

**Results** Social and cultural engagement were both independently associated with a lower risk of developing dementia in older age in fully-adjusted models. Using time-to-event analyses, socialising once a week was associated with a 29% lower risk OR=0.71 95%CI 0.52–0.97 and cultural engagement every few months or more was associated with a 42% lower risk OR=0.58 95%CI 0.41–0.80. Using competing risk models, socialising OR=0.80 95%CI 0.59–1.08 and cultural engagement OR=0.65 95%CI 0.47–0.90. Using modified Fine and Gray Subdistribution hazards models, socialising OR=0.66 95%CI 0.53–0.82 and cultural engagement OR=0.42 95%CI 0.32–0.56. Community group activities were only associated with dementia in minimally-adjusted models. Results were robust to sensitivity analyses considering moderators, reverse causality, over-adjustment, and baseline cognitive function.

**Conclusion** The results presented here suggest that social and cultural engagement are independent risk-reducing factor for the development of dementia in older age. Even for those who lack contact with friends and family or who socialise infrequently, engagement with cultural venues, even on a less frequent basis, could be protective against the incidence of dementia. These findings align with broader findings relating to cognitive reserve and support the development of multimodal community-based interventions to promote healthy cognitive ageing amongst older adults.

OP25

#### THE ASSOCIATION OF POOR ORAL HEALTH WITH A RANGE OF INFLAMMATORY MARKERS: RESULTS FROM TWO POPULATION BASED STUDIES OF OLDER PEOPLE IN THE UK AND USA

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**Background** Oral health conditions such as tooth loss, periodontal (gum) disease and dryness of mouth are very common health problems in older people, with significant impacts on nutrition, quality of life and well-being of ageing populations. Oral health, particularly periodontal disease, has been linked to systemic inflammation, such as high C-reactive protein (CRP) and interleukin-6 (IL-6). However, very few studies of older people have investigated the associations between oral health and inflammation. We examined whether a range of oral health markers are associated with inflammatory markers in two population-based studies of older people in the UK and USA.

**Methods** Cross-sectional analyses were conducted in the British Regional Heart Study (BRHS) comprising men aged 71–92 (n=2147) from 24 British towns, and the US Health, Aging and Body Composition (HABC) Study comprising men and women aged 71–80 (n=3075). Assessments included oral health (periodontal disease, tooth count, dry mouth) and inflammatory markers such as CRP, IL-6, leptin, tissue plasminogen activator (tPA), von Willebrand Factor (vWF), fibrin D-dimer, high sensitivity Troponin T (hsTnT), N-Terminal pro-hormone of brain natriuretic peptide (NTproBNP), and proinsulin.

**Results** In the BRHS, having no natural teeth was associated with being in the top tertiles of CRP, and fibrin D-dimer (odds ratio (OR)=1.35, 95%CI: 1.01–1.80; OR=1.38, 95% CI: 1.03–1.85, respectively) after adjustment for age, social class, smoking, history of cardiovascular disease and diabetes, and BMI. Tooth loss (<21 teeth) was associated with being in the top tertiles of CRP, hsTnT, fibrin D-dimer, and NTproBNP (fully adjusted OR=1.31, 95%CI: 1.02–1.68; OR=1.32, 95%CI: 1.01–1.74; OR=1.37, 95%CI: 1.05–1.77, OR=1.40, 95% CI: 1.01–1.94, respectively). Periodontal disease was associated with being in the top tertile of hsTnT. In the HABC Study, having no teeth and partial tooth loss were associated with being in the top tertile of CRP (OR=1.57, 95%CI: 1.10–2.25; OR=1.40, 95%CI: 1.13–1.75, respectively) after adjustment for age, gender, race, education, smoking, history of cardiovascular disease and diabetes, and BMI. Moreover, having ≥3 oral health problems was associated with being in the top tertiles of CRP and IL-6 after full adjustment.

**Conclusion** Poor oral health in older people was associated with increased levels of various inflammatory markers including CRP, fibrin D-dimer, hsTnT and NTproBNP. These findings suggest that poor oral health in older age is linked not only to general systemic inflammation but also inflammation associated with metabolic disturbances. These associations could offer insights into mechanistic pathways by which poor oral health could influence age-related conditions.

## Mental Health 1

OP26

#### PATIENT EXPERIENCE OF ENGAGEMENT WITH HEALTHCARE SERVICES FOLLOWING AN EPISODE OF HIGH RISK SELF-HARM: A MIXED METHODS STUDY

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**Background** Hospital management of self-harm is an essential component of suicide prevention. Patients presenting to hospital for self-harm involving highly lethal methods or with high suicidal intent are a subgroup of self-harm patients at high risk of suicide. Investigating healthcare service provision from the patients' perspective is integral to the design and implementation of better quality care. The current study explored patients' experiences of engaging with healthcare services after a high risk self-harm presentation to hospital.

**Methods** A sequential transformative mixed-methods design was used. Quantitative information was obtained by interview administered questionnaires (including internationally validated scales, closed and open-ended questions) 0–3 months following a high risk self-harm presentation to a hospital emergency department (n=67). Semi-structured follow-up interviews were conducted 6–9 months later providing qualitative data (n=31). Follow-up interviews were recorded, transcribed and thematically analysed using NVivo software. Quantitative information was analysed in SPSS Version 25. Both methodologies were integrated during the interpretation of the results.

