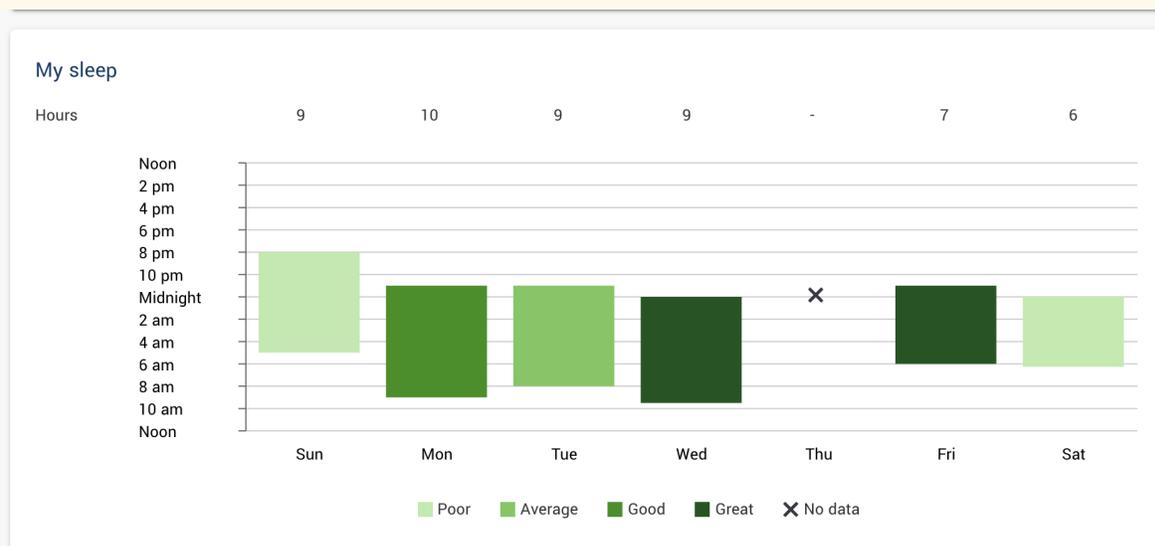


# myWeekInSight Visualization Design

Below I discuss the design decisions for the visualizations implemented in myWeekInSight, ordered by Facet:

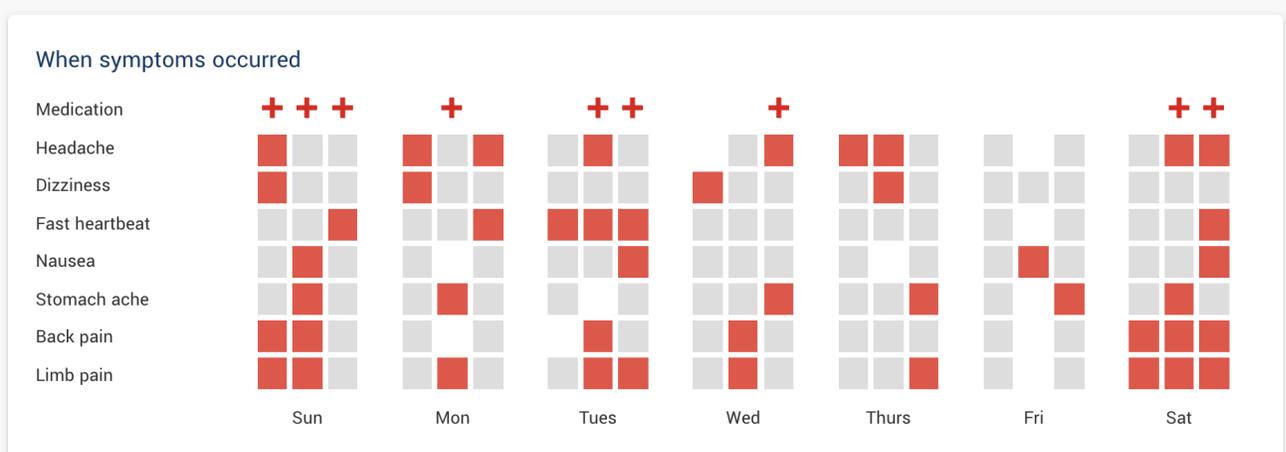
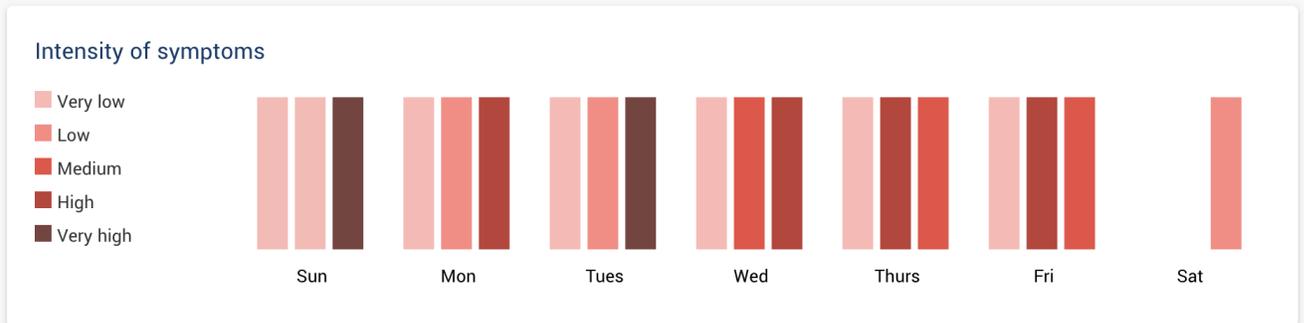
## Sleep

