Organizational Contributions to Burnout and Workplace Violence

Charles E. Steinberg Lecture in Psychiatry and the Law.
February 1, 2023

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What is Workplace Violence?

1. Any physical assault, threatening behavior, or verbal abuse occurring in the workplace.
2. Includes but is not limited to such events as beatings, shootings, rape, suicide or attempts
3. Psychological traumas, such as threats to harm, obscene phone calls, intimidation, bullying, incivility, harassment, including being followed or sworn at.

National Institute for Occupational Safety and Health Administration (NIOSH)
Underlined also “Disruptive Behaviors”: Behaviors that undermine a Culture of Safety, The Joint Commission Sentinel Event Alert July 2008

What is Burnout?

1. **Exhaustion**: Physical and Emotional. Downward spiral, even after attempting to rest.

2. **Depersonalization**: Dysfunctional coping mechanism. Keeping your patients at a distance to not drain you more: Cynicism, sarcasm, compassion fatigue - nothing left to give.

3. **Lack of efficacy**: What is the use? What is the purpose? Work is subpar, feel like not making a difference, work has no purpose.

Law /society’s common perception of violence:
Severe transgressions against individuals.

Mega-violence examples:
Homicide, assault, threats of harm, terrorism, etc.

Micro-violence examples:
Incivility
Disrespect
Deprivation of human needs
Disruptive Behaviors (TJC)
Belittlement
Bullying,
Micro-aggression
Micro-insult
Micro-invalidation.
Badgering, hassling, persistent cumulative expectations that effectively bully both leaders and clinicians into compliance.
Non human-centered, poorly designed work procedures, policies, mandates, laws, regulations, must be done w/o resources, lack of control.
Toxic management behaviors.

Below the line of law/ society usual definitions of violence.
NIOSH/ OSHA Workplace Violence and WHO’s definition of violence.
Cause micro-traumas which are additive and cumulative.
## Workplace Violence Typology Comparison

<table>
<thead>
<tr>
<th>Cal / OSHA¹</th>
<th>Bowie Expansion²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type I:</strong> Criminal intent-intrusive violence</td>
<td><strong>Type I:</strong> Criminal intent-intrusive violence</td>
</tr>
<tr>
<td><strong>Type II:</strong> Customer/client violence</td>
<td><strong>Type II:</strong> Customer/client violence</td>
</tr>
<tr>
<td><strong>Type III:</strong> Worker-on-worker violence</td>
<td><strong>Type III:</strong> Relationship violence: Worker-on-worker + Personal relationship violence.</td>
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<tr>
<td><strong>Type IV:</strong> Personal relationship violence</td>
<td><strong>Type IV:</strong> Organizational Violence — against staff, consumers/ clients/patients (the ways organizations are structured and managed.)</td>
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Occupational Stress: “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources or needs of the worker”.

National Institute for Occupational Safety and Health (NIOSH)
Eustress

Distress

Medical or Psychiatric Breakdown

Medical Death or Suicide

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Point A

Boredom

Hypostress

Arousal stress, pressure, increased expectations on staff

Intent of expectations: Patients as primary concern - patient safety movement.

Shareholders as primary concern - business of medicine requirements

THE HUMP

Current expectations

Fantasy.

Are not possible.

Figure 1. Adapted from: Nixon PGF. The Practitioner. (217):765-770. 1976

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Point A = even minimal arousal can precipitate breakdown
Depressive and Aggressive Reactions to Stress in Burnout (Dose-Related)

## Workplace Stress:
Correlation with Reactions or Behaviors

<table>
<thead>
<tr>
<th>Reactions/ Behaviors</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frustration</td>
<td>.77*</td>
</tr>
<tr>
<td>Anger</td>
<td>.43*</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-.25*</td>
</tr>
<tr>
<td>Sabotage</td>
<td>.07</td>
</tr>
<tr>
<td>Interpersonal aggression</td>
<td>.17*</td>
</tr>
<tr>
<td>Hostility and complaints</td>
<td>.23*</td>
</tr>
<tr>
<td>Theft</td>
<td>.06</td>
</tr>
<tr>
<td>Substance abuse at work</td>
<td>-.09</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>.05</td>
</tr>
<tr>
<td>Intention to quit</td>
<td>.30*</td>
</tr>
</tbody>
</table>

Organizational/Systemic Issues in Medical Error, Burnout and Workplace Violence (WPV)

Errors: The Institute of Medicine (IOM) 1999 ¹:

Majority of errors are result of systemic/organizational factors, rather than substandard performance by individual healthcare workers.

