Patient characteristics
· Demographics: age, sex, type
  of insurance coverage,
  diagnosis
· Health status: previous
  psychiatric hospitalization,
  insomnia, number of sub-
  diagnosis, elixhauser
  comorbidity measures

System characteristics
· Hospital type, size, ownership,
  teaching, location, bed
  occupancy rate, RN proportion

System behaviors
· Nurse staffing level
  - RN-to-inpatient ratio
  - RN-to-adj. inpatient ratio
  - Nursing staff-to-adj. inpatient ratio

*Patient care
delivery
subsystem*

Health outcomes
· Length of stay
· Readmission within 30 days
· Psychiatric emergency
  treatment
· Use of injected
  psycholeptics for chemical
  restraint
· Hypnotics use

Adj.=Adjusted; Nursing staff=Total of registered nurses and nurse assistants; RN=Registered nurse.

Supplement 1. Research framework for predicting psychiatric patient outcomes
(Park Suin. Nurse staffing and health outcomes of psychiatric inpatients [dissertation]. 2019. p.18).