Climate and health: an emergency medicine perspective

DELIVERING CLIMATE-SMART HEALTH CARE

AMY COLLINS M.D.

JONATHAN SLUTZMAN M.D.



Delivering climate-smart health care



In this 3-part webinar series, emergency medicine experts will explore the health impacts of climate change and opportunities to advance solutions that address human health and our health system. We are offering 1 continuing medical education credit per webinar for a total of 3 credits.

The University of Illinois at Chicago (UIC) College of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCMB) to provide continuing medical education for physicians. The University of Illinois at Chicago (UIC) College of Medicine designates this webinar series for a maximum of 3 AMA PRA Category 1 Credit(s)". Physicians should only claim the credit commensure with the extent of their participation in the activity.

Register at academy.practicegreenhealth.org







Welcome and Introduction

- Emergency medicine physician MetroWest Medical Center
- Senior Clinical Advisor for Physician Engagement for Health Care Without Harm
- <u>acollins@hcwh.org</u>
- **J** @DrAmy_Collins









UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS



ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES SCHOOL OF PUBLIC HEALTH







A FOUNDING MEMBER OF

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

With thanks to the planning committee

- Cecilia Sorensen MD
- Elena Grossman MPH
- Renee Salas MD, MS, MPH
- Mona Sarfaty MD, MPH



Webinar agenda and logistics

- Dr. Amy Collins
- Dr. Jonathan Slutzman
- Q&A
- Wrap up

- Questions and comments can be sent to the speakers through the chat or question function
- This webinar will be recorded and archived for those that aren't able to join us today
- Physician CMEs are available



Delivering climate-smart health care

PART ONE: AMY COLLINS M.D.





My fourth grader, his teacher, idling and polar bears









If the U.S. health care sector were ranked as a nation.....

- It would rank 13th in the world for emissions,
- More than all of the U.K.

Eckelman MJ, Sherman J (2016) Environmental Impacts of the U.S. Health Care System and Effects on Public Health; PLoS ONE







Carbon dioxide (CO2), methane (CH2), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF3), and sulphur hexafluoride (SF2)

Scope 3 Other: These are the most common emissions for health care, but there are other relevant categories in Scope 3. To review all 15 categories covered in Scope 3, visit the <u>GHG Protocol Scope 3 Guidance</u>.

Source: Practice Greenhealth



Supply chain

- Supply chain is the 2nd largest expense in health care following labor
- Supply chain costs may overtake labor by 2022 (Strategic Marketplace Initiative, 2014)
- Purchasing volume of the top 4 health care group purchasing organizations is over \$189 billion (Becker's Hospital Review, 2017)





Waste

- U.S. hospitals generate 14,000 tons of waste/day
- 20-25% of this waste is plastic waste
- 15% is infectious or hazardous waste
- Single use disposables and packaging





Hospital food







Healthy food in health care



MAKING THE HEALTHY CHOICE THE EASY CHOICE

Serving healthy inpatient meals that meet nutritional standards Health Care Without Harm: over 1,000 hospitals are committed to purchasing and serving more fresh, healthy food.

Implementing Balanced Menus Less Meat, Better Meat: hundreds of hospitals are reducing the amount of meat they purchase and serve and buying more sustainably produced meat.

Offering vending machine healthy picks

Kaiser Permanente: more than 1,000 vending machines restocked so 75% of food and beverages meet Healthy Pick's criteria for being lower in fat, calories, sodium, and sugar.

Serving healthier cafeteria and cafe options Partnership for a Healthier America's Hospital Healthier Food Initiative: more than 700 hospitals committed to healthy food practices that improve the nutrition of patient meals and cafeteria options.

Reducing or eliminating sugar-sweetened beverages Vanguard Health's four, Chicago-area hospitals phased out all sugar-sweetened beverages from their facilities, in the implementation of Cook County's "Rethink Your Drink" program.

@HCWithoutHarm https://noharm-uscanada.org/ kp.org/green @KPShare

KAISER PERMANENTE

HEALTHIER HOSPITAL FOOD SERVICE

Every day, health care food service staff have an opportunity to encourage healthy habits and sustainable food choices.