Burnout²,³,⁴:

Majority of occupational stressors causing burnout are due to systemic/organizational factors.

Workplace Violence (WPV): Interaction of person, the stimulus and the systemic environment⁵

The Problem:

Majority of interventions for all three are directed at individual, and not at the system⁵,⁶.

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² Friedberg, M.W., et al., Factors Affecting Physician Professional Satisfaction and Their Implications for Patient Care, Health Systems, and Health Policy. RAND Corporation, 2013.


Vicious Cycle Created by Perpetuating Forces

Organizational Contributions to
BURNOUT
3, 4, 5, 6, 7, 8, 9, 10,
11, 12, 14, 16, 17,
19, 21, 22, 23, 24, 25, 26

BURNOUT CONTRIBUTING TO WORKPLACE VIOLENCE
7, 11, 34

Organizational Contributions to
WORKPLACE VIOLENCE
1, 2, 11, 13, 15, 18, 20,
27, 28, 29, 30, 31

References

1. Stepkuta, E.L., Doonan, M. "Dead-End" time to redefine as a ty
2. Purvis, N., Spain, C., Dang, L., Liu, M., Yu, M., Antecedents of Nurse
3. Leachmore, N., Egan, J., Lary, M., others: Effects of work environment

10.

Common Factors: Organizational Contributions to Burnout and Workplace Violence

Organizational Contributions to Burnout

Job Characteristics
- Job Demands:
  - Quantitative: Workload, overtime, time pressure.
  - Qualitative: Role conflict, extraneous cognitive load demand (detracting from germane and intrinsic cognitive load needed to do the work).
  - Role ambiguity.

Job Resources:
- Lack of information, poor communication.
- Lack of control on schedule and workflow issues (little participation in decision making).
- Lack of autonomy, lack of social support.

Organizational and management environment:
- Organizational context shaped by larger social, cultural and economic forces.
- Emotion-work variables: requirement to display or suppress emotions on the job, being “professional”, “self-effacement” despite stressors from systems, patient, personal or staff issues.
- Requirement to be emotionally empathic.
- Violation of psychological contract.

How one is treated by the employer and appreciation of what the employee puts into the job - crucial in maintaining staff wellbeing.

Organizational Characteristics:
- Complexities in hierarchies, operating rules, resources, space distribution, space design, fairness and equity, distributive justice of resources.

Common Factors:
- Management/Triage
- Resource allocation
- Flow design
- Cognitive overload/
- Administrative toxicity
- Communication/Information
- Lack of social support
- Lack of control of environment
- Emotion management
- Emotional work and distress
- Psychological contract violation
- Physical design issues

Organizational Trauma

Organizational Contributions to Workplace Violence

- Clash of people/physical design. Crowding, forced together by difficult circumstances.
- Complexity of system in getting help and effect on cognitive load when in pain and distress.
- Lack of progression/frustration: waiting without any sense of progression.
- Zero Tolerance Policies (override professional discretion and expertise, reflex reaction to complex problem).
- Perceived inefficiency: Dealing with Electronic Medical Record challenges, documentation requirements, mandates, laws and regulations that are uncoordinated with each other.
- Patients observe themselves and others seemingly waiting for hours while staff “busy themselves” with perceived non-essential tasks.
- Forfeiting of control.
- Lack of information from staff to patients.
- Lack of support during duress.
- Perceptions that hospital/staff in it for the money.
- Staff fatigue: Highly demanding work on staff, over time, physically and emotionally tired, constant flow of patients.
- Human resource shortage undermines violence prevention standards.
- Inadequate assault/violence prevention training procedures and policies.
- Tacit acceptance of violence as part of the job (instead of a risk of the job).
- In hospitable healing environments, inhospitable work environment.
- Dehumanizing environments.
- Intense emotions: pain, stress, witnessing others in their stressful experiences.
- Unsafe environments: Equipment, intrusions, loud noise, lack of egress in space design, isolation from others.

