

Credit: Jessica Gorlicky, the Mural Campaign



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Clinical Planning Symposium An introduction to Planetary Healthcare

Andrea MacNeill, MD MSc FRCSC

@ecosurgeon

— 28 January, 2022

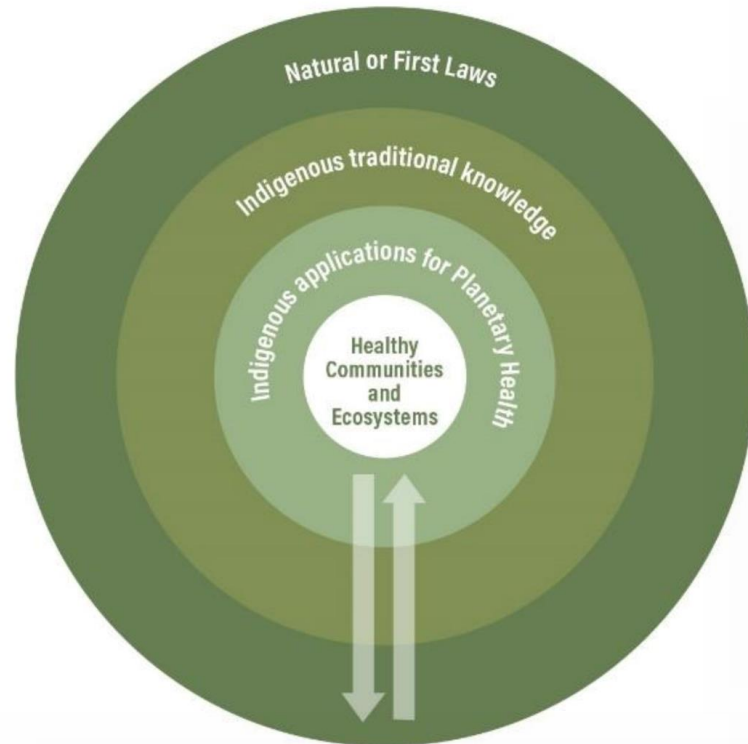




Planetary Health

Safeguarding both human health and the natural systems that underpin it.





The Lancet Commissions



The Rockefeller Foundation–Lancet Commission on planetary health

Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health

Sarah Whitmee, Andy Haines, Chris Beyrer, Frederick Boltz, Anthony G Capon, Braulia Ferreira de Souza Dias, Alex Ezeh, Howard Frumkin, Peng Gong, Peter Head, Richard Horton, Georgina M Mace, Robert Marten, Samuel S Myers, Sania Nishtar, Steven A Osofsky, Subhrendu K Pattanayak, Montira J Pongsiri, Cristina Romanelli, Agnes Soucat, Jeanette Vega, Derek Yach

Perspective

Indigenous Natural and First Law in Planetary Health [†]

Nicole Redvers ^{1,2,*}, Anne Poelina ³, Clinton Schultz ⁴, Daniel M. Kobei ⁵, Cicilia Githaiga ⁶, Marlikka Perdrisat ⁷, Donald Prince ⁸ and Be'sha Blondin ²

