Conclusion RR identified significantly fewer included studies than SR, but there were no significant differences in the review results. RR offered greater efficiency with far greater% of reviewed records being included. This analysis benefited from using data from a large scale epidemiological review. However, it only assessed one broad topic area. Further research and evidence synthesis is needed to assess the value of RR in an epidemiological setting.

Mental Health 2

OP83

HOW MUCH OF THE EFFECT OF DISABILITY ACQUISITION ON MENTAL HEALTH IS MEDIATED THROUGH EMPLOYMENT AND INCOME? A CAUSAL MEDIATION ANALYSIS QUANTIFYING INTERVENTIONAL INDIRECT EFFECTS USING LONGITUDINAL DATA FROM WORKING AGE AUSTRALIANS

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Background There is evidence that disability acquisition causes a decline in mental health, but few studies have examined the causal mechanisms through which the effect operates. Our previous research examined three broad groups of socioeconomic characteristics and found that material factors, rather than psychosocial or behavioural, predominately mediated the effect. However, there remains a lack of understanding about which specific material factors drive the association, limiting the development of effective interventions to improve the mental health of people with disabilities. This study examined how much changes to employment and income mediate the effect of disability acquisition on mental health.

Methods We used data from the Household, Income and Labour Dynamics in Australia Survey, a longitudinal study of Australian households, which collects information annually on a wide range of demographic, social, economic, and health characteristics. We used four waves of data (2011–2014) to compare self-reported mental health between working aged individuals who acquired a disability ($n=233$) and those who remained disability-free ($n=5419$). Mental health was measured using the mental health inventory, a subscale of the SF-36 health questionnaire. We conducted a causal mediation analysis to quantify interventional indirect effects of disability acquisition on mental health operating through two distinct mediators: employment status and household income. This novel method enables quantification of path-specific effects operating through multiple mediators. We used multiple imputation with 50 imputed datasets to account for missing data and conducted analyses in Stata/SE 15.

Results Disability acquisition was estimated to cause a five-point decline in mental health (estimated mean difference: -4.8 , 95% CI -7.0 , -2.7). The interventional indirect effect through employment was estimated to be a 0.5 point difference (-0.5 , 95% CI -1.0 , 0.0), accounting for 11% of the total effect, whereas there was no evidence that income explained any of the effect.

Conclusion Using a novel approach to mediation analysis which addresses limitations of traditional mediation methods and can be estimated under weaker assumptions than natural

indirect effects, we found that some of the effect of disability acquisition on mental health was explained by changes to employment, but not income. Key limitations included strong assumptions about unmeasured confounding and the small number of people acquiring a disability in our dataset. The findings have important policy implications, highlighting the need to improve employment opportunities and vocational training for people who acquire a disability to improve mental health and reduce current mental health inequalities experienced by people with disabilities.

OP84

COULD INCREASING INCOME IN LONE-PARENT HOUSEHOLDS REDUCE POPULATION PREVALENCE AND INEQUALITIES IN CHILDREN'S MENTAL HEALTH PROBLEMS? A POLICY SIMULATION IN THE UK MILLENNIUM COHORT STUDY

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Background About half of lone-parent families in the UK live in relative poverty (income below 60% of the national median) compared to a quarter of two-parent households, and family hardship is associated with poorer child mental health. There is little evidence on whether reducing income differences between lone- and two-parent households could reduce inequality in child mental health problems (CMHP). Using data from the UK Millennium Cohort Study (~18000 children born 2000–2002), we investigated whether equalising income between lone- and two-parent households could reduce prevalence and inequality in CMHP. We also simulated achievement of a government target to reduce child poverty to less than 10% of the population (Child Poverty Act 2010), to assess whether tackling low income could reduce inequality in CMHP related to family structure.

Methods Exposure was family structure (lone- or two-parent household) when the child was 9m; mediator was equivalised household income per week at 3y; outcome was parent-report CMHP at 5y (Strengths and Difficulties Questionnaire; borderline-abnormal, yes/no). We accounted for attrition to MCS at 5y, and baseline and intermediate confounders. Analyses were carried out in an analytic sample of 11,193.

We estimated the controlled direct effect of family structure on CMHP in logistic marginal structural models, weighted for attrition, and adjusted for confounding and mediation by household income. Prevalence was assessed overall and according to family structure; inequalities were computed using risk ratios (RRs) and differences (RDs) [95% CIs]. We re-estimated the controlled direct effect after increasing income according to two simulations. In the first, we equalised income between lone- and two-parent households. In the second, we modelled achievement of the child poverty target by increasing income for some lone- and two-parent families, reducing the proportion of households living in relative poverty to less than 10%.

Results Prevalence of CMHP was 8.5% [7.6, 9.5], and children from lone-parent households were more likely to exhibit poorer mental health (RR 1.73; RD 5.70). Equalising income between lone- and two-parent households reduced prevalence (8.2% [7.3, 9.0]), and inequality (RR, 1.37; RD, 2.86) in