Antibiotic overuse in animal agriculture and antibiotic resistance



Expanding Antibiotic Stewardship



The Role of Health Care in Eliminating Antibiotic Overuse in Animal Agriculture

The Antibiotic Resistance Crisis

Each year, 23,000 Americans die as a result of antibiotic resistant infections.1 Longer, more expensive hospital stays for treating resistance cost the U.S. health care sector an estimated \$21 to \$34 billion annually and an additional eight million hospital days.² Evidence is mounting that these numbers will only grow. In 2013, the Centers for Disease Control and Prevention (CDC) released a report acknowledging that Carbapenem-resistant Enterobacteriaceae—a new family of bacteria

"Antibiotic

resistance—when

designed to kill

them-threatens

respond to the drugs

-CDC (2013)

bacteria don't

with high levels of resistance to antibiotics commonly known as "the last resort"-may lead to the death of 50% of infected individuals.

Antibiotic resistanceto return us to the the ineffectiveness of time when simple medical drugs to treat infections were often bacterial infections-i fatal." now among the CDC's "top concerns,"⁴ and the World Health Organization (WHO) recently stated that it is an "accelerating global health security

emergency that is rapidly outpacing available treatment options."5 Alexander Fleming, the scientist who discovered penicillin at the beginning of the twentieth century, cautioned against this scenario and concluded his 1945 Nobel Lecture with a warning about misusing antibiotics: "...[T]here is the danger that the ignorant man may easily underdose himself and by exposing his microbes to nonlethal quantities of the drug make them resistant."6

As stewards of antibiotics, doctors have created rigorous new guidelines to curb antibiotic resistance by dispensing antibiotics more carefully in human populations.7 The general trend in the health care sector is a movement towards the increased monitoring of the administration of antibiotics to patients.8 However, profound gaps in the monitoring and reporting of antibiotic use remain. and powerful advertising of antibiotics threatens public health. The international Antibiotic Resistance Coalition (ARC) was recently formed to urge leadership and action on a global level to address this catastrophic health issue. One of the key focus areas of ARC's agenda is the inappropriate use of antibiotics in food animal production

Antibiotic Overuse in Animal Agriculture The vast majority of antibiotics in the U.S. are not used

in human medicine-they are used in animal agriculture According to government estimates, approximately 30 million pounds of antibiotics are sold for use in industrial animal agriculture. This is four times the amount used by the health care sector, and this number is growing. About 70% of these include antibiotics which are also used to treat human infections, such as penicillins, macrolides, sulfas, and tetracyclines. These antibiotics are given routinely to otherwise healthy food animals to compen sate for overcrowded and unsanitary living conditions Most antibiotics are administered through feed and water, where dosing is typically at subtherapeutic levels-that is, not strong enough to kill bacteria-to large numbers of animals for long periods of time.¹⁰ As Eleming foreshadowed less than 100 years ago, these subtherapeutic quantities are the perfect recipe for creating antibiotic resistant bacteria.



https://noharm-uscanada.org/CCCAS

Chemicals in health care

- Mercury
- PVC/DEHP
- Cleaning chemicals
- Sterilants and disinfectants
- Laboratory chemicals
- Flame retardants
- Lab chemicals
- Pharmaceuticals
- Pesticides







Practice Greenhealth

- Less waste
- Safer chemicals
- Environmentally preferential purchasing
- Healthier food
- Leaner energy
- Less water
- Climate and health
- Transportation
- Green design and construction
- Greening the OR
- Engaged leadership



https://practicegreenhealth.org



Health Care Climate Challenge

The Health Care Climate Challenge mobilizes health care institutions around the world to protect public health from climate change.

178 institutions across the globe representing the interests of 17,000 hospitals and health facilities have already committed to this challenge

What is the climate challenge?

- Mitigation: reduce health care's climate footprint
- Resilience: prepare for impacts of extreme weather and shifting burden of disease
- Leadership: educate staff and public about climate and health and promote policies to protect public from climate change







Climate leadership from the health care sector

Cleveland Clinic	Carbon neutral by 2027 (Scopes 1 and 2 only)
Memorial Sloan Kettering Cancer Center. NYU Langone MEDICAL CENTER	NYC Carbon Challenge: Reduce greenhouse gas emissions 50% by 2025 (Scopes 1 and 2 energy only)
GUNDERSEN HEALTH SYSTEM®	100% energy independence from grid
KAISER PERMANENTE®	Carbon neutral by 2020 (Scopes 1 and 2 only) Carbon positive by 2025
ROCHESTER REGIONAL HEALTH	100% renewable electricity
EXCEPTIONAL CARE. WITHOUT EXCEPTION.	25% by 2020 (Scopes 1 and 2 energy only) 100% by 2050



Climate-smart health care = low carbon + resilient health care

- Building design and construction
- Renewable energy/energy efficiency
- Waste minimization/sustainable waste management
- Sustainable transport and water policies
- Low carbon procurement for pharmaceuticals, medical devices, food etc.
- Resilience strategies
- Design and models of care driven by local providers and public health needs





Why should physicians advocate for climatesmart health care?