The final *Sleep* chart design uses a single chart to show both the length of sleep and the start and end times through length-coded line marks, with quality indicated by sequential discretized colour saturation. The base hue is green, and there is only one answer each day.



## Symptoms

There are two physical *Symptoms* charts, both using heatmaps for visual encoding, with a base hue of red. The upper *Intensity of Symptoms* chart shows ordered Likert data with sequential discrete saturation color ramp, plus grey when no symptoms occurred. The lower *When symptoms occurred* chart shows binary values, the presence (red) or absence (grey) of each of the 7 surveyed symptoms, as a categorical vertical axis. In the bottom *Occurrence* chart, a row of checkmarks at the top of the columns indicates if medication was taken.



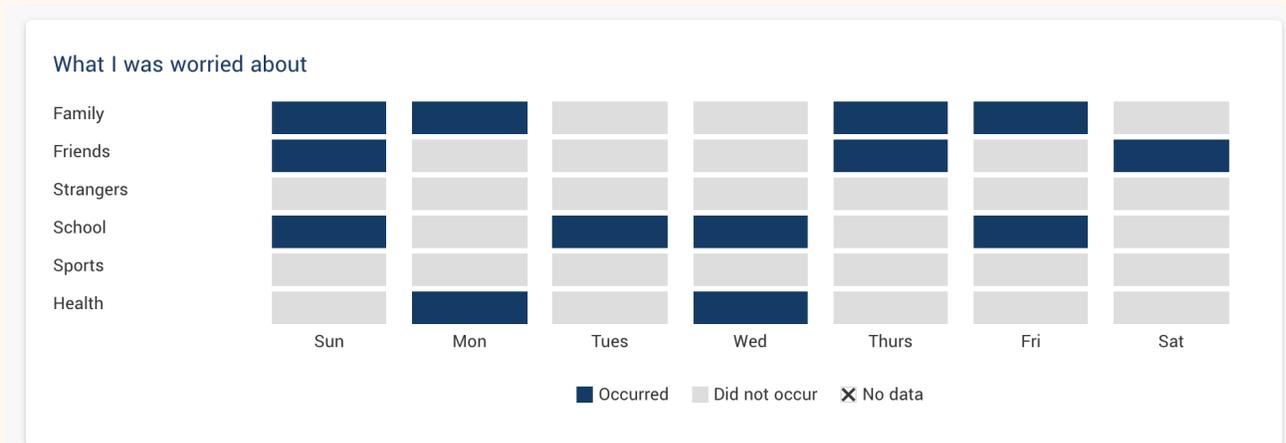
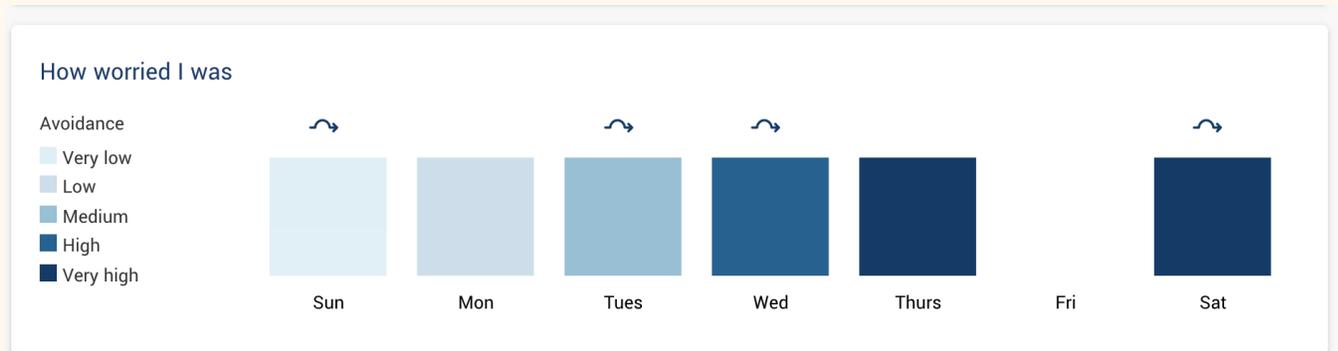
## Emotions

The *Emotions* facet design uses small multiples of the same chart, since the identical question is asked for each of 4 emotions. Line charts show emotion intensities within days and across the week, sufficiently compactly that relationships between them could be considered and these patterns could be compared to symptom intensity in the chart above. Each chart has a superimposed bubble with the weekly total on the left side. Each emotion has a different colour (blue, gold, green, red); although these choices do partially overlap with the colors of the other facets, we considered the benefit of maximal distinguishability greater than the cost of potentially misleading associations.

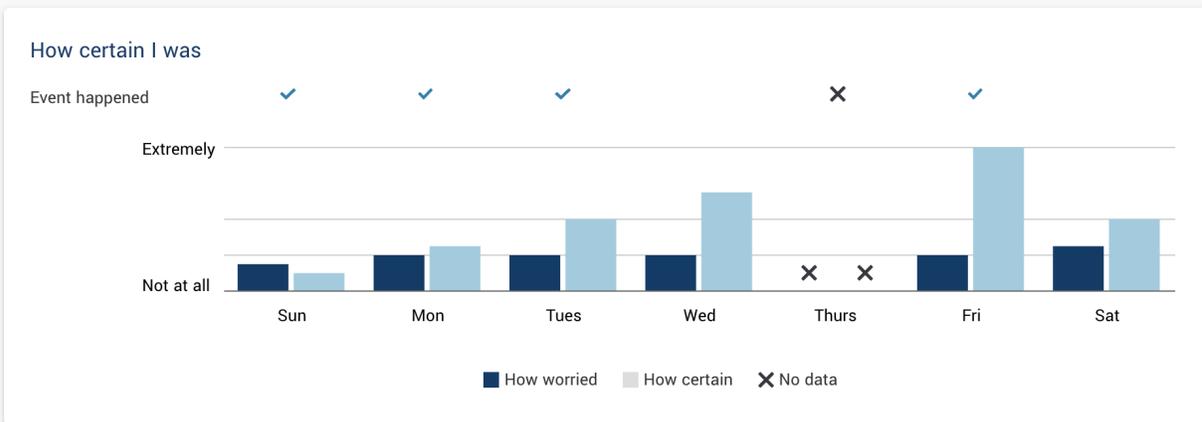
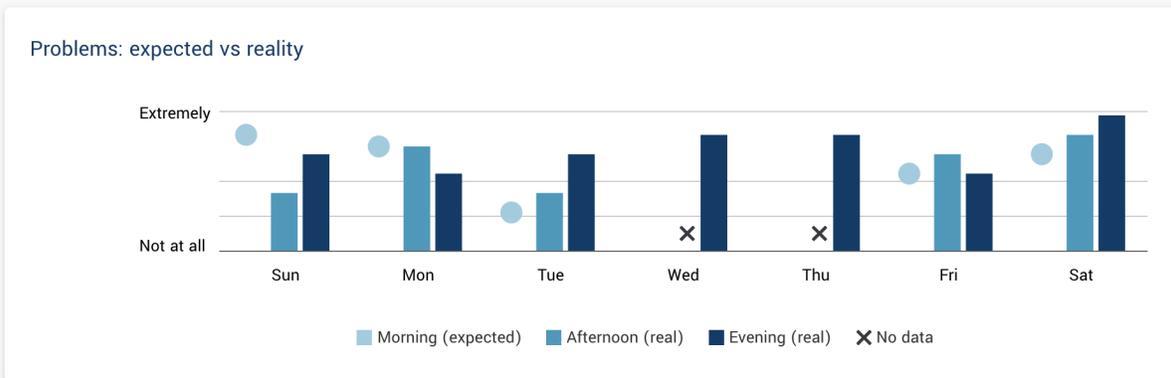


