**Evaluating a Pilot Respiratory Monitoring Programme to Prevent Drug-Related Deaths.**

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**Introduction**

RESCU is a mixed-methods observational cohort study addressing Scotland's rise in drug-related deaths (DRD), most of which are caused by opioid-induced respiratory depression. RESCU investigates a chest-worn accelerometer sensor's ability to accurately capture respiratory patterns of people who use drugs to determine overdose response trigger points. The study also assesses device acceptability to participants, third sector and first responder groups to create an intervention pathway.

**Methods**

70 participants were recruited from an injection equipment site in Dundee (Feb–Dec 2022) and used biosensors to record breathing over four weeks. Interviews and focus groups with participants (n=21) and stakeholders (n=8) explored device acceptability. Qualitative data analysis used Reflexive Thematic Analysis, COM-B, and Normalisation Process Theory. Respiratory data was analysed using algorithms detecting pauses in respiration. A Delphi study is currently being conducted to determine ideal response time in the event of a respiratory arrest.

**Results**

43 participants who returned data contributed 5,760 hours of data (2,365 hours of which were respiratory data), averaging 134 hours of data collected per each participant. Focusing on apnoeic episodes of over 30s of which there were >3 apnoeic episodes within an hour, participants experienced 851 of such apnoeic episodes, most during respiratory depression. Experiences with overdose or DRD were identified as motivating factors for device wear. First responders emphasised patient choice and device accuracy. Therapeutic relationships between staff and clients of the injection equipment provision site were found to be beneficial for intervention uptake. The Delphi study has identified that apnoeic episodes >30 seconds or three episodes over 20 seconds in 2 minutes should trigger an alarm.

**Conclusion**

Data analysis suggests successful detection of respiratory anomalies, The evaluation highlighted positive relationships and participant choice. Further results from the Delphi study will be available at the time of the conference.

**Disclosure of Interest Statement:**

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