

# Realtime data-analysis to improve HIV care: preliminary data from the Happi DataLab



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## Aim

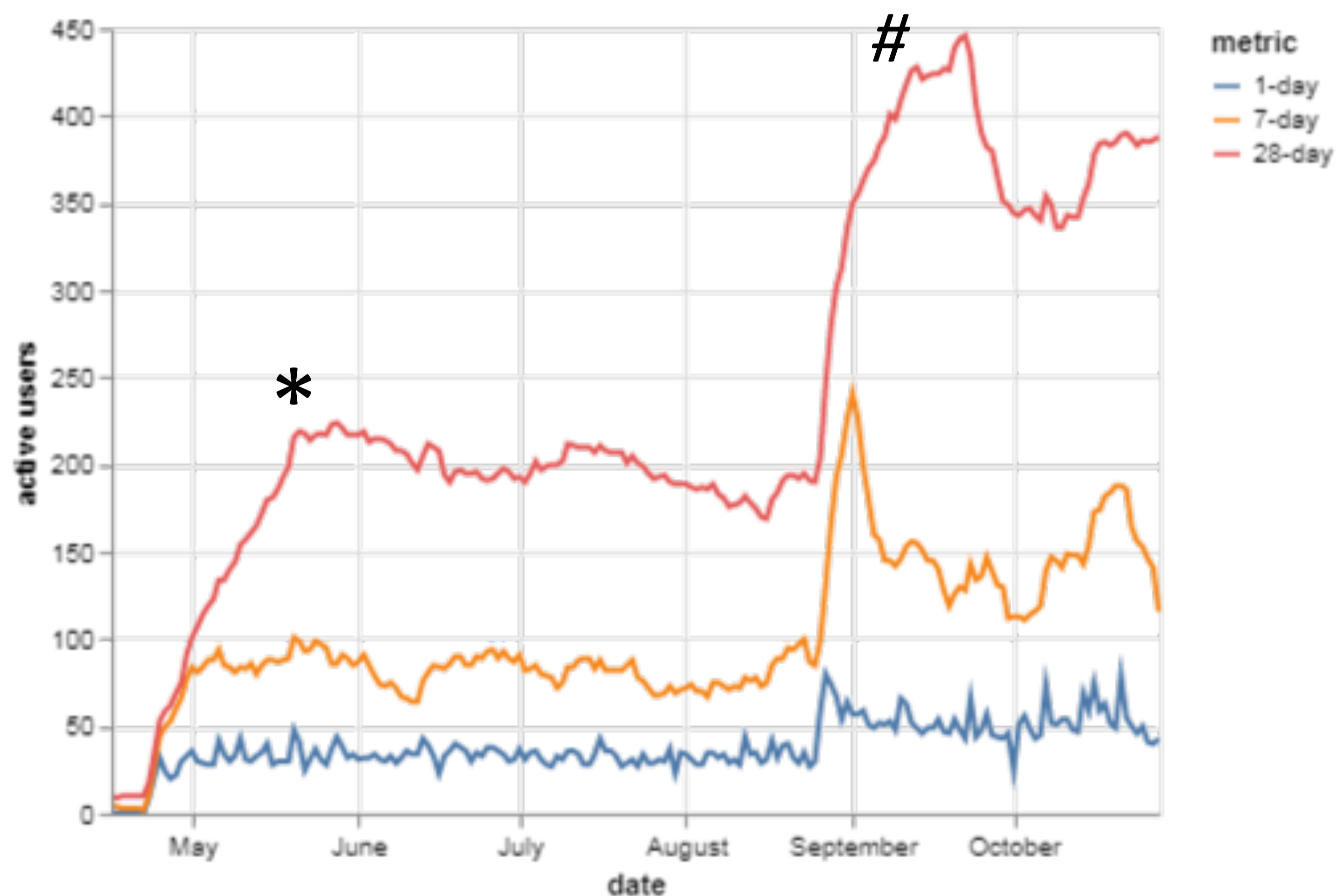
- to evaluate the usefulness of the Happi dataLab for continuous data collection and analysis with the aim to improve quality of care for HIV-infected patients

## Introduction

- Healthcare is changing partly through the introduction of a personal health record (PHR)
- The mobile application Happi is such a PHR ([www.happiapp.eu](http://www.happiapp.eu)).
- Happi focuses on empowering patients and giving them maximum control over their health and disease.
- The Happi app is developed through "privacy by design" principles and is CE approved
- Since its release in July 2018, the app has been downloaded over 2600 times

## Results

Figure 1: number of active Happi app users over time



Introduction of Happi dataLab for iOS\* and Android#

## Conclusions

- Happi can effectively collect anonymised data real-time with a focus on patient data regarding quality of life and medication tolerance.
- More work is required to inform stakeholders in the field about benefits and potential of the Happi app.
- The process of data stewardship requires support of users and clinicians in using the app such that it can continuously collect data.

Table 1: patient characteristics

Variable	Total (n=454)
Gender	
male	286 (81%)
female	69 (19%)
Age (median)	42
between 20-60 y	89%
year of birth not registered	30%
Tobacco use	
daily	28%
current non-smoker (but unclear tobacco use in the past)	72%
not registered	25%
iOS / Android	54% / 46%



- Active users are defined as unique patients who finished onboarding of the app
- Of those 44% gave consent for data collection
- 38% of active users use the app at least once a month
- Over a 3-month period approx. 5,000 data points were acquired
- Data quality varies and is subject to
  - 1) patient interpretation
  - 2) connectivity to the Hospital Information system

## Methods

- Data is collected from both iOS and Android users who have given consent for anonymized analysis of their PHR.
- Using clinical building blocks (CBBs; MedMij standaarden) relevant data is sourced at each event in the app, after which it is stored and processed in the data platform.
- Presently six CBBs are implemented (Patient, MedicationAgreement, MedicationUse, LaboratoryTestResult, MedicationToleranceScore and QuestionnaireResponse).
- Where necessary, CBBs are adapted to ensure anonymity of patients.
- Incoming CBBs data is deduplicated and harmonized using guidelines from common clinical practice, e.g. various medication regimes.