normal cognitive performance and MCI or dementia, with the latter being considered an absorbing state

Results During the study period, a quarter of participants progressed to MCI from the normal state. Being in the lowest quintile of wealth was associated with a lower probability of transitioning back to a normal cognitive state from MCI, compared with those in the highest quintile. Greater wealth was weakly associated with a lower risk of transitioning from normal cognitive state to MCI and from MCI to dementia.

Conclusion The overall results imply that socioeconomic advantage might be protective against rapid progression from mild to more severe neurocognitive disorders such as dementia in later life. This research indicates that older adults from different socioeconomic backgrounds have different probabilities of transitioning between different stages of neurocognitive disorders in a population sample and this could help us to define prevention strategies to delay cognitive impairment.

P07 DOES SOCIAL MEDIA INFLUENCE ADOLESCENT ENGAGEMENT IN HEALTH RISK BEHAVIOURS? FINDINGS FROM A SYSTEMATIC REVIEW

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Background Social media (SM) may influence adolescents' perceived social norms and subsequent health risk behaviours, although the evidence base around this is still developing. We conducted a systematic review of the relationship between SM and adolescent health risk behaviours: alcohol/tobacco/drug use, e-cigarettes, diet, physical activity, antisocial behaviours, gambling, sexual risk behaviours and multiple health risk behaviours, in adolescents aged 10–19 years.

Methods We searched CINAHL, EMBASE, MEDLINE, APA PsycINFO, SocINDEX, preprint repositories and Google Scholar for studies published post-1996 reporting at least one relevant outcome with an SM measure (PROSPERO: CRD42020179766). Exposures of interest were time on SM, frequency of use, and exposure to health risk behaviour content (HRBC). Screening and risk of bias (RoB) were completed independently by two reviewers using a modified Newcastle Ottawa Scale. Following Cochrane guidance, we conducted synthesis based on direction of effects (benefit vs harm), sign testing and estimation of the proportion of datapoints reporting adverse effects (presented). Meta-analyses will produce average effect sizes (underway).

Results Of 13,150 hits, 84 studies were included. Twenty studies were low RoB, 27 moderate, and 38 high. Between studies all outcomes were addressed, the most common being alcohol use (n=25) and sexual risk behaviours (n=20). Twelve studies investigated >1 outcome. For alcohol use, most datapoints reported harmful effects of time spent (88.9%; 95% CI 56.5–98.0%, p=0.04), frequency (79.3%; 61.6–90.2%, p=0.002), exposure to HRBC (100.0%; 75.8–100.0%, p<0.001) and other SM activity measures (81.8%; 52.3–94.9%, p=0.07). Datapoints examining sexual risk behaviours mostly reported harmful effects of time (75.0%; 30.1–95.4%, p=0.63), frequency (91.7%; 64.6–98.5%,

p=0.006), HRBC (100.0%; 43.9–100.0%, p=0.25), and other SM activity (76.2%; 61.5–86.5%, p<0.001). For e-cigarettes (n=8) and antisocial behaviour (n=17), all datapoints reported harmful effects of SM (e-cigarettes 95% CI 67.6–100.0%, p=0.008; antisocial behaviour 95% CI 81.6–100.0%, p<0.001). Across all outcomes, exposure to HRBC on SM was most likely to report a harmful effect (100.0 vs 83.0% for other exposures, p=0.0062). Harmful effects were similar for datapoints at high (85.6%) and low/moderate (86.7%) RoB.

Conclusion SM use is adversely associated with adolescent health risk behaviours, particularly exposure to content pertaining to these behaviours. The current evidence base is limited by methodological weaknesses, including a lack of longitudinal data (risking reverse causation) and future robust research to assess causality is needed. Given the increasing targeting of SM by unhealthy commodity industries, available evidence suggests action to reduce the risk adolescents face from exposure to health risk behaviours is needed.

P08 SOCIAL MEDIA USE AND SOCIAL CONNECTEDNESS IN ADOLESCENCE: RISKS AND BENEFITS

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Background Connectedness to school, family and peers is a key determinant of adolescent mental health. The relationship between social media use (SMU) and social connectedness is complex, potentially improving closeness to peers, whilst possibly diminishing school connectedness. Evidence to date has been piecemeal and contradictory with particular gaps in research on school and family connectedness. In this qualitative study we explore the relationship between SMU and these three areas of social connectedness using the Displacement Hypothesis and the Stimulation Hypothesis as competing theoretical lenses.

Methods In-depth paired and individual interviews were conducted with nineteen girls and five boys aged 13–14 years in two English secondary schools. Interviews covered various topics relating to SMU and well-being. Interviews were transcribed verbatim, coded and thematically analysed.

Results Thematic analysis of the transcripts identified six themes: (i) 'Time displacement', (ii) '(Mis)Trust', (iii) 'Generational disconnect', (iv) 'Personal and group identity', (v) 'Keeping in touch', and (vi) 'Social obligation'. Results indicated support for both the Displacement and Stimulation Hypotheses. School connectedness was undermined through displacement of time spent on homework and feeling misunderstood by teachers, but enhanced by maintaining relationships with classmates. Family connectedness appeared to be weakened through the same feeling of being misunderstood by parents, not feeling trusted to responsibly navigate SMU or displacing time spent together. However, SMU also provided opportunities for parents to demonstrate trust, to share in entertainment and allowed young people to stay in contact with family members overseas. In line with the Stimulation Hypothesis, connectedness to close friends was strengthened through self-disclosure and a sense of shared identity, but broader peer relationships were undermined by feelings of mistrust.