First, Do No Harm

- Patients
- Employees
- Communities
- Environment



Do any of our hospital operations contribute to the conditions we are treating? Do any of our operations adversely effect either environmental or public health?



Are physicians obliged to lead sustainability efforts in health care organizations?



AMA Journal of Ethics[®] Illuminating the art of medicine



"Physicians and health organizations have obligations to use their influence, expertise and resources to protect health, which includes promoting sustainability."





Why should emergency medicine physicians care about the impact?





We are part of the problem!

- 24/7 operations
- Large spatial footprint
- Large workforce
- Large patient volumes
- Transportation
- Supply chain
- Pharmaceuticals
- Waste
- High risk patient populations
- Clinical practice



Health Care

Without Harm

Why should emergency medicine physicians lead sustainability efforts in hospitals?





Approved June 2018

Impact of Climate Change on Public Health and Implications for Emergency Medicine Advocate for initiatives to reduce the carbon footprint of emergency departments and their affiliated institutions through energy conservation and health care waste reduction and/or recycling.



Why emergency medicine should lead, in my opinion

- As shift workers we have the time
- Hospital based clinicians
- Face to face with all the impacts and opportunities
- Wellness and burnout
- Mission based, non-clinical work
- It's fun and rewarding!





Health Care Without Harm Physician Network

- To create a network of physicians interested in promoting climatesmart health care through mitigation, resilience and leadership
- To lead and support physician action to reduce the environmental impact of health care delivery





https://noharm.org/physiciannetwork

Physicians for a Sustainable Future





https://www.facebook.com/groups/PhysiciansForASustainableFuture/

CleanMed





https://cleanmed.org

What you can do today

- Get educated, look around for opportunities
- Find out if your hospital has a green team
 - If so, join it
 - If not, start one
- Find out if your hospital is a member of Practice Greenhealth
- Join the Health Care Without Harm Physician Network
- Ask your hospital to commit to the Health Care Climate Challenge



As trusted leaders, physicians can be champions of environmentally responsible health care – but how do you get started? Here are some tips and resources to help you begin your journey as a health care sustainability champion.

Health Care

Get educated, then educate others

GET EDUCATED

- Visit the <u>Health Care Without Warm</u> and <u>Practice Greenhealth</u> websites to learn about health care's environmental impact and opportunities to move toward <u>climate-smart</u>, environmentally responsible health care.
- Visit the Physician Network resource site.
- Plan to attend the many physician-led, CME-eligible sessions at <u>CleanMed</u>, the premier conference for health care sustainability leaders.
 Learn about the business case for health sector sustainability, including the potential costs savings highlighted in
- Learn about the <u>business case</u> for health sector sustaina this report.
- Learn about the <u>public health impacts</u> of climate change and <u>environmental health</u>, as well as the health benefits
 of practicing <u>sustainability in your home</u>, medical practice, and community.
- Read policy statements from the <u>American College of Physicians</u>, <u>American Academy of Pediatrics</u>, and <u>American College of Emergency Physicians</u> calling on physicians to reduce the environmental impact of health care facilities.
- care racinues. Check out the American College of Physicians' <u>climate change toolkit</u> and the American Society of Anesthesiologists' environmental sustainability resources, and see what's available in your own medical society

EDUCATE OTHERS

- Educate your colleagues about how to reduce environmental impact, with a focus on specific opportunities in your hospital.
- Present at grand rounds or a department meeting.
- Invite an expert speaker from Health Care Without Harm, Practice Greenhealth, or the Physician Network Speakers Bureau.
- Write a blog or article for your hospital newsletter
- Share your knowledge on social media.
- Talk to your patients about how the environment impacts their health and how they can reduce environmental exposures.

HEALTH CARE WITHOUT HARN



Jonathan Slutzman M.D.

- Instructor in Emergency Medicine, Harvard Medical School and Massachusetts General Hospital
- Former Associate in Environment and Risk Management at ICF International and Arthur D. Little
- Member of Health Care Without Harm Physician Network Advisory Committee
- Research interest: measuring the environmental and financial costs of health care services




Delivering Climate-Smart and Environmentally-Responsible Healthcare

Engaging the ED's Expertise for Climate Change Mitigation and Response

Jonathan E. Slutzman, MD Massachusetts General Hospital Harvard Medical School @SlutzmanMD





The ability of systems to mount a robust response to unforeseen, unpredicted, and unexpected demands and to resume or even continue normal operations.









