

## Publication

### Novel Medication Supply Model Guarantees Adequate Management and High Adherence to Polypharmacy in Older Opioid Users – Preliminary Results with Outpatients

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**Author(s)** Arnet, Isabelle; Allemann, Samuel S.; Dürsteler, Kenneth M.; Strasser, Johannes; Vogel, Marc; Hersberger, Kurt E.

**Author(s) at UniBasel** [Arnet, Isabelle](#) ; [Allemann, Samuel](#) ; [Hersberger, Kurt](#) ;

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Background: Life expectancy of older drug users has increased, primarily thanks to opioid agonist treatment (OAT). Nursing homes are often not adapted to accommodate patients with substance use disorders. Although care and adherence to polypharmacy in older opioid users need considerable resources e.g., daily visits to an outpatient clinic, outpatient treatment and surveillance are provided as long as possible. We developed a novel medication supply model with an electronic dispenser of pre-packed medications located at patient home, after allowing for law requirements concerning the dispensing of opioids, and present preliminary results from three illustrative outpatients. Methods: The community pharmacy provided unit-of-dose pouches with all solid oral medications directly to patient home. Opioids for substitution were obtained at the addiction clinic in at least weekly intervals, otherwise in the pouches. The pouches were loaded into a lockable, remote-controlled medication management aid that was programmed according to the patient's medication schedule. The dispenser reminds patients with acoustic alerts to take their medication and records dates and times of medication retrievals. It automatically sends an alert if a patient misses to retrieve a dose. Results: Our three outpatients used the electronic dispenser during 659, 118 and 61 days, with a total of 5, 9, and 18 pills to take daily at 1, 3 and 5 intake times, respectively. The majority of the doses were taken on the preset time (94%, 68.2% and 73.7%) or deliberately in advance (pocket dose). Clinical benefits were initiation and maintenance of a therapy for dementia over 18 months and suppression of HIV viral load over 1.8 years (patient 1), prevention of further dose escalation of pain medication (patient 2) and release of prompts to initiate the existential task of cooking (patient 3). Conclusion: Our novel supply model allows adequate implementation and persistence of complex treatments with outpatients. Clinical outcomes improved, patients and caregivers were satisfied, and resources were saved.

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