

TABLE 7

- 5:00** Increasing Gun Violence Prevention Conversations in the Primary Care Office
- 5:10** Occupational Nonallergic Rhinitis and Dysautonomia in a Firefighter: A Case-Based Safety and Awareness Initiative
- 5:20** Planetary Health Report Card: Increasing Climate Change Awareness and Accountability at the University of Minnesota Medical School
- 5:30** Quality Control at the Scanner QI on a QC tool
- 5:40** Networking



Increasing Gun Violence Prevention Conversations in the Primary Care Office

Josh Dysthe, Emily Vakulskas

Increasing Gun Violence Prevention Conversations in the Primary Care Office

Josh Dysthe, Sydney Vahling, Emily Vakulkas, Luke
Remme



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

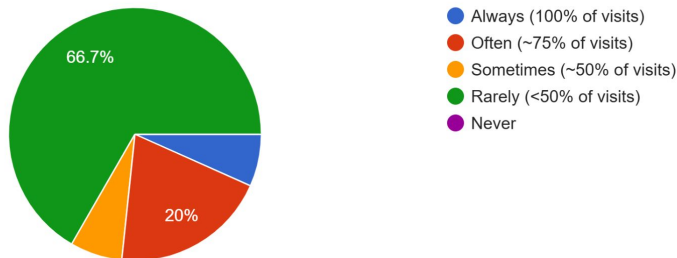
Background

- Firearms are the leading cause of death in children and youth (0-24 years of age)
- AAP has endorsed using a harm reduction approach to reduce the burden of gun violence on youth
- These include promoting safe storage, strong regulatory laws, and community resources
- Our QI project aimed to increase the prevalence of gun safety conversations in the primary care office with hopes of contributing to harm reduction.

Initial Data

How often do you address gun violence/safety (anticipatory guidance) in well child checks at your clinic? Please select the answer with your best estimate.

15 responses



Intervention

- We posted reminders on clinic computers as well as a QR code with access to gun violence prevention resources
- Also created a new SmartPhrase that providers can use and include in after visit summaries

Post Intervention Data - Pending

With QR code reminders, approximately what percentage of well child checks did you address and/or discuss gun violence with patients? *

Rarely/Not at all (0-25% of visits)

Sometimes (25-50% of visits)

Majority (50-75% of visits)

Almost always (75-100% of visits)

On a scale of 1-5, how does the age of the patient influence your decision to discuss gun violence? *

1 2 3 4 5

No influence Large influence

If 4 or 5, please describe why below.

Your answer _____

On a scale of 1-5, how does the history of gun violence in the immediate family of * your patient (sibling/parent hospitalized with gunshot wound, sibling/parent involved with gun violence, etc.) influence your decision to discuss gun violence? *

1 2 3 4 5

no influence large influence

If 4 or 5, please describe why below.

Your answer _____

On a scale of 1-5, how does the history of gun violence directly related to your patient (i.e. hospitalized for a gunshot wound, involved in gun violence directly, etc.) influence your decision to discuss gun violence? *

1 2 3 4 5

no influence large influence

- Currently in the process of getting post-intervention data. We asked what influences a PCPs decision to discuss gun violence including age, race, identified gender, and past history of gun violence whether immediate or within the patient's family
- Also collecting data on how PCPs see fitting in gun violence discussions best into their practice

Wrap-Up

- Gun violence is the leading cause of death among patients 0-24 years old
- Primary care physicians have a unique opportunity to discuss gun violence during well-child checks, or provide resources if patients desire
- Our post-intervention data is still pending. Whether the initial QI goal is successful, our post-intervention data will set us up to continue to work on addressing gun violence in the primary care setting



Occupational Nonallergic Rhinitis and Dysautonomia in a Firefighter: A Case-Based Safety and Awareness Initiative

Mohamed Mohamed

OCCUPATIONAL NONALLERGIC RHINITIS COMPLICATED BY DYSAUTONOMIA: A CASE STUDY IN A FIREFIGHTER FOLLOWING HIGH-DOSE CHEMICAL EXPOSURE

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SCHOOL OF
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INTRODUCTION

