

# **Social network-based distancing strategies to flatten the COVID-19 curve in a post-lockdown world**

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Social distancing and isolation have been widely introduced to counter the COVID-19 pandemic. Adverse social, psychological and economic consequences of a complete or near-complete lockdown demand the development of more moderate contact-reduction policies. Adopting a social network approach, we evaluate the effectiveness of three distancing strategies designed to keep the curve flat and aid compliance in a post-lockdown world. These are: limiting interaction to a few repeated contacts akin to forming social bubbles; seeking similarity across contacts; and strengthening communities via triadic strategies. We simulate stochastic infection curves incorporating core elements from infection models, ideal-type social network models and statistical relational event models. We demonstrate that a strategic social network-based reduction of contact strongly enhances the effectiveness of social distancing measures while keeping risks lower. We provide scientific evidence for effective social distancing that can be applied in public health messaging and that can mitigate negative consequences of social isolation.

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