy (CARE) Measure survey to measure their perceptions of their PCSP experiences.</p> <p>Results All 19 patients completed the survey and 89.5% felt the CARE Measure items were very important for PCSP. All responses for each item were rated good and above, with a total average score of 46.6 out of the maximum possible score of 50, demonstrating high interpersonal quality of their PCSP encounters in IMC.</p> <p>Discussion & Conclusion PCSP values patients as primary decision makers in planning and managing their own health, driving them to identify individualised goals, develop meaningful solutions to their lives and successful healthcare plans. The introduction of PCSP in IMC fundamentally changes the role of patients and HCPs. Ultimately, PCSP improves patients' satisfaction and overall experiences in healthcare service.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1487	Public Health / Clinical Epidemiology
<p>Authors M.L.GINTING², R.SULTANA¹, V.J.W.KOH¹, Z.Z.B.LIM², T.XU⁵, S.F.WONG³, D.B.MATCHAR¹, K.D.HILL⁴, C.H.WONG¹ ¹Duke-NUS Graduate Medical School (Singapore), ²Geriatric Education and Research Institute (Singapore), ³Khoo Teck Puat Hospital, ⁴School of Primary and Allied Health Care (Australia), ⁵Singapore Institute of Technology (Singapore)</p> <p>Title The impact of a community-based falls prevention program on mobility among moderate- to high-risk fallers: a stepped-wedge cluster randomized trial</p> <p>Background & Hypothesis Stepped-wedge cluster-randomized trials (SW-CRTs) are increasingly used to evaluate policy or service delivery interventions. We aimed to evaluate the impact of a community-based falls prevention program with group-based strength and balance exercises on mobility, as measured using Timed-Up-and-Go (TUG), among older adults with moderate to high falls risk.</p> <p>Methods This is a closed-cohort SW-CRT with eight-weekly steps over 48 weeks. A generalized linear mixed-model with random effect for cluster and fixed time effect for every step was conducted with intention-to-treat and adjusted for age.</p> <p>Results The study was rolled-out from September 2021 to October 2022. Six sites (clusters) were recruited (n=48 older adults). Mean age was 72 (SD:7.49). Participants were mainly female (85.4%), Chinese (79.2%), with ≤6 years education (43.8%), living in 1-2-room-HDB (35.4%), had moderate falls risk (89.6%), with no self-reported falls (87.5%) in the one-year prior to assessment. Program adherence was high with most (72.9%) completing the intervention as per protocol and adhering to home strength exercise recommendations (68.8%). However, only 1-in-10 self-reported adherence with the recommended home balance exercise. There was no statistically significant difference in TUG (Mean Difference(log): 0.012;95%CI:-0.003,0.028; p-value=0.125) during intervention condition, compared to control condition.</p> <p>Discussion & Conclusion The program had no significant effect on mobility. SW-CRT provided a means to conduct a randomized evaluation, while allowing a staggered implementation roll-out with logistical and resources challenges amidst COVID. It also has its advantage in the longitudinal design and increased statistical power over other designs with the same (relatively small) number of clusters.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1490	Public Health / Clinical Epidemiology
<p>Authors V.SAGAYADEVAN¹, Y.S.KOH¹, R.SAMBASIVAM¹, E.ABDIN¹, A.R.PEZHUMMOOTTIL VASUDEVAN NAIR¹, W.L.TEH¹, E.SAMARI¹, P.SATGHARE¹, M.I.S.MOHMAD KHALID¹, S.MA², W.L.CHOW², S.A.CHONG¹, M.SUBRAMANIAM¹, , ,</p> <p>¹Institute of Mental Health (Singapore), ²Public Health Group (Singapore)</p>	
<p>Title Association between Hazardous Alcohol Use, Insomnia, and Personal Well-Being in the Singapore General Population</p>	
<p>Background & Hypothesis Hazardous alcohol use (HAU) refers to a pattern of alcohol consumption that places an individual at an increased risk for harm. Our study examined the association between HAU, insomnia, and well-being in Singapore.</p>	
<p>Methods The study is conducted as part of a nationwide survey to examine the prevalence of addictive disorders in Singapore. The respondents were selected through stratified random sampling(n=5903). The Alcohol Use Disorders Identification Test, Insomnia Severity Index, and Personal Well-being index were used to assess HAU in the past one year, insomnia, and well-being respectively. Questions on individuals' perceived risk of harm from alcohol were also included. Logistic regression analyses were performed to determine the association between HAU, insomnia, and well-being.</p>	
<p>Results The prevalence of lifetime, and 12-month alcohol use in the sample was 36.6% and 19.8% respectively. 3.15% of the sample had HAU. Respondents who perceived alcohol use as harmless/somewhat harmless (vs very harmful) and 1-2 or 4-5 alcoholic drinks as no/low or moderate risk of harm (vs great risk of harm) were more likely to have HAU. HAU was also associated with higher odds of having insomnia and poor well-being.</p>	
<p>Discussion & Conclusion Our findings coincide with literature linking excessive alcohol use with sleep disturbances and diminished well-being. Though alcohol use for sleep has been linked to HAU, it is unclear if sleep problems predate alcohol use in our study. Nevertheless, routine screening to identify individuals at risk of insomnia associated with alcohol use is crucial given that insomnia has been associated with depression and anxiety.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1498	Public Health / Clinical Epidemiology
<p>Authors R.SAMBASIVAM¹, S.K.YEN¹, E.ABDIN¹, A.PEZHUMMOOTTIL VASUDEVAN¹, S.SHAFIE¹, A.JEYAGURUNATHAN¹, Y.ZHANG¹, S.MA², W.L.CHOW², S.A.CHONG¹, M.SUBRAMANIAM¹</p> <p>¹Institute of Mental Health (Singapore), ²Ministry of Health (Singapore)</p> <p>Title Exploring Smartphone Addiction and its Impact on Mental Health Outcomes: The Singapore Health and Lifestyle Survey</p> <p>Background & Hypothesis Surging smartphone usage has led to global overreliance and addiction. Despite a 93.7% smartphone penetration rate, there is no data on smartphone addiction (SA) prevalence in Singapore. This study aims to examine the prevalence and correlates of SA in Singapore and its associations with mental health outcomes.</p> <p>Methods Data from a cross-sectional nationwide survey (2021-2022) was analyzed to determine the prevalence of addictive behaviors in Singapore. The Smartphone Addiction Scale- Short Version (SAS-SV) assessed SA (cut-off:males:≥31, females:≥33). Depression, anxiety, insomnia, and personal well-being were assessed using Patient Health Questionnaire-9, Generalised Anxiety Disorder-7, Insomnia Severity Index and Personal Well-being Index, respectively. Multivariable logistic regression analysis was conducted.</p> <p>Results Of the 5536 participants who completed the SAS-SV, 30.2% reported SA. Individuals were more likely to report SA if they were 15-34 years old (OR:3.27), 35-49 years old (OR:1.86) (vs 50-65 years old), with pre-tertiary education (vs degree and above, OR:1.27) and had two or more chronic conditions (vs none, OR:1.37). Individuals of Indian ethnicity (vs Chinese, OR:0.63) were less likely to report SA. Individuals reporting SA were more likely to have depression (OR:3.04), anxiety (OR:3.30), insomnia (OR:3.05) and poor personal well-being (OR:2.00).</p> <p>Discussion & Conclusion This is the first national survey which established the prevalence of SA in Singapore. Younger individuals with completed pre-tertiary education and two or more chronic conditions are more likely to experience SA. With SA being associated with poor mental health, these findings emphasise the need to design targeted interventions.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1519	Public Health / Clinical Epidemiology
<p>Authors A.H.Y.HO², S.H.X.Ma¹, G.Tan-Ho, K.C.L.Pooh¹, A.Teng³</p> <p>¹Duke-NUS Graduate Medical School, ²Nanyang Technological University (Singapore), ³National Gallery Singapore</p> <p>Title Slow Art Plus: Developing and Piloting a Single Session Art Gallery-based Intervention for Mental Health Promotion via a Waitlist Randomized Control Trial (RCT)</p> <p>Background & Hypothesis Slow Art Plus (SAP) is a 90-minute single session intervention that aims to promote population health mental through integrating gallery art appreciation, slow looking, mindfulness and self-compassion practices, and a curated series of response art activities to achieve its intended effects.</p> <p>Methods A single-site, open-label, waitlist Randomized Controlled Trial (RCT) design comprising of a treatment group (n=98) and waitlist control group (n=98) was adopted to test the efficacy of SAP. 196 participants completed baseline assessment on day 1 [T1], immediate post-intervention assessment/pre-intervention assessment on day 2 [T2], and follow-up assessment/immediate post-intervention assessment on day 3 [T3].</p> <p>Results Results from mixed model ANOVA showed a significant group and time interaction effect where participants experienced a significant reduction in perceived stress in the treatment group and waitlist-control group immediately post-intervention [F(2,388)=4.92, p=.008, $\eta^2=0.065$]. Moreover, participants also experienced a significant increase in quality of life [F(1.81, 388) =4.40, p = .015, $\eta^2 = 0.029$] and spiritual well-being [F(2, 388) = 14.49, p < .001, $\eta^2 = 0.070$] immediately post-intervention. Follow-up one-way repeated measures ANOVA for the treatment group revealed significant improvements across time for perceived stress, mindfulness, self-compassion, and spiritual wellbeing with small to medium effect sizes.</p> <p>Discussion & Conclusion Slow Art Plus is a first-of-its-kind standardized, multimodal, single-session intervention that competently addresses the mental health needs of the general population. It has vast potential to create a new paradigm of mental health self-care through social prescribing in healthcare settings. Policy and practice implications are discussed.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1523	Public Health / Clinical Epidemiology
