HUMAN FACTORS ANALYSIS AND CLASSIFICATION SYSTEM FOR HEALTHCARE
HFACS4HC TAXONOMY WORKSHEET

Errors: Skill-based Errors
- Work or motion at improper speed (i.e., too fast or too slow)
  - Attempting to perform a task too fast or too slow
- Timing errors
  - Performing a task at the wrong time
- Lapse of memory/recall for all or part of a procedure
  - Forgetting how to perform a task or multiple tasks
- Conducted sequence item out of order
  - Performing a procedure out of order, when having the correct order is important
- Safety checklist error (e.g., universal protocol, WHO surgery checklist)
- Incorrect/improper use of a checklist
- Improper lifting/position for task (i.e., not using correct lifting techniques, or not having the position for surgery)
  - Not using the correct lifting/position for the safe performance of a task
- Habit transference (e.g., seen with the introduction of new equipment or procedure)
- Poor technique (e.g., intubation, central line insertion)
  - Performing a task with average or below average technique. This could be a result of lack of knowledge or lack of effort.

Judgment and Decision-making Errors
- Selected incorrect procedure (i.e., wrong treatment)
  - Intentionally performing the wrong task (may or may not be aware that it is incorrect)
- Exceeded ability (i.e., competency)
  - Task requires skills/abilities that worker does not possess
- Inadequate risk assessment
  - Failure to fully identify the risk associated with a task or decision
  - Inadequate work pre-planning (i.e., prepping for surgery)
  - Failure to properly prepare for a task in advance
- Misinterpretation of information
  - Having an incorrect understanding of the given information
  - Caution/warning ignored or misinterpreted
  - Blatant disregard for a warning, or lack of knowledge to correctly understand the warning
  - Improper use of instrument, equipment, PPE, and/or materials
- Use of defective instrument, equipment, PPE, and/or materials (i.e., malfunctioning, faulty)
- Failure to prioritize task

Unsafe Acts

Violations

Misperception Errors
- Misperceived patient factors (e.g., weight, strength, weight-bearing ability)
  - Incorrect understanding of patient factors
  - Misinterpreted/misread equipment (i.e., misread temperature or blood pressure readings)
  - Incorrectly reading equipment
  - Visual distortion (i.e., hallucination)
  - A perception in the absence of a stimulus
  - Tactile distortion (i.e., phantom limb)
  - Auditory distortion
  - Illusion of hearing, the sound equivalent of an optical illusion.

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Violations:

Routine ("Bending" the rules, habitual deviation from the rules and tolerated by management.)
- Taking shortcuts (not otherwise specified)
  - Evading important parts of a procedure in an effort to achieve the goal faster
- Violation of policy/procedures/standard of care
  - Knowingly disregarding the rules
- Delivery of care beyond the scope of practice
- Use of equipment/instruments/PPE/material improperly
  - Using equipment/instruments/PPE/material for a purpose other than their intended purpose
- Failed to secure equipment or materials properly (e.g., not putting sharps in proper container)
  - Failure to make sure equipment and materials could be properly used safely
- Disabled guards, warning systems, or safety devices
  - Intentional disabling of warning systems to allow possibly hazardous behavior that would have otherwise been prevented
- Distracting behavior (i.e., loud talking in hallways, excessive "side" conversation during a shift)
  - Behavior that distracts/prevents the staff from conducting business and doing necessary task (sometimes times task can still be completed but not as effectively or successfully)
- Inadequate/untimely documentation/communication (i.e., waiting to the end of the shift to document)
  - Substandard recordkeeping/ documentation that is used to convey information between staff members
- Failure to follow orders
  - Failure to do what superior staff members ask/order you to do