HARVARD MEDICAL SCHOOL

















HARVARD MEDICAL SCHOOL





Infections





- Infections
- Respiratory distress



- Infections
- Respiratory distress
- Food insecurity



- Infections
- Respiratory distress
- Food insecurity
- Waterborne illness





- Infections
- Respiratory distress
- Food insecurity
- Waterborne illness
- •Heat stress



- Infections
- Respiratory distress
- Food insecurity
- Waterborne illness
- •Heat stress
- Mental illness



- Infections
- Respiratory distress
- Food insecurity
- Waterborne illness
- Heat stress
- Mental illness
- Displacement and trauma







Vulnerability





Vulnerability

• Disaster Response





We know disasters









Climate Change Disaster Preparedness

- Leverage emergency department
- All-hazards planning
- Economic case







Health care is the solution ... and the problem







"Emergencies" get a pass







Emergency Medicine touches everything





Emergency Medicine touches everything







Sustainable Healthcare is Resilient Healthcare



(Image credit: Robin Guenther, AIA LEED Fellow, CleanMed 2018)





FIRST OPINION

The hidden harm of health care: air, water, and other pollution

By JONATHAN E. SLUTZMAN / SEPTEMBER 25, 2018





ADOBE



Life Cycle Assessment





Life Cycle Assessment

INTERNATIONAL STANDARD	ISO 14040
	Second edition 2006-07-01
Environmental management assessment — Principles an	— Life cycle d framework
Management environnemental — Analyse du cyc et cadre	le de vie — Principes





Life Cycle Assessment







LCA Output



N. Campion et al. / Science of the Total Environment 425 (2012) 191–198



Fig. 2. Environmental impacts of cesarean section (C/S) and vaginal (Vag) births. * Waste calculated for the disposable custom packs and placenta disposal.

LCA in Strategic Planning











Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7

SUSTAINABLE DEVELOPMENT

Eco-efficiency of disposable and reusable surgical instruments—a scissors case

Suphunnika Ibbotson • Tina Dettmer • Sami Kara • Christoph Herrmann





Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7

SUSTAINABLE DEVELOPMENT

Eco-efficiency of disposable and reusable surgical instruments—a scissors case

Suphunnika Ibbotson • Tina Dettmer • Sami Kara • Christoph Herrmann

> Life Cycle Assessment and Costing Methods for Device Procurement: Comparing Reusable and Single-Use Disposable Laryngoscopes

Jodi D. Sherman, MD,* Lewis A. Raibley IV, BS, MBA,† and Matthew J. Eckelman, PhD‡





Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7

SUSTAINABLE DEVELOPMENT

Eco-efficiency of disposable and reusable surgical instruments—a scissors case

Suphunnika Ibbotson • Tina Dettmer • Sami Kara • Christoph Herrmann Life Cycle Greenhouse Gas Emissions of Anesthetic Drugs

Jodi Sherman, MD,* Cathy Le,† Vanessa Lamers,†† and Matthew Eckelman, PhD§

Life Cycle Assessment and Costing Methods for Device Procurement: Comparing Reusable and Single-Use Disposable Laryngoscopes

Jodi D. Sherman, MD,* Lewis A. Raibley IV, BS, MBA,† and Matthew J. Eckelman, PhD‡





Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7

SUSTAINABLE DEVELOPMENT

Eco-efficiency of disposable and reusable surgical instruments—a scissors case

Suphunnika Ibbotson • Tina Dettmer • Sami Kara • Christoph Herrmann Life Cycle Greenhouse Gas Emissions of Anesthetic Drugs

Jodi Sherman, MD,* Cathy Le,† Vanessa Lamers,†† and Matthew Eckelman, PhD§

Life Cycle Assessment and Costing Methods for Device Procurement: Comparing Reusable and Single-Use Disposable Laryngoscopes

Jodi D. Sherman, MD,* Lewis A. Raibley IV, BS, MBA,† and Matthew J. Eckelman, PhD‡

A Life Cycle Assessment of Reusable and Single-Use Central Venous Catheter Insertion Kits

Forbes McGain, MBBS, FANZCA, FCICM,* Scott McAlister, BSc, PGradDipSci, MWaterRM,† Andrew McGavin, RN, PGrad Dip. Emerg Med, Pgrad. Dip. Bus.,† and David Story, MBBS, MD, FANZCA§