<p>Authors W. TEO¹, YTJ.YAP¹, CX.WU¹, FWL.PHNG¹, C.C.HSIEN¹, J.CHONG¹, H.H.ZENG¹, S.F.LIM¹, H.H.LEE¹, T.G.CHEE¹, X.X.E.TAN¹, A.P.CHUA¹</p> <p>¹Ng Teng Fong General Hospital (Singapore)</p> <p>Title An Evaluation Of The Bukit Batok Township Model Of Care - "My Healthmap" Programme</p> <p>Background & Hypothesis Global ageing poses challenges to healthcare systems. It is predicted that one in four Singaporeans would be 65 years or older by 2030. One challenge is the rise in frailty rate due to comorbidity, disabilities and/or cognitive decline, exacerbated by social determinants. With increasing life expectancy, these factors increase disease burden and healthcare costs. 'My Health Map' (MHM) programme was implemented to deliver preventive health and social interventions such as screening, vaccination and lifestyle programmes using a township model with aim of preserving health and delaying the onset of frailty among participating senior residents.</p> <p>Methods A retrospective cohort study was conducted comparing the outcomes of intervention group with a 1:1 propensity matched control group at baseline and 1-year follow-up. Outcomes studied were Emergency Department (ED) attendances, admissions, total bed days and quality of life using EuroQoL-5-dimensions (EQ-5D) index score. Comparisons between intervention and control groups were performed using difference-in-difference estimation with bias-adjusted generalised estimating equation.</p> <p>Results Compared to controls, ED attendances, admissions and total bed days in the intervention group were significantly lower in the 1-year follow-up period: (p=0.007, 95%CI: -1.40 —-0.20; p=0.03, 95%CI: -1.47 — 0.08.; p<0.001, 95%CI: -1.77 —-1.23 respectively). EQ-5D scores improved significantly (p<0.001, 95%CI: 0.038 – 0.090) from the baseline at 1-year follow-up.</p> <p>Discussion & Conclusion MHM reduced participants' hospital utilisations and improved quality of life at 1-year follow-up. A multi-faceted intervention targeting physical and social determinants of health can be effective in reducing disease burden and healthcare costs.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1544	Palliative Medicine
<p>Authors J.L.LEE¹, L.L.C.TAN¹</p> <p>¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title Pain and Dyspnea Control of palliative patients in the Emergency Department</p> <p>Background & Hypothesis This study aims to review the prevalence patients in the ED with documented pain and dyspnoea who were given opioids and to survey ED doctors and nurses on the barriers to prescribing opioids to this group of patients.</p> <p>Methods There are 2 parts to the study. The first part involves a retrospective review of 100 patients reviewed by the palliative team in an acute hospital from August 2022 to March 2023, if there were documented pain or dyspnoea and if any opioids were given. The second part involved an online survey given to ED doctors and nurses to elicit barriers to starting opioids for palliative patients with pain or dyspnoea.</p> <p>Results 71% of patients had documented pain or dyspnoea and 45% (n= 32) were given an opioid. 23 doctors or nurses responded to the survey. Only 30% of them prescribe an opioid to palliative patients with pain or dyspnoea most of the time. The top 3 barriers were not knowing how to start an opioid (34%), not occurring to them to start an opioid (25%) and believing that this is ED's role (16%).</p> <p>Discussion & Conclusion Our study showed that only 45% of palliative patients in the ED with documented pain or dyspnoea received an opioid. The barriers to starting an opioid appears to be an issue of knowledge deficit and attitude of ED practitioners and not due to a lack of awareness on the presence of symptoms.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1546	Public Health / Clinical Epidemiology
<p>Authors E.SAMARI¹, M.SUBRAMANIAM¹, B.C.W.TAN¹, B.Y.W.TAN¹, S.S.H.CHANG¹, E.ABDIN¹, B.Y.CHUA¹, R.SAMBASIVAM¹, S.SHAFIE¹, J.A.VAINGANKAR¹, C.Y.Z.TANG¹, Y.P.LEE¹, S.A.CHONG¹, S.K.VERMA¹ ¹Institute of Mental Health (Singapore)</p> <p>Title Youth Cyberbullying Experiences on Social Media</p> <p>Background & Hypothesis Cyberbullying is a concerning public health issue affecting youths' lives, with far-reaching adverse effects on self-esteem, mental health, and academic achievement. The proliferation of social media platforms has provided new avenues for harassment and abuse. This research explores cyberbullying experiences among Singaporean youths on social media, encompassing the perspectives of both cyberbullies and cyberbullying victims, and examines the sociodemographic factors associated with them.</p> <p>Methods A cross-sectional national survey was conducted from October 2022 to June 2023 among 2600 youths aged 15-35 using a self-administered questionnaire. Participants were asked about their cyberbullying experiences, including the types encountered, frequency, duration, and any acts of cyberbullying committed. Logistic regression analyses were conducted to examine the association between sociodemographic factors and cyberbullying.</p> <p>Results 15.5% of participants experienced cyberbullying on social media, while 10.8% engaged in cyberbullying themselves. Individuals of Malay ethnicity (vs Chinese) (OR=1.6; 95%CI [1.23, 2.20]) and those with JC/polytechnic/other diploma qualifications (vs university) (OR=1.5; 95%CI [1.04,2.20]) were more likely to experience cyberbullying. Individuals of other ethnicities (vs Chinese) (OR=2.1; 95%CI[1.18,3.80]) and those who had been cyberbullied were more likely to be cyberbullies (OR=6.1; 95%CI [4.46,8.43]). Females (vs males) (OR=0.72; 95%CI [0.52,.099]) were less likely to be cyberbullies.</p> <p>Discussion & Conclusion The occurrence of cyberbullying among youths even beyond schooling years, remains concerning and warrants attention and prevention efforts. Public health initiatives can be designed in schools and workplaces to create a safer and more inclusive online environment, nurture positive digital behaviours, and empower youths to stand against cyberbullying.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1548	Respiratory Medicine
<p>Authors M.A.TAN³, M.J.PEREIRA², J.A.D.MOLINA², W.F.YIP², P.P.CHIEH², R.TAY¹, T.SUN⁴, Y.CHAN⁴, W.S.TAN² ¹Dover Park Hospice (Singapore), ²National Healthcare Group HQ (Singapore), ³National University of Singapore, ⁴Tan Tock Seng Hospital (Singapore)</p> <p>Title An exploration of ventilation withdrawal conversations among Home Ventilation and Respiratory Support Service Patients.</p> <p>Background & Hypothesis Managing individuals on long-term mechanical ventilation occasionally necessitates discussions on ventilation withdrawal, which is difficult for family members and the care team. Local studies exploring this ethical and sensitive issue are lacking. This study aims to investigate the prevalence and contexts of ventilation withdrawal discussions (VWDs) involving Tan Tock Seng Hospital's HVRSS patients and their families.</p> <p>Methods A retrospective cohort of HVRSS patients, enrolled between 2008 and 2019, with ≥ 1 HVRSS encounter and who died by 2019 were included. We reviewed and extracted information related to the "who, what, when, where, why and how" (5W1H framework) of VWDs from inpatient discharge summaries and HVRSS home visit case notes. For those who had VWDs, we calculated the time from discussion initiation to death (VWD-to-death time).</p> <p>Results One hundred and eighteen patients were included. Nine (7.6%) had VWDs - oftentimes when patients were deteriorating or imminently dying - with a mean VWD-to-death time of 24.3 days. Of these nine patients, eight (89%) continued ventilation while one (11%) decided to withdraw. Most VWDs were facilitated by HVRSS doctors or nurses during home visits (78%); the rest occurred in hospital involving a physician or medical social worker (22%).</p> <p>Discussion & Conclusion VWDs do happen among HVRSS patients, particularly towards their end of life. Understanding the prevalence and contexts of these conversations could help healthcare professionals to more empathetically and confidently support future HVRSS patients in their decision-making regarding ventilation withdrawal, thereby promoting patient-centred communication and end-of-life care.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1553	Endocrinology
<p>Authors D.H.W.BONG¹, A.M.LIM¹, M.C.A.MOH¹, K.M.S.LOW¹, K.ANG¹, S.C.LIM¹ ¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title Association between polysocial risk score and chronic kidney disease progression in type 2 diabetes.</p> <p>Background & Hypothesis Social determinants of health are key upstream disease determinants possibly through stress hormone reactivity and inflammation. Hitherto, there is no multi-dimensional social risk score for chronic kidney disease(CKD). Notably, arterial stiffness confers higher risk for CKD progression in type 2 diabetes(T2D). We examined association between polysocial risk score(PsRS) and CKD progression, with possible mediation by arterial stiffness.</p> <p>Methods In this prospective cohort study of 488 patients with T2D, PsRS was constructed by summing scores for socio-economic status and depression from questionnaires. Pulse wave velocity(PWV), an arterial stiffness index, was measured using applanation tomometry. CKD progression was defined as deterioration across KDIGO estimated glomerular filtration rate categories with $\geq 25\%$ reduction from baseline. Cox regression was used to examine association between PsRS and CKD progression, adjusting for demographics and clinical covariates.</p> <p>Results The mean age was 58.5 ± 10.6 years. Over up to 7.9 years' follow-up, 51.1% of patients had CKD progression. Higher PsRS was associated with CKD progression with adjusted hazards ratio(HR) 1.19(95%CI 1.05-1.36;p=0.008). The association was more pronounced in patients with body mass index(BMI)≥ 23.5 kg/m²(adjusted HR 1.26;95%CI 1.10-1.45;p=0.001). PWV accounted for 21.6% of the association.</p> <p>Discussion & Conclusion Higher PsRS was associated with elevated risk of CKD progression, especially in T2D patients with higher BMI. Arterial stiffness mediated the association. Findings may help identify high-risk T2D population, beyond traditional risk factors, for active management to prevent CKD progression. They paved the way for arterial stiffness as potential therapeutic target to prevent CKD progression.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1571	Psychiatry
<p>Authors R.X.R.TAN¹, Y.S.GOH¹</p> <p>¹National University of Singapore (Singapore)</p> <p>Title Perceptions of community mental health services among adult Singaporeans with major depressive disorder: A qualitative descriptive study</p> <p>Background & Hypothesis Persons with major depressive disorder (MDD) often experience pernicious ramifications in the biopsychosocial aspects of health that profoundly impact their overall well-being. While the rapid expansion of community mental health services (CMHSs) in Singapore was leveraged to meet the rising demands, significant issues such as a high treatment gap and the lack of holistic and culturally-sensitive care were highlighted in the literature. The perception of its service-users, which have received limited attention in the literature, is crucial in understanding their current needs for a collaborative enhancement of CMHSs.</p> <p>Methods This qualitative descriptive study explored the perceptions and experiences of community-dwelling adults with MDD regarding their utilisation of CMHSs in Singapore. Seventeen adults with MDD were purposefully sampled from a CMHS provider in the north-eastern part of Singapore. Interviews were conducted using a semi-structured guide from October to November 2021. Data were analysed using Braun and Clarke's six-step thematic framework.</p> <p>Results Five themes that emerged were conceptually mapped into three phases of CMHS encounters. Pre-CMHS encounter – theme 1: procrastination to seek help, theme 2: factors influencing CMHS utilisation; intra-CMHS encounter – theme 3: incongruous perceptions of the impact on biopsychosocial health, theme 4: differing perception and experiences of culturally-sensitive care; post-CMHS encounter – theme 5: enhancing CMHS for MDD based on end-users' experience.</p> <p>Discussion & Conclusion Findings indicate the need to further enhance the delivery of personalised mental healthcare services, use of settings- and culturally-specific anti-stigma strategies, and fortify the mental health literacy of the nation in the aspects of symptoms recognition and awareness of help-seeking resources.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1572	Cardiology