Six Categories of Work Stress that can Contribute to Burnout

1. **Excessive workload** - physical, cognitive and emotional
2. **Lack of control** - being able to influence work environment
3. **Poor balance between effort and reward** - material and intangible rewards.
4. **Lack of community** - culture of mutual appreciation and teamwork
5. **Lack of fairness** - resources and justice
6. **Value conflict** - moral distress of having to participate in suboptimal, unethical circumstances.

Technology Innovation Effect

- **Increased** connectivity, tracking, accountability, and expectations beyond work hours
- Tech costs low, personnel costs high, 
  - “Disintermediation” = loss of intermediary staff who used to help.
  - Overhead cost shifts from corporation to consumers, patients, clinicians.
  - Spins off “shadow work” on remaining employees, often more tech ‘solutions’.
  - Shadow work = “unpaid, unseen jobs that fill your day”

**Surrounding culture:**
- Group Think. Normalization of deviance.
- Dulls internal feedback that dangerous and unsustainable

*Adapted from Teller E. and Moore G. in Friedman T. Thank you for being Late. Farrar, Straus Giroux Publishers 2016
# Lambert C. Shadow Work. The unpaid, unseen jobs that fill your day. Counterpoint. Berkley. 2015
From the book “Shadow Work” by Craig Lambert PhD:

“…..for the most part, shadow workers have no one to represent their interests or to push back against the continual introduction of new shadow jobs.”

To consider:

• How do we address Shadow Work?
• Whose’ job is it to engineer its reduction?

⇒ Administration + Clinician Partnership
# The Impact of Clinician Burnout

<table>
<thead>
<tr>
<th>Institutional &amp; Patient Effects</th>
<th>Financial Effects</th>
<th>Personal Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increased risk of medical errors (200%)</td>
<td>1. 27% drop in patient satisfaction scores</td>
<td>1. Higher Suicide Rate among physicians- 400/yr.</td>
</tr>
<tr>
<td>2. Increased malpractice claims</td>
<td>2. 40% of turnover costs attributed to work stress</td>
<td>2. Major Depression</td>
</tr>
<tr>
<td>3. Disruptive behavior</td>
<td>3. 114% increase of medical claims by employees.</td>
<td>3. Substance abuse</td>
</tr>
<tr>
<td>4. Reduced empathy for patients</td>
<td>4. 30% of short-term and long-term disability costs</td>
<td>4. Divorce</td>
</tr>
<tr>
<td>5. Reduced patient adherence to treatment regimens</td>
<td></td>
<td>5. Coronary Heart Disease: CHD 1.4 fold up to 1.79 at high burnout levels</td>
</tr>
<tr>
<td>6. Reduced patient satisfaction</td>
<td></td>
<td>6. Telomere shortening (hastened cellular aging)</td>
</tr>
</tbody>
</table>

![Spearman’s rank correlation coefficient 0.628, P < 0.001*](Image)

Brain Biological Effects of Burnout

- Thinning of the Pre-frontal Cortex
  - ↓ ability to focus, quality of medical decision-making
- Decreased grey matter of Basal Ganglia from excess glutamate
  - ↓ fine motor control
- Amygdala enlarges
  - ↑ reactivity to stress
- Hippocampus shrinks
  - ↓ short-term memory, then long-term memory

Privitera M. and Shaw T. 2022
**Gas Tank Metaphor**

Rested, fed, healthy human clinician.

Large Gas Tank filled:

- Now to face high occupational stressor expectations.

**Gas Tank - Shrunken**

Chronically burned out, stressed depressed, anxious, sleep deprived, overworked, underfed human clinician.

