**Label:**

* Urge to Use (13 point scale; 4\*90=360 observations per person)
* Report of alcohol use (0/1; hourly: 24\*90=2160 observations per person; or 4\*90=360 observations per person)

**General Feature issues**

All 2 way interactions (X1\*X2) between features

All second order polynomial effects of features (X^2)

**1x administration total and subscale scores (screening/intake)**

**NOTE:** Will not include items, only total and subscale scores

Overall level

Include all scores (1x)

**3x administration measures (Intake, Follow-up 1, Follow-up 2)**

**NOTE:** Will not include items, only total and subscale scores

Overall level

* Include all scores (up to 3x) to date [better than mean or weighted mean without much cost?]

Change

* Most recent score – previous score
* Most recent score – mean of all previous scores [more stable baseline but only different after 3rd admin?]

Variability

* None: Not including SD of scores b/c already captured mostly by change given only 3x admin?

**4x Daily Surveys (up to 4\*90 = 360 scores)**

**NOTE**: Same functions applied to all items on 4x daily survey

Overall level

* All previous scores (could be many so cost of # features matter?) vs. alternatives that aggregate (e.g., most recent, mean over 24 hours, mean over past week, mean over past month, total mean to date)

Change

* Linear and quadratic function over time for all scores to date
* Most recent score - mean of previous 24 hours, week, month and total
* Mean of past 24 hours – mean of previous week, month and total
* Mean of past week – mean of previous month and total
* Set of normed versions of difference score features above (normed/divided by mean of history of same feature within subject)

Variability

* SD over 24 hours, over past week, over past month, over all scores to date
* Change in variability: SD in past 24 hours divided by SD for past week, past month and all scores; SD in past week divided by SD for past month and all scores

**1x daily audio messages**

Content

Acoustic characteristics

Need to consult with Dhavan Shah

**SMS**

Total contacts.

Contacts by people log?

Time of SMS?

Pattern of SMS (by time of day, day, time lag?)?

Content analysis (Dhavan).

**Voice**

See SMS except for content

**GPS**

**Physiology**

**Sleep measures**

**Missing Data**