Non-adherence to psychiatry visits costs the US mental health care system more than one hundred billion dollars annually. Non-adherent visits undermine improvements to patient care quality, erode patient well-being, and prevent the effective use of technology driven improvements to health care quality. Psychiatric visit non-attendance is often perceived as an intractable problem, because of the direction taken in previous studies of the problem. Previous research into the issue of visit non-adherence focus either on specific patient demographics or on redundant scheduling methods, neither of which addresses quality of care issues or the development of useful tools to decrease visit non-adherence. This formative study addressed the issue of visit non-adherence by leveraging readily available electronic billing and scheduling system data, as well as data from an EMR, to identify and analyze a set of determinants of visit non-adherence. Three strategies, statistical analysis, machine learning/data mining and model comparison, were utilized in the analysis. Results from this multi-phase study provide a parsimonious set of visit non-adherence determinants and a useful model based on those determinants capable of supporting the development of predictive tools suitable for use in ambulatory health care services delivery.