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## **Modelling peak pain migraine-attack severity: sharing successes and flaws**

*Tuesday, June 28, 2022 10:50 AM (20 minutes)*

Modelling human self-reported longitudinal health data is a challenge: data accuracy, missingness (at random or not), between and within-subject variability, correlation, ...poses challenges even in the framework of modelling “just” for hypothesis generation.

In this talk I will share my experience on modelling (for the purpose of describing) peak pain migraine-attack severity in individuals with chronic migraine (CM). I strongly believe that modelling is an art, but it has to serve the purpose of broadening our understanding (both of the data and the world). I will also promote feedback on sharing our successes and flaws as modellers.

Data from an observational prospective longitudinal cohort study of adults with CM will be used. Daily data about headache, symptoms, and lifestyle factors were collected using the N1-Headache™ digital health platform. Days were classified as “migraine days” when a headache occurred that met the clinical criteria. On migraine days, peak pain severity was recorded on a four-point categorical scale.

We observed that although some individuals display relatively consistent patterns of peak severity, many report much more significant variability in their peak severity patterns. This suggests that the day-to-day experience of pain in individuals with CM is quite diverse. Understanding these between-patient differences in peak severity profiles might enable care-providers to better understand the patient experience and to tailor their migraine management approach and intervention strategies more effectively to the individual patient.

### **Keywords**

modelling, chronic migraine, severity

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