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Research Article

Modelling vulnerability to gambling related harm: How disadvantage predicts gambling losses

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Abstract

Electronic gambling machines (EGMs) are ubiquitous in social venues such as hotels and clubs in most Australian states, and account for 55% of total gambling expenditure in Australia; they are also associated with most gambling derived harm. Because of the difficulty of assessing the prevalence of problem gambling and the incidence of gambling derived harms, gambling expenditure (i.e., the losses of those gambling) is often used in gambling research as a proxy indicator of harm. This study examines the relationship between socioeconomic disadvantage (measured by the Australian Bureau of Statistics SEIFA Index of Relative Socioeconomic Disadvantage [IRSD]), and EGM losses at the suburban level across a major Australian city. It develops a predictive spatial model of gambling vulnerability and presents the output visually. The findings reveal increasing levels of loss as disadvantage increases across IRSD quintiles. The

highest mean annual EGM losses of $849 per adult (95% CI $AU749–963) occurred in areas classified in IRSD Quintile 1, the most disadvantaged areas; in the least disadvantaged areas, mean annual losses were $298 per adult (CI $260 –$342). The density of EGMs confounds the relationship between losses and disadvantage. In this model, 40% of the apparent effect of disadvantage is explained by the density of EGMs. The vulnerability surface reflects socioeconomic patterns across Melbourne. EGM vulnerability is clustered (Moran's Index 0.52; $p < 0.001$). High levels of EGM density in disadvantaged areas are contributing to a disproportionate share of EGM losses in already disadvantaged neighbourhoods. Regulation of EGMs could be improved to better protect vulnerable neighbourhoods from EGM harm.

Gambling EGM slots socioeconomic disadvantage public health policy GIS

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