Exceptional (Breaking the Rules, Isolated deviation from the rules, but NOT tolerated by management. Difficult to predict, since not indicative of one’s behavior.)
- Delivery of care without license/qualification/privileges
- Violation of policy/procedures/standard of care
  - Willful disregard for policy/procedures/standard of care set forth by the administration
- Use of equipment/instruments/PPE/material improperly
  - Intentionally using equipment/instruments/PPE/material for any purpose other than the intended purpose
- Failed to secure equipment or materials properly (e.g., not putting sharps in proper container)
  - Failure to ensure safety of oneself and other staff members by improperly storing equipment and materials
- Disabled guards, warning systems, or safety devices
  - Intentional disabling of warning systems to allow possibly hazardous behavior that would have otherwise been prevented
- Disruptive behavior (i.e., arguing, physical altercations, acting out such as breaking equipment)
  - Behavior that distracts/prevents the staff from conducting business and doing necessary task (not only is this behavior a distraction but it can sometimes physically prevent workers from doing their job)
- Inadequate/untimely documentation/communication (i.e., waiting to the end of the shift to document)
- Failure to follow orders
  - Failure to do what superior staff members ask/order you to do
- Excessive risk taking
  - Repeatedly disregarding rules/regulations and participating in hazardous behaviors that are associated with risk
### Environmental Factors: Physical Environment

- **Inadequate lighting (i.e., dim lights in operating room)**
  - Lighting that is substandard (poor lighting)
- **Inadequate ventilation/air quality (i.e., contaminants in the air, people who have healthy respiratory systems constantly complain about how hard it is to breath in this environment)**
  - Ventilation that is substandard (poor ventilation)
- **Inadequate maintenance of humidity**
  - Substandard maintenance which leads to high levels of humidity
- **Noise interference**
  - Loud or non-harmonious sound that infringes on the day to day activities of the others present, staff or patients
- **Inadequate temperature regulation (too hot or cold)**
  - Temperature regulations that lead to discomfort but more importantly that foster the growth of pathogens
- **Fires or explosions**
  - Rapid oxidation of a material in the chemical process of combustion, releasing heat, light, and various reaction products
- **Energized electrical systems**
- **Radiation (Ionizing & Non-Ionizing)**
  - Energy that is radiated or transmitted in the form of rays, waves, or particles
- **Hazardous material leak/release**
  - When harmful material escapes the container in which it is stored
- **Mechanical hazards (energized and non-energized)**
  - General confined space hazard that exists when electrical or mechanical equipment may be accidentally activated.
- **Clutter, debris, or slippery surfaces**
  - Accumulation of clutter and debris that could be a tripping/falling hazard
  - Unattended wet surface that could also be a tripping/falling hazard
- **Inadequate/improper design for patient care (e.g., congestion or restriction; co-location of look-alike items; safe space for patient care – behavioral health)**
- **Obstructed access/monitoring/visualization of patient/equipment**
  - Increased risk of error or hazard due to something blocking

### Technological Environment

- **Poorly designed or inadequate equipment/material/PPE/instruments**
  - Substandard design that does not provide the most effective/efficient use of equipment/material/PPE/instruments
- **Defective equipment/material/PPE/instruments**
  - Faulty or flawed equipment/material/PPE/instruments that could impair their intended use
- **Inadequate/defective warnings/alarms**
  - Warnings/alarms that cannot be trusted to accurately alert users of danger
- **Unclear/outdated policies/procedures/checklist**s**
  - Policies/procedures/checklist**s that do not effectively address/communicate current issues and expectations
- **Unclear/confusing labeling (i.e., makeshift labels with illegible handwriting, or labels that do not follow standard nomenclature, unidentified abbreviations)**
  - Labeling that does not adequately communicate what is being labeled
- **Failures of information technology (software and hardware issues)**
**Condition of the Operator**