- Occupational nonallergic rhinitis (ONAR) is a potentially disabling condition
- Particularly for workers reliant on respiratory PPE
- Exposure to irritant gases can cause persistent upper airway inflammation
 - E.g., ammonia (NH₃) and hydrochloric acid (HCl)
- ONAR potential association with systemic dysautonomia remains underrecognized
 - Especially in first responders

METHODS

- A 38-year-old Male firefighter (FF) with 20 years of service was exposed to chemical gases while responding to an industrial fire.
- Gas exposures:
 - Ammonium bifluoride (NH₄HF₂) & Nitric acid (HNO₃)
- Medical History
 - Palpitations on low-dose metoprolol
- Immediate symptoms:
 - Facial and throat burning
 - Dyspnea
 - Severe coughing
- Emergency evaluation was unremarkable
 - Discharged without treatment
- Delay in follow-up due to the COVID-19 pandemic
- 4 months post-injury: Otolaryngology evaluation
 - Symptoms: left facial pain, visual disturbances, recurrent epistaxis, persistent congestion
 - Diagnosis of nonallergic vasomotor rhinitis
 - Epistaxis unresponsive to cautery
 - Underwent bilateral inferior turbinate resection
- 9 months post-injury: Referred to Occ Med (OM)
 - Due to difficulties with SCBA
- FF's SCBA use restricted due to severe epistaxis
 - Accommodated with an administrative role
- Ongoing symptoms:
 - Rhinorrhea, epistaxis, nasal pressure, headache, dizziness, dyspnea, left eye pain, blurry vision
 - Exacerbated by heat, cold, exertion, and irritant vapors
 - Affected both physical and administrative tasks

RESULTS

- Specialty Neurology evaluation of dysautonomia:
 - Abnormal HR and BP ↑ with minimal exertion
 - Tilt-table testing: postural orthostatic tachycardia syndrome (POTS)
 - Neurological sweat test (QSART) negative
- Neuro-optometry evaluation:
 - Chronic Left Iritis and convergence insufficiency
- Symptoms managed with medications:
 - Oral: BID H₁ and BID H₂ anti-histamines
 - Nasal: Atrovent (ipratropium)
 - Ophthalmologic: Restasis (cyclosporine)
- 15 months post-injury: medical retirement
- 29 months post-injury: MN PPD rating 11.8%
 - Dysautonomia → exercise intolerance (by analogy)
 - Vasomotor rhinitis → chronic rhinitis
- Transitioned to a new career as a registered nurse

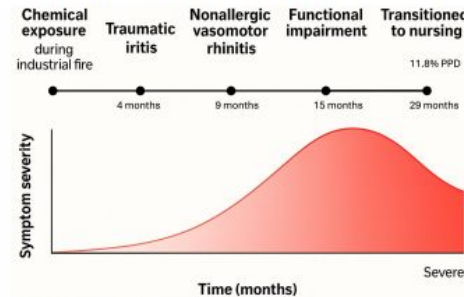


Figure 1. Timeline of symptoms and severity

DISCUSSION

- ONAR is typically a localized inflammatory response but may have systemic consequences via autonomic nervous system dysregulation.
- Proposed mechanism from chemical exposure:
 - Persistent neurogenic inflammation → Epithelial damage → Local cytokine release (e.g., IL-6, TNF-α)

DISCUSSION CONTINUED

Neuroimmune Mechanism Between ONAR and Dysautonomia

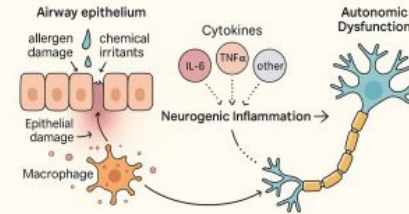


Image generated using ChatGPT

Figure 2. Proposed mechanism of irritant exposure resulting in nonallergic rhinitis & dysautonomia.

