

SSA PhD Studentship Final Report

Final Report 2020

*Carol-Ann Getty
King's College London*

Mobile telephone-delivered Contingency Management to promote behaviour change in addiction treatment

RESEARCH REPORT

Contingency Management's (CM) growing research base has highlighted the promising role that technology may play in improving the reach of these interventions to treat substance use disorders and support the management of recovery. Using [technology](#) may also enable CM interventions to target treatment related behaviours that are notoriously difficult to monitor frequently and objectively (e.g. smoking and alcohol consumption), while also surmounting geographical barriers that hinder access to these interventions among vulnerable populations who are particularly difficult to treat or may not access services. While the implementation of CM in NHS drug misuse services has been recommended by [NICE](#), the feasibility and acceptability of delivering it remotely using mobile telephones remained an unexplored area.

In 2017 the Society for the Study of Addiction (SSA) recognised the importance of addressing this gap in knowledge, and awarded me a doctoral studentship to investigate the feasibility, acceptability, and effectiveness of [mobile telephone-delivered CM](#) (mCM). With the overarching aim to contribute to the theoretical and practical development of Contingency Management by investigating how mobile telephones can be used to support and deliver these interventions, a series of linked studies was conducted. These studies constituted a mixed methods design and included: narrative reviews of the literature, a systematic review and meta-analysis, a survey of patients' beliefs and acceptability towards mCM, and a qualitative exploration of patients' experience of a [mCM intervention](#).

The findings from my PhD support the application of mCM, suggesting that these interventions are feasible, acceptable, and effective. Methodological implications have been considered in the development of mCM to ensure the key principles of Contingency Management are adhered to. More specifically, my body of research found evidence for the integration of remote technologies into Contingency Management interventions to objectively monitor the target behaviour and act as a system enabling the delivery of the reinforcement when the target goal is attained. The [meta-analysis](#) found that mCM performed significantly better than control conditions in promoting abstinence from alcohol and nicotine among individuals not in treatment for substance use disorder. Additionally, the survey of patients' beliefs and acceptability found that most are in favour of CM and are accepting of the use of technology to remotely monitor behaviour and deliver incentives and the patients' experiences study found that mCM was well received and had perceived positive impacts on patients' adherence to their treatment.

These findings have important implications for the development and implementation of remote Contingency Management interventions and warrant their consideration within UK drug and alcohol treatment services. However, many important questions have arisen from this research. The findings suggest that there is a lack of research evaluating the effectiveness of mCM in reducing illicit substance use due to current technological limitations and the lack of reliable and accurate devices to appropriately monitor illicit drug use remotely. Research to investigate this potential and develop an evidence base about effectiveness is a clear priority.

PUBLICATIONS, PRESENTATIONS & AWARDS

During my PhD, I was fortunate to disseminate my research on multiple platforms, through publishing in academic journals, presenting my work at national and international conferences, and writing online articles:

Publications

- Getty, C.A et al. (2019). A systematic review and meta-analysis of the effectiveness of mobile telephone-delivered contingency management interventions promoting behaviour change in individuals with substance use disorders. *Addiction*, 114(11), 1915-1925.
- Getty, C.A et al. (2018). Protocol for A systematic review and meta-analysis of the effectiveness of mobile telephone-delivered contingency management interventions promoting behaviour change in individuals with substance use disorders. PROSPERO.
- Getty, C.A et al. (2021). Patients' Beliefs towards Contingency Management: target behaviours, incentives and the remote application of these interventions. *Drug & Alcohol Review*. Under review.
- Using mobile telephones to deliver Contingency Management interventions (SSA website) <https://www.addiction-ssa.org/knowledge-hub/using-mobile-telephones-to-deliver-contingency-management-interventions/>

Presentations

Poster Presentations:

- SSA Annual Conference (2018). A systematic review and meta-analysis of the effectiveness of Mobile Telephone-Delivered Contingency Management interventions promoting behaviour change in individuals with substance use disorders.
- Association for Behaviour Analysis, Substance Use & Addiction Conference (2018) in Washington, D.C. A systematic review and meta-analysis of the effectiveness of Mobile Telephone-Delivered Contingency Management interventions promoting behaviour change in individuals with substance use disorders.
- SSA Annual Conference (2019). Telephone-delivered Contingency Management (CM) to promote treatment adherence in addiction services: A patient's perspective.

Oral Presentations:

- SSA PhD Symposium (2018). Telephone delivered Contingency Management to promote behaviour change in addiction treatment.
- Reinforcing Behaviour Change in Addiction Treatment Conference (2019). Delivery of Contingency Management via mobile technology.
- Lisbon Addictions Annual Conference (2019). Telephone-delivered Contingency Management to promote behaviour change in addiction treatment.

Awards

During my PhD, I secured funding to enable me to attend conferences and visit international research units leading in the development of remote CM applications.

- SSA Travelling Scholarship in 2018 to attend the Association for Behaviour Analysis, Substance Use & Addiction Conference in Washington, D.C and present preliminary findings from my systematic review and meta-analysis and visit Johns Hopkins University Hospital in Baltimore and the Behavioral Health and Technology Research Lab at University of Florida.
- Doctoral Studies Conference Fund in 2018 towards the above trip.

- Guarantors of Brain Travel Award in 2019 to attend the Lisbon Addictions conference to present on mobile telephone-delivered Contingency Management to promote behaviour change in addiction treatment.

In 2020, I was awarded the Clinical Addictions Group Early Career Research Award for the paper '*A systematic review and meta-analysis of the effectiveness of mobile telephone-delivered contingency management interventions promoting behaviour change in individuals with substance use disorders*' I published in the journal *Addiction*.

FUTURE DIRECTIONS

Evidence-based treatments (such as opioid substitution treatment) are not achieving their full benefit due to poor adherence and high levels of drop out among patients. Identifying effective interventions that address these problems in a way that is accessible to all is an important priority. The body of research I undertook for my PhD explored the ways in which mobile telephones can be used to deliver CM interventions to address this problem and promote treatment related behaviours in individuals with substance use disorder. My research presents encouraging findings regarding the acceptability, feasibility, and effectiveness of these interventions. Thanks to the SSA, I continue my research in this area, supported by the [Post-Doctoral Transitional Development Support](#) scheme. My current research takes a next step, examining stakeholders' views on mobile telephone-delivered Contingency Management and its place within UK drug and alcohol services, to aid the development of future mCM interventions.