<p>Authors H.J.RAMACHANDRAN², Y.JIANG², T.J.YEO¹, K.W.L.KOH¹, M.C.H.CHUA², Q.SYED GANI¹, P.S.LIM¹, S.M.LAI¹, W.Wang² ¹National University Heart Centre (Singapore), ²Yong Loo Lin School of Medicine (Singapore)</p> <p>Title The development and field-testing of an Integrated-Cardiac Rehabilitation programme Employing Smartphone Technology (I-CREST) system for coronary heart disease management.</p> <p>Background & Hypothesis Centre-based cardiac rehabilitation is effective in reducing cardiac mortality, recurrent hospitalisations and improving quality of life. However, participation rates remain low. Home-based cardiac telerehabilitation has shown promise as an alternative. We aimed to develop and field-test an Integrated-Cardiac Rehabilitation programme Employing Smartphone Technology (I-CREST) system.</p> <p>Methods Development and field-testing of the I-CREST system followed guidelines from the Medical Research Council. To validate the education content, evaluate the contextual needs and preferences of end-users (i.e., clinicians and patients) and verify its performance, the I-CREST system underwent a field-testing with 5 clinicians and 5 patients.</p> <p>Results The developed I-CREST system comprised of a smartphone application, a smartwatch, and a web-portal. All the clinicians agreed/strongly agreed that the I-CREST app and web-portal were easy to use and useful for home-based cardiac rehabilitation. All the patients agreed/strongly agreed that the I-CREST app was useful, however, 60% (n = 3) found it easy to use. While all the clinicians agreed/strongly agreed that the smartwatch was easy to connect to the I-CREST application, 60% (n = 3) found it easy to use and useful for patients to self-monitor their physical activity. All patients agreed/strongly agreed that the smartwatch was useful, easy to use and easy to connect. Field-testing feedback and revisions centered around improving I-CREST app utility, usability, and ease of system navigation.</p> <p>Discussion & Conclusion The I-CREST system was generally acceptable to clinicians and patients. Full-scale evaluation of the I-CREST system in a randomized trial will examine its clinical- and cost-effectiveness compared to centre-based cardiac rehabilitation.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1578	Public Health / Clinical Epidemiology
<p>Authors F.D.SIVA KUMAR¹, B. C. W. TAN¹, S. SHAFIE¹, Y.J. ZHANG¹, P. WANG¹, R. KUMARASAN¹, A.P.V. NAIR¹, S.A.CHONG¹, M. SUBRAMANIAM¹ Institute of Mental Health (Singapore)</p> <p>Title Positive Aspect of Caregiving among Caregivers of older adults in Singapore</p> <p>Background & Hypothesis This study measured caregivers' perceptions of positive aspects of caregiving (PAC) and the different factors associated with caring for older adults in Singapore.</p> <p>Methods 1624 caregivers of older adults (aged 60 years and above) were recruited from the general population through stratified random sampling. Majority of the caregivers were females (65%), were ever married (73%), and were 'hands on' caregiver (54%). Data was collected using the 9-item PAC. Descriptive statistics were tabulated for socio-demographic information and multiple linear regressions were used to investigate the associations of PAC domains.</p> <p>Results Majority (88%) of the caregivers agreed that 'providing help to care for older adults has made them feel more useful, needed, and good about themselves'. 90% of them agreed that 'providing help to older adults has enabled them to appreciate life more and develop more positive attitudes towards life'. Caregivers who were ever married and 'hands-on' caregivers scored higher in 'Total Positive' and 'Self-Affirmation' domains. Caregivers who were children (vs siblings) had significantly higher scores in 'Total Positive', 'Self-Affirmation' and 'Outlook on Life' domains. Furthermore, those with secondary education scored significantly higher on 'Outlook on Life' and caregivers who did not reduce their working hours scored higher in 'Self-Affirmation' towards caregiving experiences.</p> <p>Discussion & Conclusion The present study provided a better insight towards positive caregiving experiences in providing care for older adults in the Asian context. Factors associated with PAC could contribute to public education and mental health practices in efforts to improve caregivers' psychological well-being and burden.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1585	Geriatric Medicine
<p>Authors C.J.L.LIOW¹, S.F.LOW² ¹Khoo Teck Puat Hospital (Singapore), ²Yishun Community Hospital (Singapore)</p> <p>Title Role of a Pharmacist in Medication Deprescribing and Vaccination Uptake in a Geriatric Integrated Medical Clinic</p> <p>Background & Hypothesis The Geriatric Integrated Medical Clinic (IMC) in Khoo Teck Puat Hospital aims to consolidate care for elderly with multimorbidity, improving patient outcomes. Deprescribing, the process of reducing or stopping medications that may no longer be beneficial or may cause harm, is valuable for cost-saving in the elderly population due to prevalent inappropriate medication use and polypharmacy. The study quantifies deprescribing efforts and vaccination uptake among the elderly.</p> <p>Methods A retrospective longitudinal analysis of 110 Geriatric IMC patients from January 2021 to March 2022 assessed the deprescribing prevalence, annual cost-savings, drug-related problems (DRPs), and influenza, pneumococcal, and COVID-19 vaccination rates. Medications deprescribed were categorized by drug classes and DRPs were categorized into indication, adherence, safety, and efficacy-related issues. For patients with first visit between January 2021 and September 2021, the number of medications deprescribed during the 6 months before and after the first visit was compared.</p> <p>Results The study showed an 85.5% deprescribing prevalence, leading to annual cost-savings of \$35,481 with 588 DRPs identified (indication-: 40.3%, safety-: 27.4%, adherence-: 21.3%, efficacy-: 11%). Top three drug classes deprescribed were gastrointestinal, blood and nutrition, and nervous system agents, with common medications including laxatives, vitamin supplements, and omeprazole. Vaccination rates were 62.7% (influenza), 42.2% (PCV13), 74.1% (PPSV23), and 94.2% (COVID-19). Median number of medications deprescribed during the 6 months before the first visit to Geriatric IMC was 2, which increased to 3 in the subsequent 6 months.</p> <p>Discussion & Conclusion The Geriatric IMC effectively deprescribed medications, resulting in significant cost-savings and promoting vaccination among the elderly.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1592	Infectious Diseases
<p>Authors X.E.YEO¹, Y.LIN¹, H.Y.P.CHNG², M.L.FOO¹, S.T.OOI¹</p> <p>¹Khoo Teck Puat Hospital (Singapore), ²Yishun Community Hospital (Singapore)</p> <p>Title Is There Added Value Of Additional Screen For Post-Exposure Vancomycin-Resistant Enterococci (Vre) Screening?</p> <p>Background & Hypothesis Early detection and containment of positive contacts of VRE can reduce further inpatient transmission. There lacks recommendation on whether additional screening swabs are needed to detect additional positive contacts. The study aimed to evaluate the yield of post-exposure VRE screens.</p> <p>Methods A retrospective review was conducted for post-exposure VRE screening results of inpatient contacts from 2010 to 2022. VRE contacts were patients who stayed in the same cubicle as an index case of VRE for a cumulative duration of more than 24 hours. One set of VRE post-exposure screening consisted of skin or rectal swabs cultured twice within 7 days. Rates of VRE detection on first and second screens (Screen1 & Screen2) were calculated and compared.</p> <p>Results There were 797 (55.5%) and 638 (44.5%) sets of swabs collected from rectal and skin sites respectively. Rectal samples made up 86.1% (118/137) of the positive swabs for VRE while 13.9% (19/137) were from skin. Out of 813 inpatient contacts of VRE, 78 (9.6%) were tested positive on post-exposure screening. Sixty-six (84.6%) contacts tested positive from Screen1 and 12 (15.4%) additional contacts tested positive from Screen2. An observation of 30.8% (24/78) of the positive contacts had discordance between the screens. Median duration between Screen1 and Screen2 was 24.0 (IQR 22.3-24.7) hours.</p> <p>Discussion & Conclusion Discordant results between the screens were likely due to sampling error. Additional screening increased the yield of VRE detection and should be considered especially if the first screen result was negative.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1602	Orthopaedic Surgery
<p>Authors R.SAHRIN³, C.J.Y.NG², C.J.LIM³, Z.Z.S.GOH³, Y.H.PUA¹, B.Y.J.TAN³ ¹Duke-NUS Graduate Medical School (Singapore), ²Lee Kong Chian School of Medicine (Singapore), ³Woodlands Health (Singapore)</p> <p>Title Exploring the role of the built environment and psychosocial mediators on knee function in knee osteoarthritis patients</p> <p>Background & Hypothesis Knee Osteoarthritis (OA) is a leading cause of disability in the elderly. However, research lacks on the impact of the built environment (BE) and its mediators on knee OA. We explored: (1) do accessible BEs significantly improve knee function outcomes in knee OA patients? and (2) is this relationship mediated by fear of movement and self-efficacy?</p> <p>Methods Cross-sectional study on 212 knee OA patients on how self-efficacy (Arthritis Self-Efficacy Scale-8 (ASES-8)) and fear of movement (Brief Fear of Movement (BFOM)) mediates impact of BE (IPAQ-Environment module: Access to Destinations) on knee function (Knee injury and Osteoarthritis Outcome Score-12 (KOOS-12)). Bivariate Pearson correlation tests were used with confounders adjusted. For variables significantly correlated with BE and KOOS-12, mediation analysis was performed.</p> <p>Results From 212 patients (mean: 63.81 ± 8.27 years; males = 30.2%, females = 69.8%), BE scores were positively correlated with KOOS-12 scores (r=0.139, p=0.043). While ASES-8 scores was a significant mediator (coeff=0.20, 95% CI=[0.06,0.36], p=0.017) between BE and KOOS-12, BFOM scores (coeff=0.08, 95% CI=[-0.01, 0.23]; p=0.117) was not a significant mediator although it was independently associated with BE and KOOS-12.</p> <p>Discussion & Conclusion BE was associated with knee function and this is mediated by self-efficacy. Fear of movement was not a significant mediator but was independently associated with BE and knee function. Applications can encourage consideration of BE and psychosocial mediators during clinician consultations, development of multidisciplinary care models for high-risk individuals and planning BEs sensitive to needs of those with functional limitations</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1604	Public Health / Clinical Epidemiology