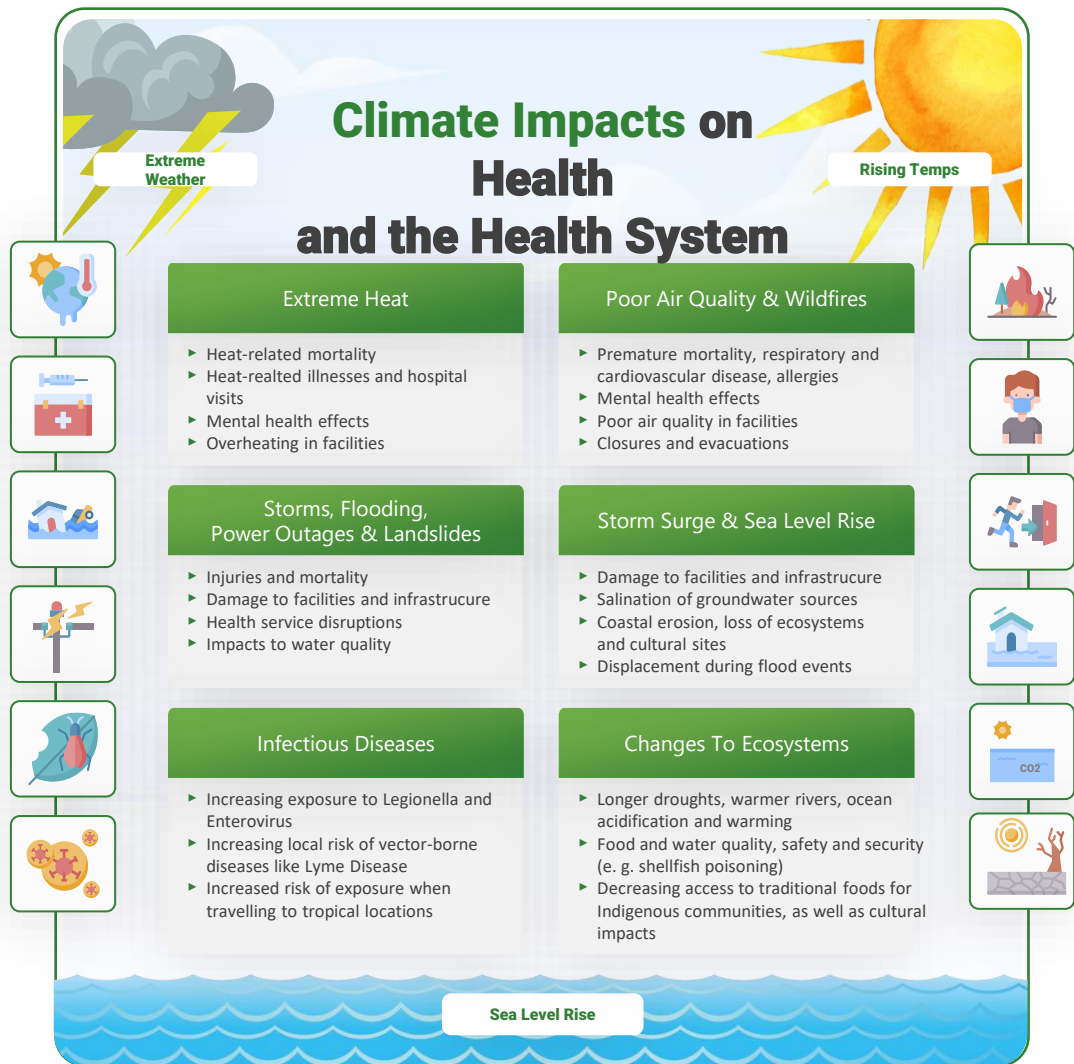
Challenges 2020, 11, 29; doi:10.3390/challe11020029

Climate Impacts on Health and the Health System

Extreme Weather

Rising Temps





The environmental footprint of health care: a global assessment

Manfred Lenzen, Arunima Malik, Mengyu Li, Jacob Fry, Helga Weisz, Peter-Paul Pichler, Leonardo Suveges Moreira Chaves, Anthony Capon, David Pencheon

Summary

Background Health-care services are necessary for sustaining and improving human wellbeing, yet they have an environmental footprint that contributes to environment-related threats to human health. Previous studies have quantified the carbon emissions resulting from health care at a global level. We aimed to provide a global assessment of the wide-ranging environmental impacts of this sector.

Methods In this multiregional input-output analysis, we evaluated the contribution of health-care sectors in driving environmental damage that in turn puts human health at risk. Using a global supply-chain database containing detailed information on health-care sectors, we quantified the direct and indirect supply-chain environmental damage driven by the demand for health care. We focused on seven environmental stressors with known adverse feedback cycles: greenhouse gas emissions, particulate matter, air pollutants (nitrogen oxides and sulphur dioxide), malaria risk, reactive nitrogen in water, and scarce water use.

Findings Health care causes global environmental impacts that, depending on which indicator is considered, range between 1% and 5% of total global impacts, and are more than 5% for some national impacts.

Interpretation Enhancing health-care expenditure to mitigate negative health effects of environmental damage is often promoted by health-care practitioners. However, global supply chains that feed into the enhanced activity of health-care sectors in turn initiate adverse feedback cycles by increasing the environmental impact of health care, thus counteracting the mission of health care.

Funding Australian Research Council, National eResearch Collaboration Tools and Resources project.

Equivalent to

5th
Highest Emitting Country

4.9%
Of Global Emissions (2.4Gt CO₂e)

THE LANCET
Planetary Health



**UN CLIMATE
CHANGE
CONFERENCE
UK 2021**




**World Health
Organization**



Steven Guilbeault ✓
@s_guilbeault



Canada has signed onto the [@WHO #COP26](#) 
initiative on resilient, low-carbon health systems.
[#climatechange](#) poses significant public health risks &
decarbonizing our healthcare systems is an important
step on the path to net-zero.