*Smaller capacity* created by chronic wear-down. Less brain resource to achieve same expectations. Starting out with less capacity yet to face high occupational stressor expectations.
Partially Reversible Brain Changes

- Psychosocial stress affects **Limbic** and **Para limbic** networks:
  - Known with severe forms of stress- PTSD, child maltreatment
  - Also if **intense** “everyday working” conditions over long periods of time, without recovery.
- **Key factor in brain injury is UNCONTROLLABLE STRESS.**
  - “Prefrontal cortex functioning is also impaired by uncontrollable stress exposure, including an acute stressor if the individual feels threatened by the situation. This scenario evokes a series of chemical events in the brain that rapidly disconnect PFC circuits”*
- Many changes can be **reversible** after cessation of the stress ➔

**Urgent interventions are needed**

Savic I. Cerebral Cortex, March 2018;28: 894–906
Chronic Uncontrollable Stress or Acute if Threat. => Perception of Threat to Wellbeing

- Cognitive overload, emotion work, other forms of overwork
- Frustration from over expectations
- Continued demands but not enough resources
- Chronic elevated Allostatic load #.

**Label with words (in your mind) what you are feeling to lower limbic system arousal.**

# Allostatic load — wear and tear physiologically from chronic or repeated exposure to stress.
Executive Functions of the Brain
Pre Frontal Cortex

1. Focus, Attention
2. Self Control of Behavior and Speech
3. Plan and Organize
4. Perspective Taking
5. Cognitive Flexibility
6. Medical and other Decision Making
7. Ability to Defer Gratification
8. Estimating Time
9. Working Memory
Negative and Positive Concepts to Characterize Organization Environment—

1. What are underlying biological mechanisms? Words (jargon) may be failing us.
2. Is there a similar brain experience for “bullying”, “uncontrolled stress”, “mandates without resources to do them”, “micro-aggressions”?

• Toxic Work Environment
  • Bullying, high stress, work overload (cognitive physical and emotional work), long workhours, lack of trust, lack of respect, micro-aggressions, micro-trauma, lack of supportive relationships to buffer.

• Psychosocial Safety Climate—Upstream determinant to conducive work environments, psychological health, work outcomes, engagement.

• Organizational Health
  • Organizational Alignment
    • Cohesive leadership team aligned purpose, vision, mission, and priorities.
    • Straightforward strategy.
    • Communication plan to share that strategy throughout the organization.
  • A Focus on Employee Well-Being
    • Cares about its employees, demonstrates that concern through policies to support the workforce
  • Commitment to Organizational Justice
    • Ensure that all employees receive the same treatment: compensation, benefits, or promotions.
  • Clear Processes and Workflows
    • Workflows are clear and communicated across the organization. As a result, employees understand how the organization gets work done and makes decisions.
  • Opportunities for Professional Development
    • Provides opportunities for employees to learn new skills and grow their careers based on their unique strengths and goals.
  • Purposeful Work
    • Support employees in connecting their work to a larger purpose or set of values — in short, show people that what they do matters.

Human Factors / Ergonomics (HFE)

Definition:
The scientific discipline that draws from multiple sciences to understand and optimize interactions between humans and other elements of a work system.

Goal: Optimize worker well-being and overall system performance.

- **Patient safety** is a component of system performance.

International Ergonomics Association  [www.iea.cc](http://www.iea.cc)

Human Factors influence on healthcare workers
Phases of awareness and action........

“i’m right there in the room and no one even sees me.”

“i’m right there in the room and no one acknowledges me.
Some just don’t know how to deal with me.”

Glad you are dealing with me now.
I’m massive.

Increasing awareness and action

Adapted from
Some Reasons for Invisibility

**Non familiarity** with Human Factors/ Ergonomics

**Authority effect** - We do what national state or industry authorities tell us to do.

**Financial measures frequently change**
- Surge of metrics and mandatories
- “Pay for Performance” - requires “quality”, “value” or “safety” measures.
- Consumes leadership attention

**Costs silos**—obsures how costs relate to each other

**Halo bias**-
- Assigning the term “quality” or “patient safety” to a process may reduce questioning the science behind it.
- Assumption: Must be good since termed “quality” or “safety” metrics
- Logic becomes circular and self-perpetuating- despite accumulated total harm.
Human Factors/ Ergonomics (HFE)
Spectrum of Applications in Healthcare

Leaders’ influence:
• Culture and Climate
• Work environment/Healing environment
• Communications
• Allocation of resources
• Design of workflows
• Roll out of services
• Implementation of requirements.

