



American Osteopathic College of Occupational & Preventive Medicine 2026 Midyear Educational Conference

The Future of Occupational & Environmental Medicine: Opportunities, Disruptors, and the Next Evolution of OEM

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Disclosures

I have no actual or potential conflict of interest, including financial interest, in relation to this program presentation.

The opinions presented here are my own and are not intended to represent those of any other entity.

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Learning Objectives

Identify	Identify major forces reshaping OEM
Describe	Describe emerging clinical, regulatory, and operational trends
Anticipate	Anticipate workforce, technology, and policy changes
Apply forward	Apply forward-looking strategies to strengthen OEM programs

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Why OEM Matters to Employers and Society

OEM improves worker safety, productivity, and organizational resilience.

OEM physicians help reduce workers' compensation costs, manage complex claims, and guide employers through regulatory requirements.

We support workplace wellness, chronic disease prevention, and mental/physical well-being programs.

OEM expertise is essential for high-reliability organizations and crisis response.

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The Changing Landscape of Work

Workforce Trends

- Aging workforce
- Chronic disease burden
- Mental health prevalence

Work Models

- Gig economy
- Remote/hybrid work
- Distributed operations

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Globalization & Supply Chain Complexity

- Cross border operations
- Variable regulatory environments
- Increased need for crisis response capability



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Emerging Clinical & Environmental Trends

Toxicology

- PFAS
- Nanomaterials
- Battery manufacturing exposures

Environmental Stressors

- Heat
- Wildfire smoke
- Vector-borne diseases



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Mental Health & Cognitive Readiness

- Fatigue science
- Cognitive fitness for duty
- Behavioral health integration



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Infectious Disease Preparedness

Post-COVID expectations

Biosurveillance

Rapid testing

Containment strategies

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Remote FFD evaluations

Telemedicine & Virtual OEM

Virtual ergonomics

Expanded reach to dispersed workforces

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Technology & Data: The Next Frontier

AI & Analytics

- Predictive injury modeling: Forecast risk before incidents occur
- Fatigue algorithms: Analyze work schedules and sleep patterns
- Ethical considerations: Data privacy, transparency, responsible use

Wearables & Sensors

- Real-time monitoring: Heat and exertion monitoring
- Industrial IoT (IIoT): Connected equipment, workers, environments
- Privacy implications: Balancing safety with autonomy and data protection

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Regulatory & Policy Evolution

OSHA/NIOSH

- Heat standards
- Silica
- Psychosocial hazards

ADA/FMLA

- Remote work accommodations
- Cognitive restrictions
- Function-based evaluations



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Industry Trends

Cross-Sector Forces

- Increasing regulatory complexity
- Rising expectations for mental health & cognitive readiness
- Expansion of fatigue risk management
- Growth in high-hazard, high-tech industries
- Greater scrutiny of environmental & chemical exposures

Sector Examples

- **Transportation:** automation, fatigue, safety-critical roles
- **Manufacturing:** advanced materials, robotics, exoskeletons
- **Energy:** heat stress, remote operations, emergency response
- **Healthcare:** workforce burnout, infectious disease risk
- **Defense & Security:** readiness, human performance, deployment demands

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Overall Strategic Recommendations

BUILD INTEGRATED
HEALTH & SAFETY
ECOSYSTEMS

INVEST IN
TECHNOLOGY
THOUGHTFULLY

STRENGTHEN OEM
WORKFORCE
PIPELINES

PREPARE FOR
CLIMATE
DISRUPTION

ELEVATION OEM'S
VALUE
PROPOSITION

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The OEM Workforce Crisis

- Despite strong job opportunities and low burnout, the field faces a **severe and worsening shortage** of formally trained OEM physicians.
- The number of OEM residency programs has dropped from **40 (1970s) to less than 23 today**.
- Only **~50% of accredited residency positions** are filled due to lack of funding—not lack of applicants.
- New OEM certifications have fallen from **229 (1997) to ~90 (2021)**.
- Projected loss: **1,655 OEM physicians over the next decade** due to retirement.

Green, McKenzie J, Khan A, Redlich CA, Rivera Margolin A, McKinney ZJ. The future of occupational and environmental medicine. J Occup Environ Med. 2022;64(12):e1817-1818. doi:10.1097/JOM.0000000000002676

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Structural Causes of the Shortage

Funding gaps: CMS does not fully fund OEM residencies because much training occurs in non-clinical settings (MPH coursework, site visits, public health rotations).

NIOSH funding has declined, while resident stipends have increased.

Corporate scholarships that once supported OEM training have largely disappeared.

Limited visibility among medical students means many discover OEM **late in their careers**, when full-time residency is less feasible.

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Partial Solutions Already in Use

Train-in-Place programs allow mid-career physicians to train while remaining employed, reducing financial barriers.

These programs have produced **~7% of new OEM diplomates** over the past decade.

Still, they cannot compensate for the overall funding shortfall.

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Consequences of the Shortage

- Many industries lack access to board-certified OEM physicians, leading to:
 - inconsistent workplace safety practices
 - inadequate hazard mitigation
 - preventable morbidity and mortality
- COVID-19 highlighted the risks of operating without OEM expertise.

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Why OEM Physicians Still Matter

<p>Market Pressures</p> <ul style="list-style-type: none"> • Push to replace MDs with lower-cost providers • Rise of algorithmic triage and remote platforms • Commoditization of occupational health services • Misalignment between cost-cutting and operational risk 	<p>Physician Value Proposition</p> <ul style="list-style-type: none"> • Deep clinical judgment in safety-critical decisions • Integration of regulatory, operational, and medical factors • Authority to lead fitness-for-duty and risk mitigation • Trusted voice in leadership and crisis response
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Future Skills OEM Physicians Must Master

- Data literacy
- Advanced toxicology
- Human performance optimization
- Crisis leadership
- Regulatory navigation
- Interdisciplinary collaboration

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The Evolving Role of the OEM Physician

From clinician to strategic advisor

Systems integrator

Leader in crisis and risk communication

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Call to Action!

- We need a coordinated action among **government, payers, educators, and industry** to:
 - Expand OEM exposure in medical education.
 - Increase OEM content in USMLE.
 - Restore and expand federal funding (NIOSH, HRSA, VA).
 - Support mid-career training pathways.
 - Prioritize **board-certified OEM physicians** for OEM roles.
- **Bottom line:** The U.S. cannot maintain a healthy, productive workforce without a robust pipeline of OEM physicians. Investment in OEM training is essential to national health, economic stability, and preparedness for future public health threats.

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Summary

OEM is entering a period of rapid transformation.

The physicians who thrive will be those who embrace data, understand complex systems, and lead with clarity.

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- Additional regulatory and policy information referenced from:
 - Occupational Safety and Health Administration (OSHA)
 - National Institute for Occupational Safety and Health (NIOSH)
 - Americans with Disabilities Act (ADA)
 - Family and Medical Leave Act (FMLA)
 - European Union Directives
 - ISO Standards

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Questions?

Discussion Topics to consider

- What emerging risks matter most to your practice?
- How should OEM training evolve?
- What technology adoption barriers do you see/have?
- What is OEM's role in organizational strategy?