[@jyduclos](#) [@courtghoward](#)

3:06 PM · Nov 9, 2021 · Twitter for iPhone



July 26, 2021

1203648

Dr. Penny Ballem
Board Chair
Vancouver Coastal Health Authority
vch.boardchair@vch.ca

Dear Dr. Ballem: 

On behalf of Premier Horgan and the Executive Council, I would like to extend my thanks to you and your board members for the dedication, expertise and skills with which you serve the people of British Columbia.

Every public sector organization is accountable to the citizens of British Columbia. The expectations of British Columbians are identified through their elected representatives, the members of the Legislative Assembly. Your contributions advance and protect the public interest of all British Columbians and through your work, you are supporting a society in which the people of this province can exercise their democratic rights, trust and feel protected by their public institutions.

A better future through fighting climate change: Announced in December 2018, the CleanBC climate action plan puts our province on the path to a cleaner, better future by building a low-carbon economy with new clean energy jobs and opportunities, protecting our clean air, land and water and supporting communities to prepare for carbon impacts. As part of the accountability framework established in CleanBC, and consistent with the *Climate Change Accountability Act*, please ensure your organization aligns operations with targets and strategies for minimizing greenhouse gas emissions and managing climate change risk, including the CleanBC target of a 50 percent reduction in public sector building emissions and a 40 reduction in public sector fleet emissions by 2030. Your organization is expected to work with government to report out on these plans and activities as required by legislation.

Planetary Healthcare



- ▶ Reimagine Healthcare Delivery
- ▶ Embrace Anchor Institution Role
- ▶ Address Impact on Local & Global Environments
- ▶ Promote Health