Upstream

Hospital System: Senior, Mid-Level Leaders & Managers

Human Factor Based Leadership

Influencers of Clinical Performance
- Endogenous
- Ambient Induced
- Cognitive biases
- Clinical Situation Induced

Clinician

Procedures

Policy

Peripherals

Products

Patient

Work Environment = Healing Environment

Accident analysis

National, State, Industry Authorities
Basic Knowledge about Burnout and Cognitive Load

“Keep lights on”
C-Suite and other Senior leadership

“Must comply to survive”

Administrative Offices
- Quality & safety
- Finance
- Compliance
- Risk Management
- Billing
- Health Info Management
- Educational Mandatories
- Medical Staff Office

Administrative offices: Collaborate, coordinate, simplify, harmonize, satisfice to be concise.
Keep track of total mandatory requirement burden.
Provide time to achieve compliance while at work.

- More brain power for better work performance.
- Improved work satisfaction.
- Message: Leadership cares about staff wellbeing.

Taking care of patients
Cognition Types:
Cognition can be Automatic or Controlled Thought

Automatic Thought

Habit Memory
also called System 1 Thinking
Quick stimulus → response
Utilizes far less neural resource (glucose)
Shifted to when cognitive resources are low.

Controlled Thought

Executive Function, Cognitive Flexible Memory
also called System 2 Thinking
Used when carefully thinking through differential diagnosis, weighing pros or cons of a plan of treatment, etc.
Limited resource, high utilization of neural resource (glucose).
Controlled Thought is a Finite Resource

**Intrinsic Cognitive Load:**

**Germane Cognitive Load:**

**Extraneous Cognitive Load:**

Cognitive capacity

Healthy Load

Unsustainable Load

Once capacity reached...... brain is depleted of resources required for Controlled Thought.

Then..... Automatic Thought, Load Shedding and Goal Shielding occur.

- **Automatic Thought**- learned response from stimulus. No differential diagnosis
- **Load Shedding**- offload information, first low risk, then random shedding
- **Goal Shielding**- not allow new information into brain processing
Controlled Thought- Used Up in These Processes
Budget These Carefully

- Focusing of attention
- Decision making (no matter the size of decision)- EMR clicks matter
- Sorting, classifying- Device layout, where to routinely find information matters.
- Multitasking (shifting attention between topics)
- Getting back on track after interruption. Best Practice Alerts (BPA) usage matters
- Maintenance of goals
- Maintenance of information active in working memory- Time/space between information and executing action on the information matters.
- Updating working memory
- Self-regulation: Professionalism, self-effacement despite how treated, Maintaining “Aequinimitas” in setting of bleeding, injury, pain, etc.
- Emotion work: Dealing with bad outcomes, distressed patients and families
Demand-Resource Model

Burnout

Based upon Demerouti 2001

Job Demands > Job Resources

- Reduce in number
- Reduce Extraneous Cognitive Load
- Simplify
- Satisfice
- Harmonize with existing demands.
- Collaborate
- Coordinate
- Boundary between work and home
- Distinguish virtuous work from non-value added work

- Time allocation
- Restoration (cognitive, emotional, physical, moral)
- Instrumental support
- Superior support
- Emotional support
Designing Effective Organizations: Sociotechnical System (STS) Perspective

Healthcare Environment

Organizational Leadership

Need feedback from patients and clinicians

Joint optimization

Use Human Factors/Ergonomics (HFE) as method to optimize Social Subsystem

Social Subsystem
Concerned with attributes of people: skills, attitudes, values, wellbeing, engagement, relationships, authority structures.

Technical Subsystem
Concerned with processes, tasks, technology needed to transform inputs to outputs.

Patient Care Delivery

Clinicians are buffers of poor systems

Patient Experience of Receiving Healthcare

“Environmental Sensing Devices”

Clinician Experience of Providing Healthcare


Clinician Experience feedback to Organizational Leadership: Needed but not yet developed

- No metrics exist immediately tied to financial survival.
- Medical Culture of Endurance and Silence impairs feedback.
- Hierarchy and gatekeeping impairs feedback.
- Reduced awareness and acknowledgement of overwhelm impairs feedback.