SUSTAINABLE DEVELOPMENT	
Eco-efficiency of disposable and reusable surgical instruments—a scissors case Suphunnika Ibbotson · Tina Dettmer · Sami Kara · Christoph Herrmann	Life Cycle Greenhouse Gas Emissions of Anesthetic Drugs Jodi Sherman, MD,* Cathy Le,† Vanessa Lamers,†† and Matthew Eckelman, PhD§
	Life Cycle Assessment and Costing Methods for Device Procurement: Comparing Reusable and Single-Use Disposable Laryngoscopes Jodi D. Sherman, MD,* Lewis A. Raibley IV, BS, MBA,† and Matthew J. Eckelman, PhD‡
	A Life Cycle Assessment of Reusable and Single-Use Central Venous Catheter Insertion Kits
	,* Scott McAlister, BSc, PGradDipSci, MWaterRM,†
The financial and environmental costs of single-use plastic anaesthetic drug trays	of reusable and s

MASSACHUSETTS GENERAL HOSPITAL
Can we catch up?

	Einweg- versus Mehrv	veg-Patientenabdeckung im Operationssaal	
Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7	Ökobilanz: Vergleich von Zel	lstoff-Polyethylen- und Baumwoll-Mischabdeckung	
SUSTAINABLE DEVELOPMENT	M. Dettenkofer ¹ , R. Grießhammer ² , I	M. Scherrer ¹ und F. Daschner ¹	
Eco-efficiency of disposable and reusable surgical	¹ Institut für Umweltmedizin und Krankenha ² Öko-Institut e. V., Freiburg	ushygiene (Direktor: Prof. Dr. F. Daschner), Universitätsklinikum Freiburg	
IIISUFUINEILIS—A SCISSOFS CASE Suphunnika Ibbotson · Tina Dettmer · Sami Kara · Christoph Herrmann	Life-Cycle Assessment of single-use versus reusable surgical drapes (cellulose/polyethylene – mixed cotton system)	proved superior. It is difficult to wurde eine Literaturrecherche compare and weigh various environ- mental aspects like the polluting cul- tivation of cotton in distant countries deckung nach derzeitigem Wissens-	
•	coron systemy	(reusable drapes) and the higher fig- stand als sicheres Verfahren einzu-	

Life Cycle Assessment and Costing Methods for Device Procurement: Comparing Reusable and Single-Use Disposable Laryngoscopes

Jodi D. Sherman, MD,* Lewis A. Raibley IV, BS, MBA,† and Matthew J. Eckelman, PhD‡

A Life Cycle Assessment of Reusable and Single-Use <u>Central Venous Catheter</u> Insertion Kits

Anaesth Intensive Care 2010; 38: 538-544

The financial and environmental costs of reusable and single-use plastic anaesthetic drug trays

F. MCGAIN*, S. MCALISTER†, A. MCGAVIN‡, D. STORY§

Department of Anaesthesia and Intensive Care, Western Hospital, Melbourne, Victoria, Australia

,* Scott McAlister, BSc, PGradDipSci, MWaterRM,† Med, Pgrad. Dip. Bus.,† and David Story, MBBS, MD, FANZCA§∥

MASSACHUSETTS GENERAL HOSPITAL

Can we catch up?

	Einweg- versus Mehrv	veg-Patientenabdeckung im Operationssaal	
Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7	Ökobilanz: Vergleich von Zellstoff-Polyethylen- und Baumwoll-Mischabdeckung		
SUSTAINABLE DEVELOPMENT	M. Dettenkofer ¹ , R. Grießhammer ² , M. Scherrer ¹ und F. Daschner ¹		
Eco-efficiency of disposable and reusable surgical	¹ Institut für Umweltmedizin und Krankenhaushygiene (Direktor: Prof. Dr. F. Daschner), Universitätsklinikum Freiburg ² Öko-Institut e. V., Freiburg		
instruments—a scissors case	Life-Cycle Assessment of single-use	proved superior. It is difficult to wurde eine Literaturrecherche	
Suphunnika Ibbotson • Tina Dettmer • Sami Kara • Christoph Herrmann	(cellulose/polyethylene – mixed (cotton system)	mental aspects like the polluting cul- tivation of cotton in distant countries deckung nach derzeitigem Wissens- (reusable dranes) and the bioher fig- stand als sicheres Verfahren einzu-	