## Worries

The *Worries* facet contains 4 charts, all using blue for the base hue. The first two, *How worried I was* and *What I worried about* are very similar to the *Symptoms* heatmaps, except with one rather than three questions per day, and a curving-arrow icon rather than a checkmark for attempts to avoid . These charts show the trends over time of worry intensity and what worries the patient the most.

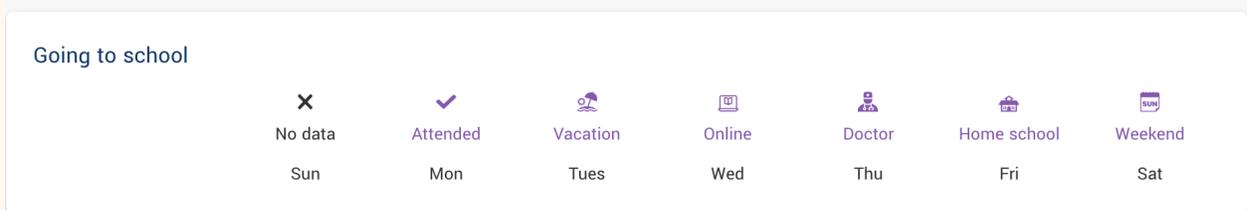


The *How certain I was* chart uses two side-by-side bars for each day, showing the level of worry vs. the level of certainty answers from the morning, with a checkmark above them if the worried-about event did occur later that day. The *Problems: expected vs reality* has a group of three marks for each day: a dot to show the morning expectation of how bad the main problem would be, and two bars for the afternoon and evening reality of how bad it actually was. The expectation mark is purposefully different from the reality marks, to emphasize the difference between estimation and actuality as time progresses. Both of these charts combine heterogeneous data where different questions are asked earlier and later in the day to promote reflection and help patients with calibration, in contrast to the other charts simply showing the same question asked multiple times each day.



## School and Peer Interactions:

The *School* attendance chart simply uses the combination of icons with text labels to show attendance or various causes of absence.



The first *Peers* chart, *My worry about interacting with friends*, shows levels of worry about peer interactions with three grouped bars per day, using the same horizontal alignment as other charts showing three questions per day. The second chart, *Getting along with my friends*, shows the quality of the interactions with peers over time. Although the 2D matrix of boxes has similarities to the heatmap chart for *Symptom* occurrence, the semantics are different. Vertical position indicates magnitudes, showing the ordered Likert scale of interaction quality, from very negative at the top to very positive at the bottom.