Frequent SMU enabled young people to maintain and expand their social networks but a need to be constantly available was sometimes overwhelming, suggesting an 'over-stimulation' effect.

Conclusion Caregivers and teachers should take a nuanced approach to addressing young people's SMU rather than following the dominant alarmist discourse. A measured approach should be taken, providing clear, reasonable guidance and boundary-setting but also promoting trust and responsible time management, and acknowledging the role of social media in making connections. Understanding and sharing in online experiences is likely to promote social connectedness. Supporting young people to negotiate breathing space in online interactions and prioritising trust over availability in peer relationships may optimise the role of social media in promoting peer connectedness in particular.

P09 ESTIMATION OF THE CAUSAL EFFECT OF CHURCH ATTENDANCE ON RISK OF MYCOBACTERIUM TUBERCULOSIS INFECTION IN YOUNG CHILDREN IN RURAL MALAWI USING TARGETED MAXIMUM LIKELIHOOD ESTIMATION

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Background Important gaps exist in our understanding of *Mycobacterium tuberculosis* transmission, especially in high HIV prevalence settings. There is significant uncertainty about where most transmission takes place in the community, impeding control efforts. *M. tuberculosis* infection in young children is a sensitive indicator of recent transmission and may provide a means of identifying locales of community transmission. We estimate the causal effect of church attendance on incident *M. tuberculosis* infection in young children.

Methods Children aged under six years residing within a demographic surveillance site in Malawi were recruited. Tuberculin skin testing (TST) was performed at baseline and repeated after 1–2 years. At the time of the 2nd TST, structured guardian interviews were undertaken to ascertain any known contact with tuberculosis within the previous 12–18 months. Detailed household socioeconomic and demographic data were available. Very few children had never attended church in the previous year (<4%) so the unexposed group was combined with the next category (1–3 attendances) to form the baseline. Incident infection was defined as an increase in TST induration of ≥ 13 mm from 1st TST to 2nd TST among those with indurations of <10mm at baseline (based on mixture analysis). We used hierarchical targeted maximum likelihood estimation (TMLE) to estimate the causal effect of church attendance on infection incidence accounting for clustering at the community-level. Confounders included age, sex, household socioeconomic status and time between TSTs.

Results 2349 children were eligible for inclusion, of whom 2019 (86%) had a 2nd TST placed and data on church attendance. 66 (3.2%; 95% CI 2.5–4.1) children had evidence

of TST-conversion; 3/1795 (1.4%; 95% CI 0.3 – 4.0) among those with <4 attendances and 633.3%; 95% CI 2.5–4.2) in those with ≥ 4 attendances. The estimated adjusted risk ratio was 2.8 (95%CI 1.2 – 6.7; p-value 0.023) for church attendance compared to baseline group.

Conclusion High levels of church attendance (≥ 4 per year) increased the risk of incident infection by 2.8-fold compared to church attendance of less than 4 attendances per year in young children in rural Malawi. Simple infection control practices, such as opening windows or even holding congregations in outdoor spaces, may be highly beneficial in mitigating the risk of community *M. tuberculosis* transmission and other respiratory/airborne pathogens.

P10 REALIST REVIEW LINKING POLITICAL EXPOSURES TO CHILD AND MATERNAL HEALTH OUTCOMES

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Background There are longstanding conceptual and theoretical links between political exposures and population health. Systematic reviews have demonstrated that the welfare state, political tradition, democracy and globalisation exert an important influence on population health outcomes. However, there has been no systematic analysis of the mechanisms by which these effects may operate. Therefore, taking a focus on child and maternal health outcomes, a realist re-synthesis of the dataset from an existing systematic review is presented.

Methods In order to systematically evaluate the mechanisms by which political effects on child and maternal health operate using realist methods, searches from an existing systematic review up to November 2017 were used. Ten databases were searched, and supplementary web searches and citation chasing were conducted. Included studies quantitatively investigated the link between the welfare state, political tradition, democracy or globalisation and child or maternal health outcomes in at least two countries. Following standardised duplicate screening and data extraction, initial realist theory generation took place, followed by theory adjudication to determine final theories. As realist methods were used, there was no standardised assessment of risk of bias.

Results 35,333 unique records were identified, of which 255 proceeded to full-text review, 176 to inclusion in the original systematic review, and 67 were included in this realist review on child and maternal health outcomes. Sixty-three of these studies were ecological and included data from 1950–2014. Six initial theories were generated. Following theory adjudication, three theories in revised form were supported and formed the final programme theories. These related to a more generous welfare state leading to better child and maternal health especially in developed countries through progressive social welfare policies, left-of-centre political tradition leading to lower child mortality and low birth weight especially in developed countries through greater focus on welfare measures, and increased globalisation leading to greater child and infant mortality and youth smoking rates in LMICs through