

Supplemental Digital Content 1 – The human factors analytics and classification system (HFACS) – Adapted with permission from “The Human Factors Analysis and Classification System – HFACS by Shappell SA and Wiegman DA.”⁴⁰

Organizational influences
Resource management
Organizational climate
Organizational process
Supervision
Inadequate supervision
Planned inappropriate actions
Failure to correct known problem
Supervisory violations
Preconditions to acts
Physical environmental factors
Technological environmental factors
Adverse mental state of employee
Adverse psychological state of employee
Physical/mental limitations of employee

Interpersonal factors
Personal readiness
Acts
Decision error
Skill-based error
Perceptual error
Routine violation
Exceptional violation