Authors

M.H.TAN², S.S.Y. SEAH², X.Y. SEAH², S.Teo¹, J. LEOW¹, L.L. LOW³

¹National University of Singapore, ²Outram Community Hospitals (Singapore), ³Singhealth Community Hospitals (Singapore)

Title

Models of Community Hospitals and State of Research in High-Income Countries: A Scoping Review

Background & Hypothesis

Despite the increasing importance of community hospitals (CHs) in the aged care sector internationally, little is known about the models of care and research conducted. We will perform a scoping review on CH models in high-income countries and the state and focus of research conducted in these CHs.

Methods

We searched EMBASE, PubMed, and Scopus from January 2016 to July 2023 using the framework conceptualised by Arksey & O'Malley. Inclusion criteria targeted high-income countries CHs with inpatient beds and healthcare services to a local community. Exclusion criteria excluded non-high-income nations and studies lacking hospital specifics. Additional sources were found via snowballing and hospital websites. Two reviewers initiated the search, including assessment and synthesis.

Results

Our search yielded 10,122 papers, and 451 studies were included. CH models are categorised according to its healthcare services and patient population. 72 studies (16%) were conducted in Asia, with the rest conducted in non-Asian countries. Over 45% evaluated the efficacy of CH models and its programmes. Other themes include the assessment of healthcare needs of the patient population, research, educational needs of CH staff, and review of evidence and clinical guidelines.

Discussion & Conclusion

We found that CH models evolve to meet the needs of their respective healthcare landscapes. To guide research, understanding the role of CHs is vital for identifying gaps. Future studies can focus on post-acute setting links to communities, research barriers, implementation-evaluation, and longitudinal patient health impact. Addressing issues like small samples, data access, and generalisability of findings will enhance robust research.

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1607	Dermatology
<p>Authors H. H. OON⁶, J. A. DIDASKALU¹⁰, M. CHEN⁴, F. N., B. D. OLIVEIRA ROCHA², A. CARVALHO⁵, F. VALENZUELA⁷, L. V. MAUL⁸, M. ZHENG¹¹, A. EGEBERG¹, A. W. ARMSTRONG⁹, P. SCHMID-GRENDELMEIER¹⁰, J.-T. MAUL¹⁰</p> <p>¹Bispebjerg Hospital (Denmark), ²Federal University of Bahia (Brazil), ³Jockey Salud Medical Center (Peru) ⁴MOH Holdings Pte Ltd (MOHH)(Singapore), ⁵Moinhos de Vento Hospital (Brazil), ⁶National Skin Centre (Singapore), ⁷University of Chile (Chile), ⁸University Hospital Basel (Switzerland), ⁹University of Southern California (USA), ¹⁰University of Zurich (Switzerland), ¹¹Zhejiang University (China)</p> <p>Title The Global Healthcare Study on Psoriasis (GHSP): a Multinational Study on Psoriasis Epidemiology, Disease Burden and Access to Care</p> <p>Background & Hypothesis Psoriasis is the second largest contributor to skin-related disability and linked with cardiovascular, psychiatric and arthritis comorbidities. Timely diagnosis and access to treatment is required to prevent cumulative life course impairment, loss of productivity and life potential. Many patients do not receive optimal care. This gap in healthcare provision may become more profound in low-income settings. GHSP identifies the standards and access to psoriasis treatment, and charts impact of psoriasis.</p> <p>Methods GHSP is a multinational cross-sectional study. Dermatologists complete questionnaires on access to insurance, comorbidities, misdiagnosis and availability of treatment options. Demographics, treatment history, and severity are collected. Data analysis allows for inter-country comparison on disease severity (PASI, BSA, NAPS), and DLQI for quality-of-life (QoL).</p> <p>Results As of 15Jan2023, 60 investigators from 58 study centres across 11 countries collated 2501 patient surveys. Interim analysis shows differences in access to treatment within Latin America, no difference in disease severity between privately / publicly insured patients in Chile, highest prevalence of anxiety in USA [(10.3% out of 2,179 patients globally), followed by Switzerland (2.5%), Singapore (1.6%)]. Highest depression in Brazil (15.7%), followed by Chile (14.2%), USA (14.0%)] and no self-reported cases of anxiety/depression from China. An increase in PASI impacts QoL most severely for Europeans ($p=0.47, p<0.001$).</p> <p>Discussion & Conclusion GHSP provides high-quality data to map psoriasis globally and address geographic gaps in knowledge, diagnosis and treatment to support strategies to improve lives of people living with psoriasis. In the upcoming expansion of GHSP, inclusion of more Asian countries and expansion to atopic dermatitis will be implemented.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1607	Dermatology
<p>Authors H. H. OON⁶, J. A. DIDASKALU¹¹, M. CHEN⁴, F. N³., B. D. OLIVEIRA ROCHA², A. CARVALHO⁵, F. VALENZUELA⁹, L. V. MAUL⁷, M. ZHENG¹², A. EGEBERG¹, A. W. ARMSTRONG¹⁰, P. SCHMID-GRENDELMEIER¹¹, J.-T. MAUL¹¹</p> <p>¹Bispebjerg Hospital (Denmark), ²Federal University of Bahia (Brazil), ³Jockey Salud Medical Center (Peru) ⁴MOH Holdings Pte Ltd (MOHH), ⁵Moinhos de Vento Hospital (Brazil), ⁶National Skin Centre (Singapore), ⁷University Hospital Basel (Switzerland), ⁸University Hospital Zurich, ⁹University of Chile (Chile), ¹⁰University of Southern California (USA), ¹¹University of Zurich (Switzerland), ¹²Zhejiang University (China)</p> <p>Title The Global Healthcare Study on Psoriasis (GHSP): a Multinational Study on Psoriasis Epidemiology, Disease Burden and Access to Care</p> <p>Background & Hypothesis Psoriasis is the second largest contributor to skin-related disability and linked with cardiovascular, psychiatric and arthritis comorbidities. Timely diagnosis and access to treatment is required to prevent cumulative life course impairment, loss of productivity and life potential. Many patients do not receive optimal care. This gap in healthcare provision may become more profound in low-income settings. GHSP identifies the standards and access to psoriasis treatment, and charts impact of psoriasis.</p> <p>Methods GHSP is a multinational cross-sectional study. Dermatologists complete questionnaires on access to insurance, comorbidities, misdiagnosis and availability of treatment options. Demographics, treatment history, and severity are collected. Data analysis allows for inter-country comparison on disease severity (PASI, BSA, NAPSI), and DLQI for quality-of-life (QoL).</p> <p>Results As of 15Jan2023, 60 investigators from 58 study centres across 11 countries collated 2501 patient surveys. Interim analysis shows differences in access to treatment within Latin America, no difference in disease severity between privately / publicly insured patients in Chile, highest prevalence of anxiety in USA [(10.3% out of 2,179 patients globally), followed by Switzerland (2.5%), Singapore (1.6%)]. Highest depression in Brazil (15.7%), followed by Chile (14.2%), USA (14.0%) and no self-reported cases of anxiety/depression from China. An increase in PASI impacts QoL most severely for Europeans ($\rho=0.47, p<0.001$).</p> <p>Discussion & Conclusion GHSP provides high-quality data to map psoriasis globally and address geographic gaps in knowledge, diagnosis and treatment to support strategies to improve lives of people living with psoriasis. In the upcoming expansion of GHSP, inclusion of more Asian countries and expansion to atopic dermatitis will be implemented.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1616	Rehabilitation Medicine
<p>Authors R.CHEOK³, C.J.LIM⁴, B.TAN⁴, Y.H.PUA¹, M.A.TAN³, M.J.PEREIRA² ¹Duke-NUS Graduate Medical School (Singapore), ²National Healthcare Group HQ (Singapore), ³National University of Singapore, ⁴Woodlands Health (Singapore)</p> <p>Title What patient-specific factors can potentially affect whether patients with knee OA attend physiotherapy treatment?</p> <p>Background & Hypothesis Improvements in care models for knee osteoarthritis (KOA) are conducted widely. Yet, patient attendance behaviours in present care models are not fully understood, without readily available localised evidence. Hence, we examined which patient-specific factors may affect physiotherapy attendance (PTA) for patients who receive routine KOA management at a local hospital.</p> <p>Methods In this retrospective cohort study, using data from a randomised control trial (RCT) of a community-based, multi-disciplinary intervention, eligible patients with KOA were ≥45 years, Kellgren-Lawrence score >1 and Knee Injury and Osteoarthritis Outcome score ≤75, without previous Total Knee Replacements. We considered demographics, Body Mass Index (BMI), knee function, pain and treatment, and psychological factors in multiple ordered logistic models.</p> <p>Results 44 patients, among 90 RCT enrollees, randomised to receive standard-care were analysed. These patients attended, on average, 2.7 (SD=0.21) physiotherapy sessions over 12 weeks. In the models, females were 85% less likely to have higher PTA [Odds Ratio (OR)=0.15 (95%CI{confidence interval}=0.03-0.68; p=0.014] compared to males. An interquartile range (IQR) increase in BMI, Chair Stand test-pain, and Stair Climb test-pain decreased odds for higher attendance by 71-86% (all p<0.033). Patients with previous knee injections had 91% lesser odds for higher attendance [OR=0.09 (95%CI=0.01-0.67); p=0.019]. Higher anxiety and depression (an IQR increase in Patient Health Questionnaire-4) was associated with 2.9x higher odds for higher attendance [OR=2.90 (95%CI=1.11-7.53); p=0.029].</p> <p>Discussion & Conclusion Several patient-specific factors may affect PTA of KOA patients. With this understanding, we can better identify barriers to treatment attendance for the local KOA population.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1618	Psychiatry
<p>Authors E.ABDIN¹, V.SEET¹, A.JEYAGURUNATHAN¹, S.C.TAN¹, M.I.S. MOHMAD KHALID¹, Y.M.MOK¹, S.VERMA¹, M.SUBRAMANIAM¹</p> <p>¹Institute of Mental Health (Singapore)</p> <p>Title Assessing responsiveness of functional impairment measures among patients with depression and anxiety in Singapore</p> <p>Background & Hypothesis There is limited evidence of responsiveness of functional impairment measures in patients with mental illness. The current study aimed to examine the responsiveness of the 12-item of World Health Organization Disability Assessment Scale 2.0 (WHODAS), Sheehan Disability Scale (SDS), and Social and Occupational Functioning Assessment Scale (SOFAS) among patients with depression and anxiety in Singapore.</p> <p>Methods 321 outpatients diagnosed with depression or anxiety disorders were assessed on the WHODAS, SDS, SOFAS, 8-item of Patient Health Questionnaire (PHQ-8) and 7-item of Generalized Anxiety Disorder (GAD-7) at baseline- and 1-year follow up. Following the COSMIN guidelines, responsiveness was assessed using correlation coefficients (r) between changes in scores across two measures and ability of the measure to differentiate patients who reported to be improved versus unchanged using area under the receiver operator curve (ROC) curve (AUC) (acceptable ≥ 0.7).</p> <p>Results In the depression sample, changes in the WHODAS ($r=-0.50$), SDS ($r=-0.47$) and SOFAS scores ($r=0.26$) were significantly associated with changes in the PHQ-8 scores. The AUC was slightly higher in the WHODAS (AUC=0.81) than the SDS (AUC=0.77) and SOFAS (AUC=0.35) scores. In the anxiety sample, the correlation coefficients were slightly higher in the WHODAS ($r=-0.55$) than the SDS ($r=-0.53$) and SOFAS ($r=0.24$) scores. The AUC was slightly higher in the SDS (AUC=0.76) than the WHODAS (AUC=0.71) and SOFAS scores (AUC=0.41).</p> <p>Discussion & Conclusion This study provides evidence that WHODAS and SDS are more responsive to treatment outcomes and suitable for use in clinical settings for outcome evaluations.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1626	Public Health / Clinical Epidemiology