Emerging Mechanisms: Neuroimmune Cross-talk

- Symptoms of neurogenic inflammation and autonomic imbalance
 - Increasingly recognized in environmental exposures
 - Poorly characterized in occupational health (OH) settings
- Nociceptive nerve ending sensitization
 - Via transient receptor potential (TRP) ion channels
- Cross-talk: airway inflammation ↔ dysautonomia

CONCLUSION

- Exposure-induced ONAR may lead to systemic effects, including dysautonomia
- Occupational Health Implications:
 - Monitor workers with persistent post-exposure symptoms
 - Consider screening for autonomic dysfunction in affected individuals
 - Emphasize early recognition and interdisciplinary care
 - Update fitness-for-duty evaluations to include autonomic considerations
 - Strengthen prevention efforts to reduce long-term disability in high-risk jobs

REFERENCES:



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**Planetary Health Report Card:
Increasing Climate Change Awareness
and Accountability at the University of
Minnesota Medical School**

Gabby Christensen &
Leyla Taghizadeh

Planetary Health Report Card: Increasing Climate Change Awareness and Accountability at the University of Minnesota Medical School

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Background

The Planetary Health Report Card (PHRC), a global Medical Students for a Sustainable Future initiative inspired by White Coat's for Black Lives Racial Justice Report Card¹, is designed to help medical schools introduce climate justice into their curriculum, research, communities, and campuses. This student-driven initiative compares health professional schools investment in planetary health.



Climate change affects human health in a variety ways. According to the WHO, between 2030 and 2050, an estimated 250,000 additional deaths per year will be direct results of climate change, related to malnutrition, malaria, diarrhea and heat stress alone.²

Purpose

1. Ensure future healthcare professionals have the awareness and training to address the impacts of human-caused climate change on patients
2. Develop institutional accountability through dedicated leadership and measurable sustainability goals
3. Empower medical students to become advocates for environmental justice and sustainable health systems in their future practice

Methods

Each PHRC category contains discrete metrics, developed by faculty experts across the world based on literature reviews³, that constitute the total score.

Data were collected using a mixed-methods approach, including review of institutional resources (e.g., syllabi, websites, sustainability reports), faculty correspondence, and internal documents. Each metric was independently scored by all members, with discrepancies resolved by consensus. Supporting materials were archived for transparency, and final scores were submitted to the PHRC national team for validation and benchmarking.

After the UMMS PHRC was generated, members collaborated to create evidence-based recommendations for the medical school.

Discussion

Recommendations

Campus Sustainability	Community Outreach
Source local and sustainable food	Implement community facing programs
Designate staff for hospital/medical school sustainability	Update educational materials for health impact with community perspectives
Update information on Office of Sustainability website	Provide opportunities for medical student involvement

It is critical that the next generation of healthcare providers are prepared to address the impacts of climate change. Our work on the 2024-25 University of Minnesota Medical School PHRC has identified Campus Sustainability and Community Outreach and Advocacy as two key areas in which planetary health is not adequately addressed, with recommendations described to the left.

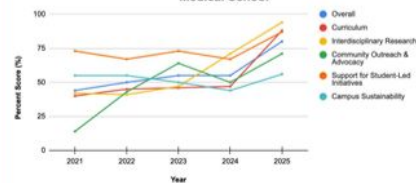
The following are our additional recommendations, based on other categories of the PHRC:

- **Expand planetary health electives** to deepen student learning in sustainable healthcare
- **Integrate Indigenous knowledge** and environmental justice frameworks throughout core curriculum
- **Enhance medical school-specific sustainability initiatives** and community outreach
- **Increase visibility of student research opportunities** in planetary health
- **Appoint dedicated faculty leadership** to oversee longitudinal integration and accountability

Results

Section	Weight	Raw Score	Letter Grade
Planetary Health Curriculum	30%	87.5%	A
Interdisciplinary Research	17.5%	94.12%	A
Community Outreach and Advocacy	17.5%	71.43%	B
Support for Student-Led Planetary Health Initiatives	17.5%	86.67%	A
Campus Sustainability	17.5%	56.25%	C+
Institutional Grade	100%	80.23%	A-

Planetary Health Report Card Trends for the University of Minnesota Medical School



UNITED STATES

(Click the school name to read their full report)