Designing effective organizations involves feedback mechanisms from both patient and clinician experiences to organizational leadership. The Sociotechnical Systems Perspective (STS) highlights the importance of integrating human factors and ergonomics (HFE) to optimize social subsystems. Clinicians act as buffers against poor systems, and feedback mechanisms are necessary for joint optimization.

Current challenges include:
- Lack of immediate financial metrics tied to health outcomes.
- Medical culture that values endurance and silence, hindering feedback.
- Hierarchical structures and gatekeeping that impede feedback.
- Reduced awareness and acknowledgment of clinician overwhelm.

References:
Factors associated with burnout among health workers

- Politicization of science and public health
- Structural racism and health inequities
- Health misinformation
- Mental health stigma
- Unrealistic expectations of health workers
- Limitations from national and state regulation
- Misaligned reimbursement policies
- Burdensome administrative paperwork
- Poor care coordination
- Lack of human-centered technology
- Lack of leadership support
- Disconnect between values and key decisions
- Excessive workload and work hours
- Biased and discriminatory structures and practices
- Barriers to mental health and substance use care
- Limited flexibility, autonomy, and voice
- Lack of culture of collaboration and vulnerability
- Limited time with patients and colleagues
- Absence of focus on health worker well-being
- Harassment, violence, and discrimination

In 2022, Five National/International Reports came out emphasizing the critical need to help HCW Burnout.

1. The Surgeon General's advisory Addressing HCW Burnout

2. The NAM National Plan for HC Workforce Wellbeing

3. The AHA's report: Strengthening the HC Workforce

4. SAMHSA's Addressing Burnout in the Behavioral Health Workforce through Organizational Strategies

5. The Qatar Foundation/World Innovation Summit for Health (endorsed by WHO): Our Duty of Care
Nationally- on to the problem! Forward thinking of the new CEO.

The Joint Commission announces major standards reduction and freezes hospital accreditation fees to provide relief to healthcare organizations

Fourteen percent of standards eliminated across accreditation programs

Wednesday, December 21 2022

Media Contact:
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(OAKBROOK TERRACE, Illinois, December 21, 2022) – The Joint Commission today announced it is eliminating 168 standards (14%) and revising 14 other standards across its accreditation programs to streamline requirements and make them as efficient and impactful on patient safety, quality and equity as possible.
Legal issues: Workplace responsibility to reduce burnout, emotional harm, high occupational stress.

Suing for Emotional Distress at Work

Can I File a Workers Comp Claim for Burnout?

November 21, 2022 By James Hoffmann

Burned-out employees are 23% more likely to visit the emergency room.

RESOLUTION

Calling upon the Occupational Safety and Health Administration to recognize Secondary Traumatic Stress as a workplace hazard, recommend steps to address mental health injury as a psychological hazard in the workplace as they do with physical injury, and create a standard for Secondary Traumatic Stress.

RESOLVED, BY THE COUNCIL OF THE CITY OF PHILADELPHIA, That this Council calls upon the Occupational Safety and Health Administration to recognize Secondary Traumatic Stress as a workplace hazard, recommend steps to address mental health injury as a psychological hazard in the workplace as they do with physical injury, and create a standard for Secondary Traumatic Stress.

FURTHER RESOLVED, That a copy of this Resolution be transmitted to the Occupational Safety and Health Administration as evidence of the sentiments of this legislative body.

Introduced by:
Councilman Derek S. Green

December 5, 2019
Summary of New Material

1. Common mechanisms from organizational impact affecting Burnout, Error and WPV

2. Danger of excessive (well-meaning) expectations- accumulating from multiple sources.

3. Total Workload= cognitive, emotional and physical.  
   Assign support resources accordingly.

4. Be aware of and reduce “shadow work”.

5. Highly trained clinician cognition is a limited resource

   → Need policy & culture supportive.  
   → Must find way to get all requirements of the job done at work.
Thank you!

Discussion

Organizational Contributions to Healthcare Worker (HCW) Burnout and Workplace Violence (WPV) Overlap: Is This an Opportunity to Sustain Prevention of Both?