Authors

V.A.L.SEET¹, E. ABDIN¹, A.JEYAGURUNATHAN¹, S.C.TAN¹, M.I.M.K.SHAH¹, C.Y.Z.TANG¹, K.V.SWAPNA¹, M. SUBRAMANIAM¹

¹Institute of Mental Health (Singapore)

Title A latent transition analysis of disability patterns among people with schizophrenia spectrum disorders

Background & Hypothesis

Disability is prevalent in people with schizophrenia, spanning multiple domains of functioning. Using the 12-item World Health Organization Disability Schedule 2.0 (WHODAS 2.0), we aim to identify disability patterns among those with schizophrenia spectrum disorders, examine the stability of these patterns over a one-year period, and investigate associations between symptom severity and baseline disability patterns.

Methods

Disability classes were first derived from WHODAS 2.0 responses of respondents (n=279) across three timepoints – at the date of recruitment (T1), six months (T2) and one year from recruitment (T3), via latent class analysis. A latent transition model was then estimated for the examination of class membership stability from T1 to T3. Finally, associations between symptom severity - using the Positive and Negative Symptom Scale – and class membership were examined via multinomial logistic regression.

Results

Three latent classes were identified – severe disability (13.1%), moderate disability (39.2%) and no disability (47.6%). The three-class model was chosen as the best-fitting model over the three timepoints (BIC=6205.66, entropy=0.81). Class membership remained moderately stable across time. After adjusting for age, ethnicity, sex, education level, marital and employment status, negative symptom severity was found to be associated with higher odds of belonging to the severe disability (OR=1.14, p=0.038) and moderate disability (OR=1.21, p<0.001) classes at baseline.

Discussion & Conclusion

Given the stability and clear delineation of the disability classes, the WHODAS 2.0 may be useful in classifying patients with schizophrenia according to their disability levels, allowing for more targeted interventions that address their functional impairments in addition to symptom management.

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1638	Public Health / Clinical Epidemiology

Authors

Q.HUANG¹, L.Y.TAN¹

¹Singapore Cancer Society (Singapore)

Title Examining gender differences in factors affecting colorectal cancer screening compliance in Singapore

Background & Hypothesis

Colorectal cancer (CRC) screening uptake remains suboptimal in Singapore. Screening behavior has been reported to vary by gender. This study aims to evaluate the gender differences in factors associated with CRC screening compliance, specifically focusing on screening beliefs and knowledge about CRC screening in Singapore.

Methods

Data were collected from an online survey on cancer screening beliefs, knowledge, and practices in Singapore. Multivariate logistic regression analysis was performed to identify factors independently associated with CRC screening compliance.

Results

The study included 633 participants aged 50-69 years, eligible for CRC screening. Only 132 participants (20.9%) complied with CRC screening guidelines, with no significant gender differences observed in compliance rates. Among both men and women, CRC screening compliance was positively associated with knowledge of screening guidelines such as colonoscopy as a CRC screening modality and the screening intervals of fecal immunochemical test and colonoscopy. Men in the younger cohort (50-54 years) exhibited lower compliance rates. Women with a family history of cancer, strong belief in routine screening, and prior adherence to breast cancer screening were more likely to comply with CRC screening.

Discussion & Conclusion

Low CRC screening compliance rate was observed. Cancer screening beliefs and knowledge on CRC screening guidelines, family history of cancer, and age were found to be associated with CRC screening compliance with gender-specific differences. To improve CRC screening compliance, targeted interventions should address gender-specific factors and emphasize the significance of CRC screening guidelines as a crucial component of cancer education.