	Overall	Planetary Health Curriculum	Interdisciplinary Research	Community Outreach & Advocacy	Support for Student-Led Initiatives	Campus Sustainability
1. UC Berkeley - UCSF Joint Medical Programme	A-	B	A+	A	A-	B+
2. Emory University School of Medicine	A	A+	A+	A	A+	B
3. University California San Francisco	A-	A-	A+	A	A	B
4. University of Connecticut	A-	A	A+	B	A-	B+
5. University California San Diego	A-	B+	A	A+	B	A
6. University of Minnesota	A-	A	A	B	A	C+

Growth

We would like to acknowledge the impact of the Planetary Health Report Card on our medical school. Last year's report focused on the need to implement more Planetary Health content into the medical school curriculum, as the UMMS scored 43.06% in the Planetary Health Curriculum category.

Through PHRC's advocacy and the implementation of the SERVE curriculum, the curriculum score jumped to 87.5% and helped place us as the #6 medical school nationally.

References

1. Medical Students for a Sustainable Future. <https://ms4sf.org/>.
2. World Health Organization. *Climate change*. World Health Organization. https://www.who.int/health-topics/climate-change#tab=tab_1.
3. Planetary Health Report Card. <https://phreportcard.org/us/>

Acknowledgments

Thank you to the University of Minnesota, the global Planetary Health Report Card organization, and our faculty mentor, Dr. Kate Shafo, for their contributions, insight, and expertise during the completion and revision process.



Quality Control at the Scanner QI on a QC tool

Kent Van Note

Quality Control at the Scanner

QI on a QC tool

Caleb Hoover, Kent Van Note, and Jeffrey Rykken
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Background

- Appropriate imaging acquisition is a key component of good patient care in imaging. It impacts interpretation by the Radiologist:
 - Accuracy
 - Completeness
 - Timeliness
- Radiologists and Radiology Technologists may have very little contact at some sites
 - Remote Reading locations
 - Multiple imaging locations
- Limited feedback can lead to recurrent errors
- Monitoring performance can help celebrate excellence and identify opportunities for improvement
- Provide a mechanism to share and track positive and critical feedback

Current State

- Quality control feedback tool exists to provide feedback to technicians about specific studies (below)
- Separate tool for "Kudos" for exceptional work

Goals

- Increase response totals
- Increase data utilization

Combine data collection tools

Methodology

- New collaborations
- Quality, Safety, & Compliance Oversight Committee
 - Radiology leaders across sites and divisions
 - Practice Councils
 - Modality specific managers across sites
- Data management tools:
- PowerBI
 - RedCap
 - MHealth Call website
 - Midwest Radiology

RedCap Improvements

Rad Tech Quality Control Submissions

Please provide the following information to help identify errors that are occurring at the scanner when you encounter them. Your input is greatly appreciated
Please complete the survey below.

Thank you!

What is the Accession Number for the study in question?

Modality

Reason

Kudos

Additional information (not required)

All MHealth Fairview sites will now be considered

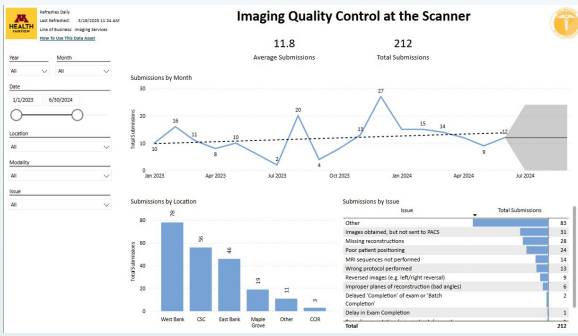
No Change

Change wording
Organize options

Add Kudos

No Change

Data Management



Conclusion

- Increased data utilization:
- Site managers given data for internal monitoring and QI projects
 - QC group monitor responses for Quality Assurance and future changes
- Increase buy in
- Accessibility improved
 - Increase awareness with this project
- Tool is more comprehensive and organized
- Created vested interest by engaging new parties
- New routes for data to be used for system level improvements

Acknowledgements

Dr. David Nascene - maintains the MHealth Call website
Practice counsels
QSCOC
QC at the scanner QI group

RADIOLOGY CALL ASSISTANT

Links:
Peer Learning
Radiology exam QC