Michael R. Privitera

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Reserve Slides Follow
Table 4. Broad stroke interventions to reduce Extraneous Cognitive Load (ECL).

Engage Administrative offices of Risk Management, Patient Safety and Quality, Medical Staff Office, Compliance, Wellness, Human Resources, Medical Executive Committee and Communication Office to keep all aware of processes.

1. Evaluate processes, polices and metrics currently in place

Are they strategic (why)?
Are they necessary (why)?
What might be the unintended consequences? (Note: administrative leadership would make more informed decisions if they have foundational knowledge of multiple are of impact of burnout)
In the context of meeting requirements, is there a better way to not drain highly trained clinician time and brain (neural) resource?

Understand clearly what a regulatory requirement specifies. Look up the written requirement.
Satisfice-satisfactory and sufficient to meet the requirement but no locally added extras.
Can make additional information available for voluntary education or for use to be called up for use in future relevant clinical situations as a clinical resource.
Create a clearing house for all mandatory requirements that senior leadership be made aware of and a mechanism to manage the total mandatory load on clinicians espoused by multiple administrative offices.
Job-Resource model of burnout [55]. When cognitive jobs go up, resources need to also go up to avoid burnout and error. Job-related requirements must be a cost of doing business for the organization. This creates a business-related force to be most efficient and time conscious of clinician time as to what must be mandatory and what can be voluntary.
2. Standardization

What are the core operational processes to standardize and promote routines? When should you allow and encourage aligned autonomy or customization?

Are there opportunities to standardize and simplify layout locations of core functions of care of patients throughout the institution?

Can clinical unit design be standardized (with collaboration of clinicians with architects) to make easier to find what is needed easily regardless of unit worked?

Consider when standardization might jeopardize safety or not meet a patient’s unique needs.

Are there options for “wiggle room” built in?

Decision to engage most’ wiggle room” options should be under the control of the clinician, but consider when variation might require the authorization of a superior.

3. Consolidate Information

*Reduce split attention effect.* Separated information requires more brain (neural) resource to cognitively process than physically integrated information.

Be user-centric-design groupings of information by what works best for the user.

Keep wording to key information so it can be processed by working memory. Finer detail can be pursued by interest or wish to understand more fully after essentials are understood.

*Process Coupling.* Workflow processes related to each other should be made physically closer together for ease and simplicity of operations.
4. Decrease redundancy. Redundancies are extra elements not absolutely necessary for understanding or functioning.

In communication of data and design. Irrelevant information clogs up the working memory which transfers information to long term memory. Hence clogging may contribute to forgetting.

Be concise
Be precise
Use emphasis strategically

5. Prioritize design

Equipment and layouts should have deliberate designs that consider human limitations.

Anticipate situations of clinician low cognitive resources, such as occur in burnout, high stress, high volume demand, evening or night shift, extended work hours, sleep and food deprivation.

Over-complexity in design will require high cognitive resources. Keep in mind the competing factors for clinician’s attention and potential cognitive processing state affected by situations of low cognitive resource.

6. Leadership Collaboration

Among all leaders who roll out requirements and work expectations

Collaboration with clinicians, encouraging participatory management, input from those most familiar with the work to be done.

Understand how work-as-imagined compares to total real work done.

Be aware of shadow work (work off metrics, unseen, unpaid but fill the day) and Work Outside of Work (WOW).

Find opportunities to lower total institutional Extraneous Cognitive Load (ECL) by means of the multi-administrative office collaboration.

Work with Human Factors/Ergonomics professionals. Hire them at your institution.

Consider collaboration of HFE professionals with Lean professionals, as HFE science will help both prevent future and mitigate existing risk areas. HFE “waste” to be reduced or eliminated is predominantly ECL Lean processes are well known in hospitals and can be harnessed to achieve reduction of ECL burden.

