Medication use and overuse patterns in Curelator Headache™ US and UK users
Pablo Prieto, Gabriel Boucher, Stephen Donoghue, Peter J. Goadsby and Stephen D. Silberstein
This study looked at all acute medications, including non-prescription medicines. Medication overuse was identified in 29% of users in the USA and 19% in the UK. Chronic and episodic migraine users showed different rates of medication use per individual as well as different medication use and overuse frequencies. Surprisingly, use was significantly higher in the episodic migraine group in both countries, especially in those overusing medication.

* Individual Differences in the Relation of Migraine and Menstruation: Examining the ICHD-3 Time Window
James S. McGinley, R. J. Wirth, Gabriel Boucher, Dawn C. Buse, Stephen Donoghue, Jelena Pavlovic, Richard B. Lipton, E. Anne MacGregor
Redefining the Time Window of Perimenstrual Migraine Days Reveals Additional Inter- and Intra-Individual Differences
James S. McGinley, R. J. Wirth, Gabriel Boucher, Dawn C. Buse, Stephen Donoghue, Jelena Pavlovic, E. Anne MacGregor, Richard B. Lipton
Longitudinal analyses of the association between migraine and menstruation using the standard ICHD-3beta window (day -2 to +3) over an average of 6 cycles showed increased odds of migraine in 66% of women studied, but with substantial variation both within and between individuals. Thus, a 'one size fits all' window for analysis of the impact of menstruation on migraine is likely not valid for many individuals.

* N=1 statistical approaches to examine risk factor profiles of ICHD-3 beta classified migraines within individuals
Ty A. Ridenour, Francesc Peris, Gabriel Boucher, Alec Mian, Stephen Donoghue, Andrew D. Hershey
Here we demonstrate that some lifestyle, dietary, physical and emotional factors can modify the severity of migraine attacks. Using a novel visualization tool (Pez Plots™) we can compare these so called "migraine severity modifiers" to factors that, in contrast, are associated with provoking or protecting from attacks (i.e. potential triggers/protectors) in both an aggregated population as well as within individuals. Surprisingly, we find limited overlap. This may provide patients with a new and potentially important clinical management tool.

* N=1 statistical approaches to examine risk factor profiles of ICHD-3beta classified headaches versus migraines within individuals
Ty Ridenour, Francesc Peris, Gabriel Boucher, Alec Mian, Stephen Donoghue, Andrew D. Hershey
This study describes lifestyle, dietary, physical and emotional factors that act as "severity modifiers" and/or potential "triggers and protectors" and compares them for ICHD-3beta classified migraines and 'other' headaches within individuals. We show that 'other' headaches have distinct sets of factors associated with severity modification versus attack occurrence and, furthermore, both these sets of factors are distinct from those associated with migraines. This study suggests that non-migrainous headaches and migraine attacks are distinct pathophysiological entities and as such may need to be distinctly managed.
Alcohol as a risk factor for migraine attacks: an exploration
Pablo Prieto, Gabriel Boucher, Stephen Donoghue, Alec Mian, Noah Rosen

Tyramine as a risk factor for migraine attacks: an exploration
Stephen Donoghue PhD, Gabriel Boucher BSc, Francesc Peris PhD, Alec Mian PhD and Anne MacGregor MD

Alcohol and tyramine are widely suspected as migraine triggers - but are they really? In these prospective studies neither factor was found to be commonly associated with migraine attacks. Furthermore, they were as equally (<10%) identified as potential protectors and potential triggers. Since these studies only reveal simple associations and causal associations are likely to be a small subset of these, we conclude that alcohol and tyramine rarely, if ever, act as univariate triggers (or protectors).

Self-reported triggers vs prospectively statistically determined factors associated with attacks in individuals with episodic and chronic migraine
Stephen Donoghue, Gabriel Boucher, Francesc Peris, Alec Mian, Paul R. Martin DPhil

Not surprisingly, both chronic and episodic migraineurs suspect many of the same factors as their migraine triggers. However analysis of prospective daily data from Curelator Headache revealed that a high proportion of these factors had no statistical association in either group. Interestingly, the few factor associations that were identified did differ statistically between the two groups.

Epidemiology differences between migraineurs followed by the (Curelator Headache™) who completed 3 months daily electronic follow up vs. drop-outs
Julio R. Vieira, Gabriel Boucher, Pablo Prieto

With the advent of electronic diaries, understanding user profiles that correlate with tracking compliance is critical. How many are able to track for 90 consecutive days? In this study, the 18% that successfully did so were older, less likely to be employed, had slightly less severe pain, visited the ER less frequently, took less caffeine and smoked less (compared to those that dropped tracking earlier).

Individual self-prediction of migraine attacks: longitudinal analysis of cohort of migraine patients using a digital platform
Pablo Prieto, Gabriel Boucher, Alec Mian, Noah Rosen

How good can patients be at predicting their migraines? We asked users to predict next day migraine (or migraine-free day) and classified good predictors as those who predicted both migraine days and migraine-free days with >75% accuracy. Only 5% of migraineurs were able to do this. Next step: how did ‘good predictors‘ do it? Understanding how good predictors predict is tantamount to crowd-sourcing and understanding best-of-practice among individuals with migraine.