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1639	Infectious Diseases
<p>Authors N.F.ABDUL WAHID¹, X.E.YEO¹, Y.LIN¹, S.T.OOI¹</p> <p>¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title Surveillance and reminder system to improve timely compliance of Tuberculosis (TB) notification to National Tuberculosis Programme (NTBP)</p> <p>Background & Hypothesis TB is a notifiable infectious disease monitored by NTBP governed under the Ministry of Health. Timely notification and update of TB cases play an essential role to ensure that treatment and control of TB is coordinated between healthcare and community settings. NTBP will issue a letter to the healthcare institution if there is late notification. This study aimed to evaluate the effectiveness of operational surveillance and targeted active reminders for submission of TB notifications in improving compliance of timely TB notifications</p> <p>Methods Yishun Health's Clinical Epidemiology Unit (CEU) keeps a surveillance database of TB cases diagnosed and/or admitted in KTPH. In January 2023, CEU started an intervention programme to actively remind clinicians on timely submission of MD532 for newly diagnosed TB cases and MD117 for treatment progress. The number of NTBP reminder letters received in relation to the number of active TB cases were used to analyse the effectiveness of this programme. Two periods were analysed, Period1 pre-intervention (July 2022 to December 2022) and Period1 post-intervention (January 2023 to June 2023). McNemar's test was used to evaluate the statistical significance of the intervention.</p> <p>Results The number of TB cases reviewed was 185 and 207 in Period1 and Period2 respectively. One hundred active reminders were sent to clinicians in Period2. Twenty-seven NTBP-issued letters of late notifications were received in Period1 and 4 received in Period2, which resulted in a 12.7% (P<0.001) reduction in the rate of late notifications since the intervention.</p> <p>Discussion & Conclusion Active reminders to clinicians could improve timely submission of TB notifications.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1650	Endocrinology
<p>Authors J.KHOO¹, S.F.WONG¹, S.C.LIM¹, B.IRWAN¹, S.LOW¹, Y.B.SOH¹</p> <p>¹Khoo Teck Puat Hospital (Singapore)</p> <p>Title Clinical Effectiveness of Augmented Glucose Monitoring Programme</p> <p>Background & Hypothesis The Augmented Glucose Monitoring (AGM) programme started in 2018 with the aims of leveraging self-monitoring technologies and community-based outreach to promote self-management and lifestyle change and improved clinical outcomes in those that would normally not be able to afford such technologies. This included continuous glucose monitoring (CGM) using the Freestyle Libre system. We examined the clinical effectiveness of the AGM programme.</p> <p>Methods As of end June 2023, 247 patients with diabetes mellitus were recruited (aged 69.2±9.8). After consultation with a community nurse, patients used the Libre system for two weeks, with further nurse contact after first week. Patients were encouraged to experiment and observe the impact their lifestyle choice had on their glucose levels. For our analysis, we examined time-in-range (TiR) (3.9-10 mmol/L) and interquartile (IQR) and interdecile (IDR) ranges during this period, as well as difference between before and after in HbA1c, A&E visits and hospital admissions.</p> <p>Results During first insertion, the average TiR per patient was 57.3±24.5%, with 36.3% having greater than 70% TiR. Average times in hypoglycaemia and hyperglycaemia per patient were 5.2±9.3% and 37.5±26.9% respectively. IQR was 4.4±1.7mmol/L and IDR was 8.1±3.0mmol/L. HbA1c improved by 0.5±2.1% (p=0.001) after, with 17.9% moving from ≥10.0% to <10.0%. A&E visits and admissions were also reduced by 0.2±1.5 (p=0.01) and 0.1±1.2 (p=0.05) respectively.</p> <p>Discussion & Conclusion Participants in the programme have improved their clinical outcomes since joining the programme. We are aiming to increase repeat insertion follow-ups that should allow deeper comparisons in intraday glucose control over time.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1652	Public Health / Clinical Epidemiology
<p>Authors Y.S.KOH¹, R.SAMBASIVAM¹, E.ABDIN¹, PV ASHARANI¹, S.SHAFIE¹, S.MA², W.L.CHOW², S.A.CHONG¹, M.SUBRAMANIAM¹</p> <p>¹Institute of Mental Health (Singapore), Ministry of Health (Singapore)</p> <p>Title Unveiling the landscape of smoking quit attempts, quit intentions and cessation in Singapore</p> <p>Background & Hypothesis Singapore has established an evidence-based smoking cessation framework to assist smokers in quitting. Our study examined the prevalence and correlates of (i) quit attempts (QA) and quit intentions (QI) among current smokers and (ii) smoking cessation (SC) among ever-smokers in Singapore.</p> <p>Methods Data was obtained from a nationwide survey conducted between 2020-2022. QA is defined as attempting to stop smoking at least once in the past 12 months. QI is defined as planning to quit smoking in the next 30 days or the next six months. SC is defined as smokers who quit smoking more than six months ago. Correlates (sociodemographic, age of onset, doctor's advice to quit, nicotine dependency and perceived harm from smoking) were investigated using logistic regression among current smokers (n=1024) and ever-smokers (n=1457).</p> <p>Results Among current smokers, 41.21% and 31.27% reported QA and QI, respectively. QA was less likely if smokers were female (OR:0.44), and more likely if smokers were advised by a doctor (OR:2.62). QI was less likely if smokers were aged 50-65 years old (vs 18-34, OR:0.27), and more likely if they thought smoking occasionally posed a moderate or great risk of harm (OR:1.97). Among ever-smokers, 25.25% reported SC. SC was less likely if ever-smokers had primary school education or lower (vs tertiary, OR:0.35).</p> <p>Discussion & Conclusion Correlates of QA, QI and SC are different. These outcomes can be improved by bolstering cessation support for specific demographics, emphasizing the harmful effects of smoking, and enlisting the help of doctors to provide cessation guidance</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1655	Ophthalmology
<p>Authors R.AGRAWAL³, R.WILLIAM¹, B.LEE, DE-LA-TORRE.A², T.ZHENGXIAN³</p> <p>¹Lee Kong Chian School of Medicine (Singapore), ²Neurovitae Center for Neuroscience, Institute of Translational Medicine (IMT) (Colombia), ³Tan Tock Seng Hospital</p> <p>Title Evaluating the Diagnostic Accuracy and Management Recommendations of ChatGPT in Uveitis</p> <p>Background & Hypothesis Accurate diagnosis and timely management are crucial to achieve favorable outcomes in uveitis. Artificial intelligence (AI) has shown promise in aiding medical decision-making, including in ophthalmology. However, the diagnostic accuracy and management recommendations of AI-based chatbots for uveitis have not been evaluated.</p> <p>Methods We evaluated the diagnostic accuracy and management recommendations of an AI-based chatbot, ChatGPT, compared to five ophthalmologists trained in uveitis, in 25 prototypical uveitis cases based on the new Standardization of Uveitis Nomenclature classification guidelines. All participants were asked to provide the most likely diagnosis, two principal differential diagnoses, and the next step in management. The responses were compared, and the success rates were calculated.</p> <p>Results Ophthalmologists had a higher success rate (60-92%) in identifying the most likely diagnosis compared to AI (60%). When considering both completely and partially correct diagnoses, the ophthalmologists achieved a success rate ranging from 76% to 100%, while the AI had a success rate of 72%. Although the AI's performance showed an improvement of 8%, its overall performance was still the lowest. In 48% of cases, all ophthalmologists and AI agreed on the diagnosis. In 91.6% of these cases, there was complete agreement on the management and treatment plans proposed.</p> <p>Discussion & Conclusion Our study highlights the potential of AI-based chatbots to assist in uveitis diagnosis and management. The findings suggest that AI have the potential to provide additional support and help to reduce diagnostic errors. However, further studies are required to enhance the AI chatbot's diagnostic accuracy and management recommendations.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1661	Endocrinology
<p>Authors F.MENG², G.Y. ANG², P.K. CHIONH¹, M.K.S. LEOW³</p> <p>¹Institute of Technical Education (Singapore), ²National Healthcare Group HQ (Singapore), ³Tan Tock Seng Hospital (Singapore)</p> <p>Title Clinical feasibility of a mobile app for inter-scale conversion of thyroid function tests</p> <p>Background & Hypothesis Thyroid function tests (TFT) are crucial diagnostic tools used in the evaluation and management of thyroid disorders. Patients may not have their TFT consistently performed in the same medical facility. To help clinicians managing thyroid patients with TFT from different labs, we developed a mobile app that allows rapid, accurate and reliable inter-conversion of TFT results.</p> <p>Methods We developed a linear transformation method for interconversion of TFT data from any laboratory to an equivalent value scaled to a reference range of interest with a proof-of-concept. Using the established algorithm, a team of mobile app developers and medical experts collaborated to design and program the user interface and functionality of the app.</p> <p>Results A prototype of the mobile app was developed with a simple and intuitive user-friendly interface where users can input TFT results measured in one assay with any given normative FT4/TSH ranges and select the desired assay ranges for data conversion so as to obtain outputs that can be aligned to the respective ranges of choice. The app also includes a converter to streamline units (metric to SI or vice versa) before the scale transformation to specific ranges of interest. The app demonstrated high accuracy and precision in converting TFT results across different assay platforms.</p> <p>Discussion & Conclusion Our mobile app can streamline clinical workflows, save time for healthcare professionals, save money for thyroid patients, and improve the accuracy and validity of TFT interpretation. The app's user-friendly interface and versatility make it a valuable tool for healthcare professionals involved in thyroid disease management.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1670	Geriatric Medicine
<p>Authors P.H.J.TENG¹, H.T.R.TAN¹, N.H.L.HA¹, W.S.LIM¹, Y.Y.DING¹, W.S.TAN¹</p> <p>¹Geriatric Education and Research Institute (Singapore)</p> <p>Title Advancing the implementation of frailty identification and management in the community: Enablers and constraints of five different models of care</p> <p>Background & Hypothesis The Geriatric Services Hub (GSH) is a novel frailty programme piloted by five hospitals that partner primary-care and community providers to identify and manage frailty in the community. Existing literature lacks clarity about how different community-based frailty models are implemented. In this study, we examined different models of care within GSH and the enablers and constraints in sustaining and scaling them.</p> <p>Methods This qualitative study was part of a larger evaluation. Three rounds of data collection were conducted using purposive sampling: 14 in-depth interviews with programme leads, followed by 11 focus-group discussions with 54 implementers, and finally 5 focus-group discussions with 17 programme leads. A hybrid approach of inductive-deductive coding was employed. The Framework-Method approach guided the analyses.</p> <p>Results Five models of care emerged: GSH sited in polyclinics, private general-practitioner clinics, community-care organisations, community-nursing posts, and led by a mobile geriatrician who moved between primary-care and community partners. Most programmes implemented more than one model of care. The models experienced different enablers and constraints: Patient enrolment, approach to operationalizing key GSH functions (frailty identification, frailty assessment and management, capability building), and effectiveness in building or maintaining partnerships.</p> <p>Discussion & Conclusion To sustain and scale GSH, we need to build an ecosystem of care in the community, with trained personnel, synergistic relationships among partners, and supportive infrastructure and financing frameworks that are attuned to various business models. Recommendations include adopting a cluster-led approach for partnership-building and to address lack of resources, and creating more linkages among providers to fulfil key GSH functions.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1690	Renal Medicine
<p>Authors F. H. F. CHAN¹, P. SIM¹, P. X. H. LIM¹, B. A. KHAN¹, J. CHOO¹, K. GRIVA¹ Nanyang Technological University (Singapore)</p> <p>Title Exploring the role of cognition in functional disability and treatment nonadherence in haemodialysis patients: a structural equation modelling analysis</p> <p>Background & Hypothesis Cognitive impairment is common in haemodialysis patients and associated with adverse health outcomes. This association has been thought to be due to cognitive impairments interfering with daily functioning and self-care, but empirical evidence is scarce. This study aims to disentangle the complex associations between cognition and daily functioning in haemodialysis patients.</p> <p>Methods A cross-sectional study was conducted in adult haemodialysis patients in 10 dialysis centres in Singapore. Cognition was assessed using neuropsychological tests (MoCA), problem-solving scenarios, and subjective cognitive complaints (PAOFI). Functional impairment was assessed using self-report. Treatment nonadherence was measured by self-report and physiological/biochemical parameters. Structural equation modelling was performed to examine the interrelationships among the variables of interest.</p> <p>Results A total of 268 haemodialysis patients participated. The final model showed satisfactory fit: CFI = 0.921, TLI = 0.912, RMSEA = 0.056, SRMR = 0.070, $\chi^2(364) = 612.747$ ($p < .001$). There was a significant association between worse neuropsychological performance and more frequent cognitive complaints. Subjective cognitive complaints significantly predicted functional impairment and treatment nonadherence, whereas neuropsychological performance only indirectly predicted these outcomes through complaints. Everyday problem-solving skills emerged as a distinct aspect of cognition not associated with neuropsychological performance or cognitive complaints, but had additive utility in predicting functional impairment.</p> <p>Discussion & Conclusion Subjective cognitive complaints appear to be a stronger predictor of functional and clinical outcomes compared to neuropsychological performance. Routine screening of cognitive complaints in dialysis patients may allow for early identification of those at risk of cognitive impairment, functional disability, treatment nonadherence, and poor clinical outcomes.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1697	Psychiatry