Job-resource model of burnout [55]. Table adapted and expanded from [10].
World Health Organization Violence Typology

Economic
Attacks by larger groups motivated by economic gain.

i. Disrupting economic activity
ii. Denying access to essential services
iii. Creating economic division and fragmentation
Homicide, Assaults and Threats of Violence

Person/Disposition

High Risk Individual

Low Risk Individual

Aggressive stimulus

High Noxious Stimulus

Low Noxious Stimulus

Water = Organizational Health

Macro Violence
(Iceberg above water)

Micro Violence
(Iceberg below water)

Good Organizational Health Condition

No organizational contributions to violence

(Normal water level)
Low Organizational Health Condition
More mega and micro violence

Homicide, Assaults and Threats of Violence

Water = Organizational Health

Low Organizational Health Condition/Significant organizational contributions to Workplace Violence (Lower water level)

Person/Disposition

Aggressive stimulus

High Risk Individual

Low Risk Individual

High Noxious Stimulus

Low Noxious Stimulus

Mega Violence Iceberg above water

Micro Violence Iceberg below water
Introduction to Shadow Work: “Unseen, unpaid jobs that fill your day”

View from healthcare decision-makers

1. Office Start up
2. W arm up computer
   Software booting
   EMR booting

3. Patient Arrive On time, right location

4. Financial Pre-meeting

5. Waiting Room
   receptionists
   clinical based forms given to
   patient

6. Nursing
   VS taken and documented

7. EMR
   record review preparation

8. Patient Interview/
   Evaluation/Procedures

9. Writing
   Orders and Labs

10. Writing
    Notes and Diagnosis
    Billing

Prescribed work + Shadow work = Real work

Adapted from Lambert C. Shadow Work:
The unpaid Unseen jobs that fill your day. Counterpoint Press 2015
Shadow Work: A Real Practice... Just Not All At Same Time.

1. Office Start up
   - Office environment:
     - Temperature too warm, too cold
     - Window cracks, drafts
     - Noise outside
     - Grass cutting and trimming

2. Warm up computer
   - Software booting
     - New EMR security restrictions longer warm up
     - Password expired, think of new one
     - New EMR software roll out, need to learn it to operate EMR.
     - Software not working, need time on phone with IT support.

3. Patient Arrive On time, right location
   - Intro letter to patient has wrong clinic address.
   - Changing support staff not know the clinicians.
   - EMR software not link correct letter with correct clinic.
   - Delays

4. Financial Pre-meeting
   - Pre-visit clinical rating scales were not given to patient to fill out.
   - Substitute secretary, not familiar with customized EMR screen interface for this clinic.

5. Waiting Room receptionists
   - Different budget line clinics co-located physically, each has different EMR Interface.
   - Vital signs not obtained before visit

6. Nursing vs taken and documented
   - Old records received but clinician cannot find them in EMR. Scanned into EMR under a non-intuitive file tab name coined by EMR vendor. Health Information Management (HIM) support staff use this file tab regularly. They are familiar with tab but clinicians are not.
   - Have to call Health Information Management (HIM) to find info if time.

7. EMR record review preparation
   - Shadow Work: unnecessary (extraneous) cognitive load on clinician

8. Patient Interview/Evaluation/Procedures
   - Order controlled substance: State requires checking a data base before allowed to prescribe,
   - Password expired without warning.
   - While patient is with you, must create complex new password, never used within the last 50 passwords.
   - Do not make mistakes! (despite competing mental demands).

9. Writing Orders and Labs
   - Ordering a drug level: EMR build requires exact drug spelling and singular name. No drug synonyms allowed.
   - State requires checking a data base before allowed to prescribe,
   - Only “Valproic acid” recognized.

10. Writing Notes and Diagnosis Billing
    - Voice recognition software not working.
    - “Autocorrect” function won’t stop putting in wrong word.
    - ICD-10 diagnosis has “hard stop” demanding high specificity of dx. Out of administrative fear that may not be covered by insurance.
    - Intermittent clinician train of thought.
    - Don’t make a mistake!
    - Constant mental overwork to compensate for poorly designed system.

View from healthcare decision-makers

View from clinician seeing patients

Prescribed Work
- Meaningful Use (MU) criteria must be met regardless of reason for visit.
- Smoking cessation
- Pain score
- Multiple screening questions

Shadow Work
- Unnecessary (extraneous) cognitive load on clinician

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Shadow Work: unnecessary (extraneous) cognitive load on clinician

View from clinician seeing patients

View from healthcare decision-makers