J Addict Res Ther 2012, 3:4
http://dx.doi.org/10.4172/2155-6105.S1.009

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International Conference and Exhibition on
Addiction Research & Therapy

August 20-22, 2012 Embassy Suites Las Vegas, USA

Predicting treatment location: Modelling the geographic spread of drug use

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Illegal drug use is a hidden phenomenon however in recent times viable methods have been developed and applied to produce regular and current prevalence and incidence estimates and model opiate addiction. While drug use continues to spread at local and global levels the development of these methods to produce geographically distributed prevalence and incidence estimates is essential for the planning and provision of effective treatment services. Diffusion models have been previously used to model the geographic spread of a general epidemic. This research further develops the diffusion model to describe the geographic spread of opiate use. The model is applied to data on opiate use in Ireland to model the geographic spread of opiate use. Results indicated a decreasing pattern of infectious opiate users as the distance travelled from city A increases and an increasing number of infectious opiate users when approaching city B. This research addresses the need for a valid model to describe the spatial spread of opiate users both nationally and internationally for policy makers and service providers responsible for allocating increasingly scarce funding for treatment services.The model is beneficial to planners and treatment service providers as it permits them to apportion increasingly scarce funding and resources for drug treatment based on predicted client treatment requirements. This globally applicable model also allows policy makers to determine where new drug treatment facilities could be required and make budgetary provisions for facilities as and when the need arises.

Biography

Dr Dempsey completed her PhD in 2011 at Trinity College Dublin on modelling the prevalence, incidence and geographical spread of opiate use. She is the Practice Lead at the Centre for Practice and Healthcare Innovation at Trinity College Dublin. Her research interests include addiction, inherited risk of substance use, mathematical models for substance use and modelling health outcomes of substance users.

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Cannabis as a substitute for alcohol and other drugs; A dispensary-based survey of substitution effect in Canadian medical cannabis patients

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Background: This study examines the subjective impact of medical cannabis on the use of both licit and illicit substances via self-report from404 medical cannabis patients recruited from 4 dispensaries in British Columbia, Canada. The aim of this study is to examine a phenomenon calledsubstitution effect, in which the use of one product or substance is influenced by the use or availability of another.

Methods: Researchers teamed with staff representatives from 4 medical cannabis dispensaries located in British Columbia, Canada to gather demographic data of patient-participants as well as information on past and present cannabis, alcohol and substance use. A 44-question survey was used to anonymously gather data on the self-reported impact of medical cannabis on the use of other substances.

Results: Over 41% state that they use cannabis as a substitute for alcohol (n=158), 36.1% use cannabis as a substitute for illicit substances (n=137), and 67.8% use cannabis as a substitute for prescription drugs (n=259). The three main reasons cited for cannabis-related substitution are "less withdrawal" (67.7%), "fewer side-effects" (60.4%), and "better symptom management" suggesting that many patients may have already identified cannabis as an effective and potentially safer adjunct or alternative to their prescription drug regimen.

Discussion: With 75.5% (n=305) of respondents citing that they substitute cannabis for at least one other substance, and in consideration of the growing number of studies with similar findings and the credible biological mechanisms behind these results, randomized clinical trials on cannabis substitution for problematic substance use appear justified.

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