**Adverse Mental States**
- Overconfidence (i.e., relying too much on information technology or computers)
  - Certitude: total certainty or greater certainty than circumstances warrant
- Lack of confidence (i.e., micromanaging occurs when superiors feel this way toward their workers)
  - Lack of trust/faith in something
- Inattention/Distraction
- Mental fatigue
  - Inability to function at the level of one’s normal abilities due to sleepiness
- Task overload
  - Excessive work load
- Fears or phobias
- Medication side-effects (mental)
- Stress (personal)
- Stress (job related)
- Get-home-itis
  - When errors occur because you are trying to “get-home” or reach the goal at all cost
- Frustration (related to anger and disappointment)
- Complacency

**Adverse Physiological States**
- Visual distortion (i.e., hallucination)
- Heat / Cold stress (i.e., Hypothermia) (life threatening for elderly people)
- Medical Illness (i.e., sickness)
  - Poor health resulting from disease of body or mind
- Impairment due to drugs or alcohol
  - Inability to perform task successfully/effectively due to use of drugs or alcohol
- Inability to sustain body positions
  - Not capable of maintaining correct posture
- Medication side effects (Physical)
  - Physical problems that occur when treatment goes beyond the desired effect, or problems that occur in addition to the desired therapeutic effect
- Physical fatigue (i.e., physically tired)

**Chronic Performance Limitations**
- Not current/qualified
  - Lacking up to date certificates or training
- Limited experience/proficiency
  - Lack of practice performing necessary tasks
- Lack of technical procedural knowledge
  - Deficient in the area of technical procedural knowledge, could be a result of lack of practice
- Not familiar with job performance standards
- Learning disability (i.e., dyslexia)
- Memory deficit
  - An organism’s impaired ability to store, retain, or recall information
- Incompatible intelligence / aptitude
  - Worker’s level of intelligence is not equally matched with what is required for a job assignment
- Incompatible physical capability (e.g., musculoskeletal disorders, inappropriate height, weight, size, strength, reach, etc.)
  - Worker’s level of physical ability is not equally matched with what is required for a job assignment
- Pre-existing personality disorder (i.e., paranoid, schizophrenia)
- Pre-existing psychological disorder
- Visual limitation

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**Preconditions for Unsafe Acts**

**Environmental Factors**
- Physical Environment
- Technological Environment

**Condition of the Operator**

**Personnel Factors**

**Adverse Mental States**

**Adverse Physiological State**

**Chronic Performance Limitations**

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Personnel Factors: Communication/Coordination/Planning

- Failed to use all available resources (e.g., other personnel, consultants, or rapid response)
  - Knowingly not using the provided resources
- Lack of teamwork
- Failure to warn/disclose critical information
- Confusing/conflicting directions
- Confusing/conflicting verbal/written orders
  - Verbal or written orders that are not easily understood or comprehended
- Illegible handwriting
- Standard nomenclature not used (e.g., terminology, approved abbreviations, acronyms, symbols dose designations)
- Inadequate communication between staff and patient/family
  - Poor/lack of communication between staff and patient/family
- Inadequate communication between healthcare providers
  - Poor/lack of communication between healthcare providers
- Inadequate communication between leadership and healthcare provider (e.g., communication of safety and health data, regulations, or guidelines)
- Inadequate communication between departments and workgroups
  - Poor/lack of communication between department and workgroups
- Inadequate communication during handoff (i.e., when responsibility for patient care is being transferred)

Fitness for Duty

- Inadequate rest/sleep
  - Failure to receive the proper amount of sleep prior to a work shift
- Self-Medicating
  - Knowingly taking prescription or OTC medication prior to and/or during a work shift
- Use of illicit drugs and alcohol
  - Consuming illegal/controlled substances and alcohol prior to and/or during a work shift
- Intoxicated at work/suffering from hang-over
  - Under the influence of drugs or alcohol while attempting to work
- Inadequate nutrition (poor dietary practice)
  - Lack of proper nutrition which will interfere with work performance
- Lack of physical fitness
  - Physically unfit for duty

- Preconditions for Unsafe Acts
  - Environmental Factors
    - Physical Environment
    - Technological Environment
  - Condition of the Operator
    - Adverse Mental States
    - Adverse Physiological State
  - Chronic Performance Limitations
  - Communication/Coordination/Planning
  - Fitness for Duty

- Boredom
- Extreme emotional reaction
- Task fixation
- Inability to function at the level of one’s normal abilities due to physical weakness
- Hearing limitation

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No or ineffective communication methods (i.e., antiquated record keeping, hard to reach staff with in hospital due to busy lines, noisy environment with poor intercoms, etc.)
Verification techniques not used (e.g., verbal order repeat back not used, no time out procedure, surgical marking, blood product, etc.)