<p>Authors K.M.LOH², M.H.A.LIM², R.R.GOVEAS¹, F.YAO¹</p> <p>¹Institute of Mental Health (Singapore), ²MOH Holdings Pte Ltd (MOHH) (Singapore)</p> <p>Title To study the profile of patients who need long-term care placement following admission to acute old age psychiatry wards</p> <p>Background & Hypothesis Institute of Mental Health (IMH), a tertiary psychiatric hospital in Singapore, has two specialised 25-bedder old-age psychiatry wards for the care of acute psychiatric illnesses in the elderly. An increasing number of patients have had prolonged stays in an acute setting while awaiting longer-term placement, leading to increasing healthcare costs and lodging of patients in general adult wards not specialised for old-age care. It was hypothesised that patients with dementia, who were frail and with caregiver burnout were more likely to require long-term care placement.</p> <p>Methods A retrospective audit was conducted on 48 inpatients requiring long-term care placements, admitted to the department of Geriatric Psychiatry of IMH between Nov 2011 and May 2023. A form was designed to collect the necessary data.</p> <p>Results Of the 48 patients, 42 (87.5%) had a diagnosis of dementia and 41 (85.4%) were classified as frail (Clinical Frailty Scale ≥ 6). 13 (27.1%) patients have no next-of-kin involved in their care. Caregivers of 17 (35.4%) patients experienced burnout, due to challenging behaviours, long duration of untreated illness, and inadequate management prior to admission. Caregivers of 16 (33.3%) patients were unable to provide hands-on care for them.</p> <p>Discussion & Conclusion Results suggest that we should identify the group of elderly patients who are at higher risk of requiring long-term care placements (patients with dementia and frailty), and provide support early to prevent caregiver burnout. Results also suggest that current community services are unable to support elderly patients who are not independent and have no caregivers who can provide hands-on care.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1705	Geriatric Medicine
<p>Authors Z.L. NAI¹, G. SUM¹, S.F. GOH¹, R. CHOO¹, W.S. LIM¹, Y.Y. DING¹, W.S.TAN²</p> <p>¹Geriatric Education & Research Institute (Singapore), ²National Healthcare Group Corporate Office (Singapore)</p> <p>Title Cost-effectiveness of the Geriatric Service Hub: A novel frailty programme</p> <p>Background & Hypothesis The Geriatric Service Hub (GSH) was piloted by five hospital sites with the aim to identify and manage frailty amongst community-dwelling older adults. Its central features include the conduct of comprehensive geriatric assessments (CGA), care co-ordination and management by a multi-disciplinary team. This study ascertains the cost-effectiveness of the GSH.</p> <p>Methods An economic evaluation was embedded within a prospective single-arm pre-post study. Direct health and social care utilisation, non-healthcare costs (e.g., caregiver time, work productivity loss) and EQ-5D-5L (for quality adjusted life years; QALY) at 12-months pre-enrolment and 6-months post-enrolment, were collected using questionnaires. Associated annual costs were computed. An incremental cost per QALY was calculated comparing GSH with no GSH from the health system and societal perspective.</p> <p>Results We surveyed 218 participants from four of the five sites. The average direct healthcare cost per person was lowered by \$840 with GSH participation. However, average total costs including non-healthcare cost increased by \$2,945. Programme implementation costs averaged \$5,482 per person per year (\$3,649-\$9,060 across sites). Using a cost-effectiveness threshold of \$97,798 per QALY, the current GSH is not cost-effective, though marginally so from the health system perspective.</p> <p>Discussion & Conclusion The GSH could have increased caregivers' attention to the patients' frailty status and the associated efforts and costs to meet previously unmet needs. From the health system perspective, our results indicate that the programme could be cost-effective if its average cost does not exceed \$5,350 per person per year.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1707	Public Health / Clinical Epidemiology
<p>Authors Y.W.B.TAN¹, Y.S.KOH¹, E.ABDIN¹, J.A.VAINGANKAR¹, S.SHAFIE¹, Y.J.ZHANG¹, R.SAMBASIVAM¹, S.VERMA¹, S.BASU¹, C.T.CHAN¹, S.A.CHONG¹, M.SUBRAMANIAM¹ ¹Institute of Mental Health (Singapore)</p> <p>Title Prevalence of self-reported psychotic symptoms and associated psychosocial factors in a multi-ethnic Asian population: Findings from the Singapore Mental Health Study 2016</p> <p>Background & Hypothesis Epidemiological evidence has linked an array of psychosocial factors with an increased risk of developing psychosis. However, understanding of these processes remains scant in the Asian context. We aimed to explore sociodemographic and psychosocial differences between individuals with and without positive psychotic symptoms in a multi-ethnic population.</p> <p>Methods The present study comprised Singapore residents aged 18 years and above randomly selected using a disproportionate stratified sampling method (n = 6126) for the Singapore Mental Health Study 2016. Participants completed the World Health Organization Composite International Diagnostic Interview version 3.0 "Psychosis Screen", '30-day functioning and disability', and 12-item Short Form Survey as part of assessment. Multinomial logistics regressions with two distinct models were applied to examine association of sociodemographic and psychosocial functioning with number of psychotic symptoms endorsed.</p> <p>Results Of the participants, 7.5% (n = 493) endorsed 1 or more psychotic symptoms. The expected risk of having 1 or more symptoms was higher for individuals aged 18-34, of Malay ethnicity (RR: 2.57), separated (RR: 2.76), with cognitive disability (RR: 2.12), heart disease (RR: 2.16), migraine, and reported monthly household income below SGD 2000 relative to those without symptoms. A one-unit increase in both physical (RR: 0.95) and mental (RR: 0.91) components score on SF-12 was associated with decrease in relative risk ratio of having one or more symptoms.</p> <p>Discussion & Conclusion The present findings highlight the importance of examining potential psychosocial contributors across different sociocultural contexts. Further research is needed to investigate the relationship between medical conditions and cognitive impairment with psychotic symptoms.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1712	Endocrinology
<p>Authors M.D.A.MAHADZIR², S.J.LIM², A.PIENKOWSKA², C.S.ANG², H.LIEW, H.S.S.RAJ⁴, J.J.NG³, T.SUBRAMANIAM¹, S.TRIPATHI², J.CAR², A.H.Y.HO² ¹Admiralty Medical Centre, ²Nanyang Technological University, ³National University Heart Centre (Singapore), ⁴Ng Teng Fong General Hospital (Singapore), ⁵Tan Tock Seng Hospital,</p> <p>Title Challenges and Barriers in Diabetes Foot Ulcer Management: A Perspective from Singapore Healthcare Professionals Focus Groups</p> <p>Background & Hypothesis Due to its complexity and multifactorial nature, diabetic foot ulcer (DFU) presents a significant challenge for healthcare professionals (HCPs) involved in its prevention and management. Understanding HCP's perspective is valuable to inform care delivery. Therefore, the present study aims to explore HCP's perspectives on the barrier and challenges faced in managing DFU.</p> <p>Methods Qualitative constructivist study design involving focus group discussions (FGDs) was done and maximum variation purposive sampling was used to recruit a diverse sample of HCPs involved in DFU management from four major hospitals in Singapore. Homogeneous FGDs were conducted for doctors and other HCPs to foster an open environment for discussion. FGDs were conducted virtually via Zoom platform, were recorded, transcribed verbatim, and analyzed using thematic analysis.</p> <p>Results Eight FGDs were held from April until July 2022 and involved 19 HCPs. 7 main themes were further clustered into two different agencies, patient and HCP. From HCP point of view, challenges faced by patients are (1) No Money No Talk, (2) Herb VS Pills, (3) Don't Want Others Staring and, (4) Am I Really Sick?. While HCP described the challenges faced by them as (5) Rules Are Meant To Be Broken, (6) One to Too Many and, (7) I Don't Know What I Don't Know.</p> <p>Discussion & Conclusion Findings from this exploratory study strengthens the notion that DFU management requires concerted effort from both patients and HCPs. Further research is warranted to address challenges and barriers that existed within the two agencies involved to ensure a robust and comprehensive care in DFU.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1715	Geriatric Medicine
<p>Authors S.F.GOH¹, G.SUM¹, Z.L.NA¹, W.M.CHOO¹, W.S.LIM³, Y.Y.DING¹, W.S.TAN² ¹Geriatric Education and Research Institute (Singapore), ²National Healthcare Group HQ (Singapore) ³Tan Tock Seng Hospital (Singapore)</p> <p>Title Polypharmacy outcomes of the Geriatric Services Hub: A single-arm pre-post study on community-dwelling frail older adults in Singapore</p> <p>Background & Hypothesis Polypharmacy (PP), defined as the concurrent use of five or more medications, is associated with multimorbidity and negative health outcomes like adverse drug events. This relationship is exacerbated in frail older adults. The Geriatric Services Hub (GSH) is a novel community-based frailty care model which provides comprehensive geriatric assessment and medication management. This study aims to examine its effects on PP.</p> <p>Methods The study design was a prospective single-arm pre-post study of individuals aged 60 years and above with Clinical Frailty Scale (CFS) score 4-7. We surveyed participants on prescribed medications, as part of the Client Service Receipt Inventory, at enrolment and 6-months post-enrolment. Medications were categorised using the 2015 U.S. Food and Drug Administration general drug categories. We conducted paired t-tests for the pooled sample and by CFS groups (CFS 4, 5, 6-7) to investigate changes in outcomes at 6-months post-enrolment, compared to at enrolment.</p> <p>Results We analysed 199 participants (CFS 4: 48.7%, CFS 5: 40.2%, CFS 6-7: 11.1%). Proportion of participants with PP marginally increased from baseline (n=128, 64.3%) to 6-months post-enrolment (n=132, 66.3%). Changes in the mean number of medications (baseline: mean=5.9, sd=3.4, 6-months post-enrolment: mean=6.1, sd=3.2), and the mean number of medication categories per participant (baseline: mean=4.8, sd=2.4, 6-months post-enrolment: mean=4.9, sd=2.4) were not significantly different. Outcomes were not different across CFS groups.</p> <p>Discussion & Conclusion Findings suggest that the GSH maintained the number of medications of frail older persons while identifying and managing previously undiagnosed health conditions and unmet needs.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1718	Population Health
<p>Authors Y.S.HENG¹, X.J.ZHANG¹, K.H.LEO¹, A.CHOW¹, B.Y.THONG¹, Y.L.CHONG¹, P.C.M.CHAN¹, B.K.CHONG¹</p> <p>¹Tan Tock Seng Hospital (Singapore)</p> <p>Title Understanding factors associated with inpatient length of stay in a hospital, using explainable machine learning techniques</p> <p>Background & Hypothesis Length of Stay (LOS) is defined as the number of days that an inpatient will stay in hospital during each admission and is widely used to gauge hospitals' efficiency. This study aims to identify important factors and how they impact LOS.</p> <p>Methods Inpatient discharges between 1 January 2016 and 29 July 2022 (n=398,219) from Tan Tock Seng Hospital were extracted to train machine learning (ML) models to predict LOS. A total of 37 features across multiple categories including demographics, medical, psychosocial, therapy, diagnostics, etc. served as inputs to ML models, namely random forest, and gradient boosting trees using the XGBoost and LightGBM algorithms. The model hyperparameters were tuned using Bayesian Optimization and the final model was chosen based on root mean squared error (RMSE). Its predictions were explained using SHapley Additive exPlanations (SHAP).</p> <p>Results XGBoost performed the best with a RMSE of 8.92 on the validation set (LightGBM – 8.94; random forest – 9.15). The most important predictor of LOS, based on its average magnitude of impact on predicted LOS, was therapy requirement (e.g., physiotherapy). 51% of inpatient cases required therapy and it led to an increase in predicted LOS by 1.2-4.4 days in 99% of the cases. Other important factors include average waiting time for radiological procedures, discharge specialty, blood/urine cultures, and referrals to nursing home or community hospital.</p> <p>Discussion & Conclusion LOS is a complex outcome associated with multi-faceted factors. The use of ML and SHAP eased the modelling and explanation of numerous variables having complex interactions, as compared to statistical models.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1731	Public Health / Clinical Epidemiology
<p>Authors S.SHAFIE¹, E. ABDIN, J. VAINGANKAR¹, A. JEYAGURUNATHAN¹, E. SAMARI¹, S. C. TAN¹, Y. W. B. TAN¹, Y. ZHANG¹, E. D. SEAH², M. SUBRAMANIAM¹ ¹Institute of Mental Health (Singapore) ²NHG Polyclinics (Singapore)</p> <p>Title Association between unhealthy lifestyle factors, sociodemographic factors and quality of life among patients with multi-morbidity in Singapore</p> <p>Background & Hypothesis Unhealthy lifestyle factors which are modifiable have been found to increase the risk of multimorbidity, affecting patients' quality of life (QOL). As life expectancy increases, the likelihood of individuals developing multimorbidity also increases thus placing additional strain on the healthcare system. This study explores the association between unhealthy lifestyle factors and their sociodemographic correlates with QOL in Singapore's primary care patient population.</p> <p>Methods 210 patients with at least three chronic conditions were recruited for this study. Questionnaires administered included the Alcohol Use Disorders Identification Test, Global Physical Activity Questionnaire, diet screener, smoking screener and 12-item short form health survey to measure alcohol drinking, physical activity, diet, smoking status and QOL, respectively. Participants' sociodemographic information was also collected.</p> <p>Results Those of Malay ethnicity (versus Chinese ethnicity) (β: -4.94, $p = 0.013$), unemployed (versus employed) (β: -5.28, $p = 0.012$) and economically inactive (versus employed) (β: -7.10, $p = 0.010$) were significantly associated with lower physical component QOL score. Those who were economically inactive (versus employed) (β: 4.40, $p = 0.01$), smoker (versus non-smoker) (β: 4.53, $p = 0.024$) and obese (versus non-obese) (β: 3.18, $p = 0.032$) were significantly associated with higher mental component QOL score.</p> <p>Discussion & Conclusion Healthy lifestyle practices such as good diet and physical activity should be promoted by the primary healthcare team attending to patients with multimorbidity to help them manage their chronic conditions and to prevent additional chronic conditions. Efforts are also needed to assist the unemployed and economically inactive patients in achieving a better quality of life.</p>	