CME Comparative Life Cycle Assessment of Disposable and Reusable Laryngeal Mask Airways

ing Methods for ; Reusable and copes

Matthew Eckelman, PhD,* Margo Mosher,† Andres Gonzalez,† and Jodi Sherman, MD‡

latthew J. Eckelman, PhD‡

A Life Cycle Assessment of Reusable and Single-Use <u>Central Venous Catheter</u> Insertion Kits

Anaesth Intensive Care 2010; 38: 538-544

The financial and environmental costs of reusable and single-use plastic anaesthetic drug trays

F. MCGAIN*, S. MCALISTER†, A. MCGAVIN‡, D. STORY§

Department of Anaesthesia and Intensive Care, Western Hospital, Melbourne, Victoria, Australia

* Scott McAlister, BSc, PGradDipSci, MWaterRM,† Med, Pgrad. Dip. Bus.,† and David Story, MBBS, MD, FANZCA§∥



Can we catch up?

	Einweg- versus Mehrweg-Patientenabdeckung im Operationssaal	
Int J Life Cycle Assess (2013) 18:1137–1148 DOI 10.1007/s11367-013-0547-7	Ökobilanz: Vergleich von Zellstoff-Polyethylen- und Baumwoll-Mischabdeckung	
SUSTAINABLE DEVELOPMENT	M. Dettenkofer ¹ , R. Grießhammer ² , M. Scherrer ¹ und F. Daschner ¹	
Eco-efficiency of disposable and reusable surgical	¹ Institut für Umweltmedizin und Krankenhaushygiene (Direktor: Prof. Dr. F. Daschner), Universitätsklinikum Freiburg ² Öko-Institut e. V., Freiburg	
instruments—a scissors case	Life-Cycle Assessment of single-use proved superior. It is difficult to wurde eine Literaturrecherche compare and weigh various environ-durchgeführt. Aus hygienischer compare and weigh various environ-	
Christoph Herrmann	(centrose/polyetnylene – mixed mental aspects like the polluting cul- Sicht ist demhach die Mischab- cotton cyctom) tivation of cotton in distant countries deckupe nech derzoitigem Wissens- hren einzu-	



Anaesth Intensive Care 2010: 38: 538-544

The financial and enviro single-use plastic anaest

F. MCGAIN*, S. MCALISTER†, A. MCG. Department of Anaesthesia and Intensive Care, W

Greenhealth Greening the Operating Room[™] Checklist

Hospitals rank among the largest users of energy, highest producers of waste and are a major consumer of chemicals, paper, water and other resources, resulting in an industry with a huge environmental footprint. In an effort to reduce the impact on the environment, healthcare organizations are asking for information on best practices, guidance in establishing green practices and methods to measure success. They are also asking for guidance on where to focus their efforts. As a primary source of hospital revenue, one of the largest users of supplies and generators of hospital waste, the operating room (OR) is a strategic priority for any hospital hoping to reduce its impact on the environment. This tool is designed to assist health care providers in assessing the status of environmental best practices in the OR.

For organizations just beginning to identify sustainability programs in the operating room, this tool will illustrate where opportunities exist. For those further along, it can highlight products, processes and elements that may have been overlooked. Whether your organization is just beginning its sustainability journey or is looking for ways to assess and measure progress, this tool was designed for you.



e-Use

, FANZCAS





nt. This tool is desig

Greening the ED



This Photo by Unknown Author is licensed under CC BY-SA



This Photo by Unknown Author is licensed under <u>CC BY-NC-ND</u>



This Photo by Unknown Author is licensed under CC BY



This Photo by Unknown Author is licensed under CC BY-NC-ND





Jonathan E. Slutzman, MD @SlutzmanMD jslutzman@mgh.Harvard.edu





Questions, Answers and Discussion



Climate and emergency medicine resources



Health Care Without Harm

https://noharm-uscanada.org/articles/news/us-canada/climate-and-emergency-medicine-resources

Continuing Medical Education

- \$15 fee for CME credit
- Please register and pay for CME credit <u>here</u>
- An evaluation survey will be sent to you upon completion of the webinar. CMEs can only be received upon completion of the webinar and the evaluation survey. CME certificates will be delivered on a quarterly basis.

The University of Illinois at Chicago College of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The University of Illinois at Chicago College of Medicine designates the "Climate and health: An emergency medicine perspective" webinar series for a maximum of three AMA PRA Category 1 Credit(s) ™



Thank you!

Any questions or comments please contact Dr. Amy Collins <u>acollins@hcwh.org</u>