**Results** After the self-harm presentation, 85.7% of patients reported receiving follow-up care with public outpatient mental health services and 61.8% attended their general

practitioner for mental health related concerns. Satisfaction with follow-up care was dependant on participants' relationships with healthcare professionals and their perception of the continuity and comprehensiveness of care they received. Positive experiences of care included 'compassionate and supportive relationships', 'timely and comprehensive follow-up care' and 'impatient care as a safe haven'. The establishment of trust in the services encouraged 'seeking help in crisis' and 'acceptance of and adherence to psychotropic medication'. Conversely, themes reflecting negative experiences of care included 'superficial and unsupportive relationships' and 'care lacking continuity and comprehensiveness' leaving some participants feeling isolated and unsupported. Unsupportive experiences within the services contributed to 'inhibited help-seeking' and 'reluctance or lack of adherence to psychotropic medication'. Participants with a history of self-harm and those with recent engagement with mental health services prior to the self-harm episode were more likely to report dissatisfaction with their interactions with healthcare professionals and with the level of care provided. Furthermore, those who described unsupportive or unsatisfactory care more frequently reported repeated self-harm, increased alcohol misuse and hopelessness for the future at follow-up.

**Conclusion** The study findings indicate that satisfaction with services, help-seeking and adherence to treatment may be improved by ensuring the consistent provision of timely, comprehensive and supportive aftercare following a high risk self-harm presentation. Absence of these aspects of care may contribute to ongoing distress and further suicidal behaviour.

OP27

#### A NATIONAL CASE FATALITY STUDY OF DRUGS TAKEN IN INTENTIONAL OVERDOSE

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**Background** Intentional drug overdose (IDO) is the most common form of hospital-presenting self-harm and has been linked with marked increases in risk of dying by suicide and other causes. The type of drug taken in IDO is one of several factors that influence the likelihood of IDO repetition and fatality following overdose. Previous research examining the fatality of an overdose according to the drug types taken has attributed fatal toxicity to a number of psychotropic drugs. However, these findings have limited applicability as they focus on overdose acts involving single drugs, which represent a small minority of fatal IDOs. We aimed to describe the overdose characteristics of fatal and non-fatal IDO, and to establish which drug types are linked with greater risk of subsequent fatality.

**Methods** Data pertaining to 65,069 non-fatal IDO presentations from the National Self-Harm Registry, Ireland and 365 fatal IDOs from the National Drug-Related Deaths Index, for the period 1st Jan 2007 to 31st Dec 2014, were used to describe overdose characteristics of fatal and non-fatal IDOs, to calculate their incidence and to estimate case fatality risk ratios.

**Results** The risk of death following IDO was 1.7 times greater for males than females and fatal cases were on average nine years older than non-fatal cases, with each increasing year of age increasing the risk of a fatal outcome by 4.3%. Multiple drug IDOs were over three times more likely to be fatal, compared to single drug IDOs. Tricyclic antidepressants were associated with a 15-fold increased risk of death and opioids a 12-fold increased risk, relative to non-opioid analgesics (the reference category). Although the absolute risk of fatal outcome was higher for males than females, the elevation in risk was greater in females when tricyclic antidepressants or opioids were taken in IDO.

**Conclusion** Male gender, increasing age and multiple drug use were associated with fatal IDO outcome, and tricyclic antidepressants and opioids in particular were associated with a significantly increased risk of death following overdose. These findings inform the relative fatality risk of drugs that are commonly taken in intentional overdose, contributing to existing evidence-base in relation to safe and appropriate prescribing to patients who are at risk of self-harm. Together with the identification of the predictors of a fatal overdose outcome, these findings highlight areas for targeted intervention to prevent fatal overdose and also key areas for further research.

OP28

#### ETHNICITY, SOCIODEMOGRAPHIC FACTORS, AND MENTAL HEALTH OUTCOMES IN YOUNG PEOPLE FROM THE MILLENNIUM COHORT STUDY

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**Background** There is a socioeconomic gradient in mental health outcomes for young people: disadvantaged groups are more likely to suffer problems. In the UK, there is evidence of apparent resilience to mental health problems in young people from some ethnic minority groups, or lack of disadvantage despite facing greater socioeconomic adversity. This project investigated the relationship between social support, participation, and experiences of social adversity with mental health outcomes, focusing on inequalities by ethnicity, to explain any increased risk or resilience to adverse mental health outcomes.

**Methods** Data was analysed from 10,357 young people aged 14 taking part in the nationally representative Millennium Cohort Study. Univariable descriptive analysis assessed prevalence of mental health problems, identified using parent responses to the Strengths and Difficulties Questionnaire. Univariable logistic regression analysed crude associations of socio-demographic factors with mental health problems. Factors included: ethnicity, gender, socioeconomic status, parental relationship, time spent with friends, in organised activities, and religious attendance, self-reported social support, experience of victimisation, substance abuse, being a victim or perpetrator of bullying. Multivariable logistic regressions assessed if social factors explained any observed ethnic differences in mental health problems.

**Results** Social support and participation were associated with better mental health outcomes, and social adversity with worse mental health outcomes, for all cohort members at age 14. Overall, boys had increased odds for having mental health problems compared to girls (OR 1.24, 95% CI 1.05–1.46).