Motion, bed, and gait analysis sensors are installed in the homes of seniors and monitored continuously for the purpose of detecting early signs of health change as well as functional decline. Automated health alerts are distributed to clinical staff as part of a clinical decision support system. Embedded in each health alert is a link to a web interface for interactively displaying the sensor data patterns. The health alerts facilitate early interventions. However, the design and usability of the web interface greatly affect the effectiveness of the clinical decision support system. This web system is analyzed and redesigned over an iterative process for displaying the in-home sensor data. Dedicated users aid in the design process by participating in weekly walk-throughs and feedback sessions. Usability of the website can be described and analyzed using a series of known guidelines as well as user reactions to changes.