SHBC 2023 SCIENTIFIC COMPETITION
ACCEPTED ABSTRACTS
ABSTRACT CATEGORY: Health Services Research

Abstract Details	
Abstract ID	Clinical Specialty
SHBC1743	Ophthalmology
<p>Authors L.SI JIN VANESSA³, W.X. HO¹, L.W.KHIN³, S.YOO², L.ZH KELVIN³ ¹Lee Kong Chian School of Medicine (Singapore), ²Samsung Advanced Institute for Health Sciences and Technology (SAIHST), Sungkyunkwan University, Seoul,(Korea), ³Tan Tock Seng Hospital (Singapore)</p> <p>Title A Study on Perception and Attitudes of Eye Patients and Families Towards Use of Virtual Clinics and Artificial Intelligence (AI) in Eye Diagnosis and Management</p> <p>Background & Hypothesis Advancing technology has introduced transformative healthcare methods like telemedicine and AI, offering potential enhancements in eye care accessibility and quality(1-2). Yet, patient perspectives remain underexplored(3-4). This study aims to investigate patients' perceptions and attitudes towards tele-ophthalmology and AI in eye care.</p> <p>Methods Between May and July 2023, a questionnaire study occurred at Tan Tock Seng Hospital Eye Clinic, assessing sociodemographic, technology proficiency, attitudes towards tele-ophthalmology and AI in healthcare. A 5-point Likert scale was used.</p> <p>Results A total of 104 patients participated, revealing the following trends:Telemedicine awareness: 60 participants (58.25%) are aware of telemedicine, with 27 (25.96%) having used it for medical consultations. Only one (1%) consulted an ophthalmologist using telemedicine before.Telemedicine acceptance: Only 37 participants (35.58%) were willing to use tele-ophthalmology. Among barriers, 45 (43.69%) expressed tele-consults lacked immediate medication provision. AI awareness: 65 participants (63.11%) were familiar with AI, while only 37 (35.58%) recognized AI's implementation in healthcare.AI acceptance: Only 26 participants trusted AI diagnoses, with an equivalent number (25%, n=26) expressing doubts. Most (67.3%, n=70) preferred human doctor-generated outcomes, and majority (68.26%, n=71) expressed concern about AI influencing doctors' impartial judgments.</p> <p>Discussion & Conclusion A significant number of patients are aware of telemedicine, while fewer understand AI's healthcare role. Less than half were open to tele-ophthalmology, and similar portion doubted AI's decisions. This study highlights the areas to prioritize in the implementation of tele-ophthalmology.</p>	