

Post-Doctoral Transitional Development Support scheme

Final report

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I'm a postdoctoral researcher within the Addictions Department of King's College London. I was lucky enough to be the first recipient of this award under this scheme. I was awarded this fund to allow me to progress research plans and apply for larger scale funds.

I have been focussing predominantly on developing five lines of work:

1) investigating overdose and respiratory depression among heroin users who are in diamorphine maintenance treatment and therefore receive pharmaceutical diamorphine. We have started data collection for this study as a re-activation of previous work that has been revised to include further testing and also, a more robust model from which we can test other risk factors further.

2) drafting a study protocol that aims to use a similar model of overdose but will recruit from a non-treatment seeking population, a group that is often overlooked but that is crucial in terms of risk of opioid overdose.

3) in order to widen the recruitment potential for these overdose studies I have now prepared a portable version of the respiratory monitoring equipment. This will be incredibly useful for the future as the target population is widely spread across several regions. We plan on conducting these studies at heroin assisted treatment clinics later this year.

4) discussions with several industry partners to establish whether novel and wearable devices that measure respiratory function are suitable for the overdose studies that are being planned and conducted. We have now established at least three devices/sensors that will be incorporated into the studies.

5) developing a separate line of research on injecting motion signatures with colleagues within the King's. The purpose of this work is to establish whether there are any detectable similarities in injecting movement patterns among injecting drug users. This work is still in its early stages but could prove to be promising and useful in capturing moments of particular vulnerability to overdose.

I have applied for two grants/fellowships and I am in the process of applying for a third. I have authored/contributed to three publications during the course of this post-doc support period, as follows:

1. Tas, B., Jolley, C. J., Kalk, N. J., Van der waal, R., Bell, J., and Strang, J. (2020) Heroin-induced respiratory depression and the influence of dose variation: within-subject between-session changes following dose reduction. *Addiction*, <https://doi.org/10.1111/add.15014>.
2. Metrebian, N., Weaver, T., Pilling, S., Goldsmith, K., Carr, E., Shearer, J., Woolston-thomas, K., Tas, B., Getty, C., Cooper, C., Van Der Waal, R., Kelleher, M., Finch, E., Bijral, P., Taylor, D., Scott, J. & Strang, J. (2019). Telephone delivered Incentives for Encouraging adherence to Supervised methadone consumption (TIES): study protocol for a feasibility study for an RCT of clinical and cost effectiveness. In: *Contemporary Clinical Trials Communications*.17, p. 100506 100506. [10.1016/j.conctc.2019.100506](https://doi.org/10.1016/j.conctc.2019.100506)
3. Tas, B., Humphreys, K., McDonald, R., & Strang, J. (2019). Should we worry that take-home naloxone availability may increase opioid use? *Addiction*, 114(10), 1723-1725. <https://doi.org/10.1111/add.14637>

In the last year, I was invited to present at the International Society for the Study of Drug Policy conference in Paris. I also presented at Lisbon Addictions (a video summary of this talk can be found here: <https://www.addiction-ssa.org/knowledge-hub/lisbon-addictions-2019-dr-basak-tas-heroin-overdose-experimental-testing-and-measurement-in-the-laboratory-preliminary-findings/>). The next steps are to continue with the overdose studies and to apply for fellowships.