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Human Factors & Ergonomics (HFE) in Patient Safety AND Worker Well-Being

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World Patient Safety Day – September 17, 2020



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HFE in Patient Safety & Worker Well-Being

Special issue of Health Affairs on patient safety (2018)

By Pascale Carayon, Abigail Wooldrige, Bat-Zion Hosa, Megan Salwei, and James Benneyan

Challenges And Opportunities For Improving Patient Safety Through Human Factors And Systems Engineering

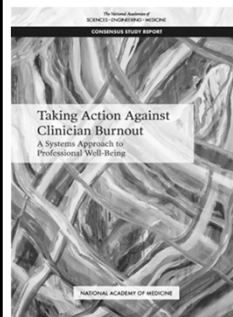


HFE = design of work system (and working conditions)

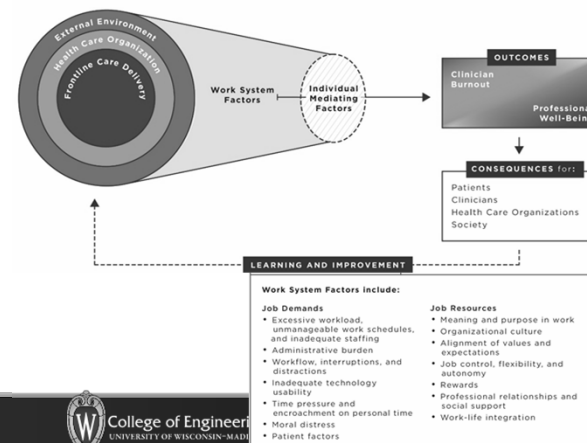


Clinician Well-Being

A SYSTEMS MODEL OF CLINICIAN BURNOUT AND PROFESSIONAL WELL-BEING

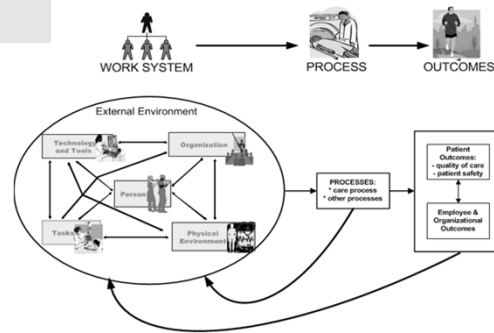


(NASEM, 2019)



“Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.” [International Ergonomics Association]

- ✓ physical ergonomics
- ✓ cognitive ergonomics
- ✓ organizational ergonomics (macroergonomics)



SEIPS (Systems Engineering Initiative for Patient Safety) Model of Work System and Patient Safety (Carayon et al., 2006, 2014)



Work System Barriers & Facilitators – COVID-19

- PPE: access, usability, fit, disposal
 - Telehealth
 - “New” tools
 - Technology breakdowns
 - AND MORE...
-
- The diagram shows five interconnected boxes: 'Technology and Tools', 'Organization', 'Person', 'Tasks', and 'Environment'. Arrows indicate complex interactions between all these elements.
- Information/communication overload & underload
 - Leadership/management support
 - Training: just-in-time, on your own
 - Onboarding of new staff
 - Supply chain management (meds, equipment, hand soap)
 - AND MORE...
- New roles, staffing issues
 - Experience with PPE
 - Adaptive, problem-solver,
 - Novel stressors/strain
 - Family/caregiver needs
 - AND MORE...
- Intubation: from task to process
 - Enhanced “performance pressure”
 - Additional tasks: e.g. specimen collection, decontamination
 - AND MORE...
- COVID units
 - Isolation rooms
 - Visibility through patient windows,
 - Access to PPE materials
 - Signage & security
 - Home, transportation, stores,..
 - AND MORE...

(Carayon & Perry, 2020)
Special Issue of the International Journal for Quality in Health Care on Human Factors



Special Issue of IJQHC on HFE

International Journal for Quality in Health Care
Volume 22 Number 4 July 2020

- **Co-Editors:** *Sara Albolino, Pascale Carayon, Sue Hignett*
- **Topics:**
 - SEIPS – HFE systems approach
 - Embedding HFE in health care
 - HFE design of medical devices and health IT
 - Human-centered design
 - Risk management and communication
 - And more...

Coming Soon



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