Overexertion while off duty (i.e., too weak or tried to perform job because you ran a marathon the day before your shift)
Undisclosed medical condition (i.e., asthmas, cancer) Intentionally withholding a medical condition from employers

- Failed to provide adequate oversight
  - Substandard supervision
- Failed to identify at risk caregiver
  - Failure to properly recognize the risk associated with care giving
- Poor unit culture
  - Lack of cohesiveness within a unit
- Failed to communicate policies/procedures (i.e., Lack of contract with written rules)
  - Management failed to inform workers of rules/regulations and expectations
- Failed to provide adequate training
  - Lack of preparation for the expected tasks and level of performance
- Failed to provide adequate mentoring/coaching/instruction
  - Minimum or substandard mentoring/coaching/instruction provided

- Planned Inappropriate Operations
  - Inadequate staffing
    - Not providing enough staff to effectively or safely execute a task
  - Improper staff pairing (i.e., pairing two inexperienced workers)
    - Matching staff that does not complement each other
  - Failure to match staff competency with the task (i.e., asking a custodian to deliver a baby)

- Failure to Address Known Problem
  - Failed to report unsafe tendencies (i.e., “turning the other cheek”, allowing people to slide when they are wrong)
    - Intentionally ignoring unsafe habits
  - Failed to initiate corrective action
    - Failure to attempt to correct known problems by creating possible solutions
  - Failed to ensure problem was corrected
    - Failure to ensure a successful solution was achieved
  - Failed to review and revise a policy/procedure
    - Lack of adequate and functioning, written policy/procedure

- Supervisory Violations
  - Failed to enforce policies/procedures/requirements
    - Intentionally not enforcing the rules
  - Failed to discipline unsafe tendencies/violations
    - Allow staff to continue executing unsafe habits without repercussions
  - Authorized hazardous operation (i.e., compromised safety for efficiency)
    - Allowing known hazardous operations to continue for whatever reason
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Organizational Influences

- Asking a staff member to perform a task that they do not possess the skills or knowledge base to perform
- Incorrect task prioritization
  - Failure to correctly categorize task by importance
- Workload assignment (overloading high performers; underloading low performers)
- Improper allocation of workload assignments

Organizational Influences
Resource/Acquisition Management
- Human resources practices
  - Inadequate human resource practices.
- Contracting/Purchasing of equipment
  - Improper contracting/purchasing of equipment
- Budgetary constraints (e.g., excessive cost cutting)
  - Making improper decisions based on budget constraints

Organizational – Climate
- Policies (written and unwritten)
  - Inadequate policies
- Organizational structure (chain of command)
  - Inadequate/faulty chain of command
- Culture (Organizational Values)
  - Organizational culture that does not condemn hazardous and/or unethical behavior
- Recognition/Reward (i.e., incentive program)
  - Lack of recognition for staff who exceed expectation

Organizational Processes
- Strategic planning
  - Process of defining a strategy, or direction, and making decisions on allocating resources to pursue the strategy
- Corporate oversight
- Corporate procedures
- Operational tempo/workload throughput
  - Rate at which work is completed
- Strategic risk assessment
  - Design and testing new programs; purchase equipment before training providers; strategic is a factor when the potential risks of a large program, acquisition or process are not adequately assessed and this inadequacy leads to an unsafe situation.
- Information dissemination (procedural guidance/publications)