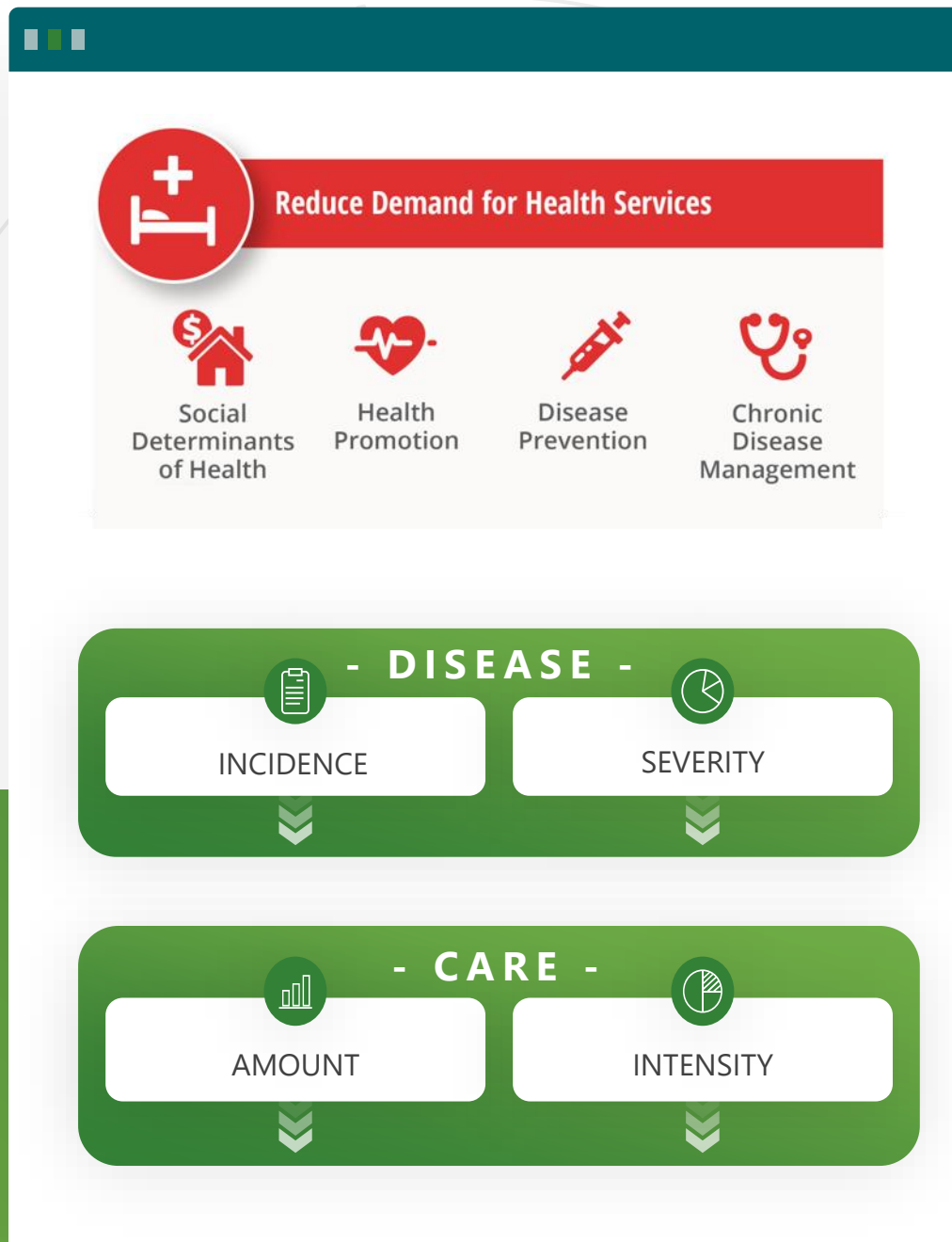
Framework for Planetary Healthcare

MacNeill A, McGain F, Sherman J.
Lancet Planet Health 2021



A Planetary Health Strategy

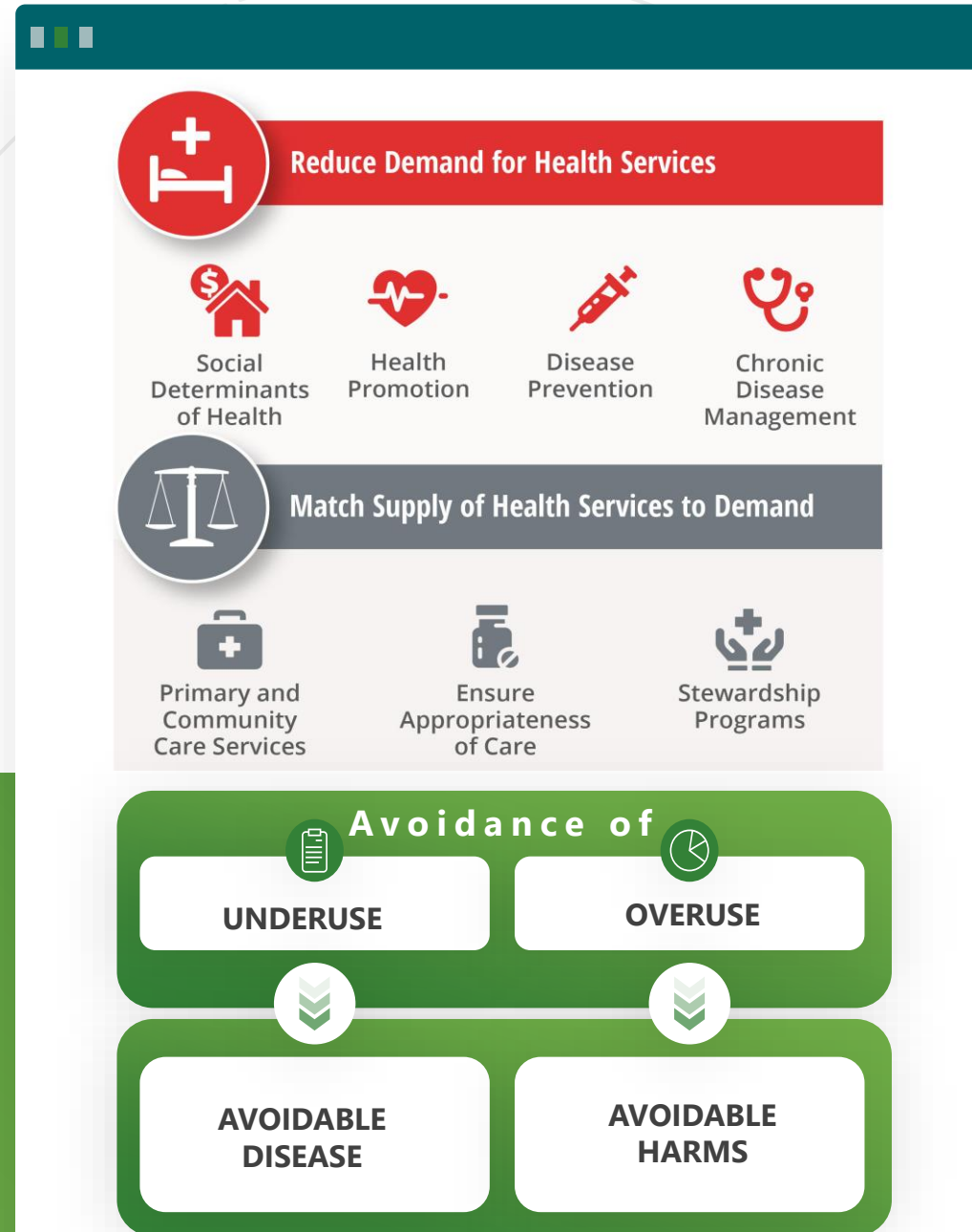
Framework for Planetary Healthcare



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A Planetary Health Strategy

Framework for Planetary Healthcare



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Lancet Planet Health 2021

Inappropriate Care

Unnecessary Investigations & Interventions



25% of care

\$100 billion/y (US)



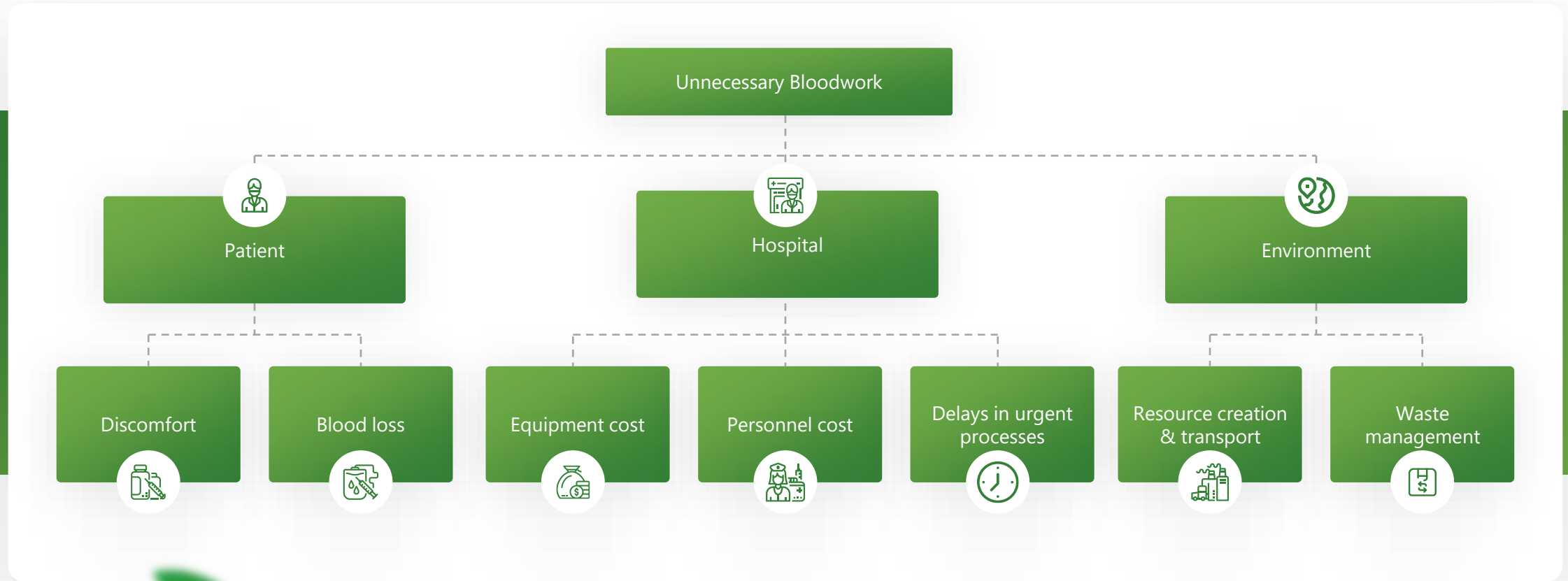
Dimension of **quality**



Arises from **system**
structure/funding and
clinician behaviours



The Burden Of Unnecessary Bloodwork



Patients Receiving Unnecessary Bloodwork



01
76%
Of Patients

02
1200
Tests

03
\$10,000

04
67 kg
CO₂e



Framework for Planetary Healthcare

MacNeill A, McGain F, Sherman J.
Lancet Planet Health 2021



A Planetary Health Strategy

Move & Connect Webinar Series

A PRESCRIPTION FOR NATURE

A FREE Zoom Talk about:

- Nature prescriptions
- Climate change & health
- Time in nature & your health

November 22, 2021 | 1:00 pm PT

REGISTER FOR FREE



DR. MELISSA LEM

SPEAKERS



Anna Cooper Reed

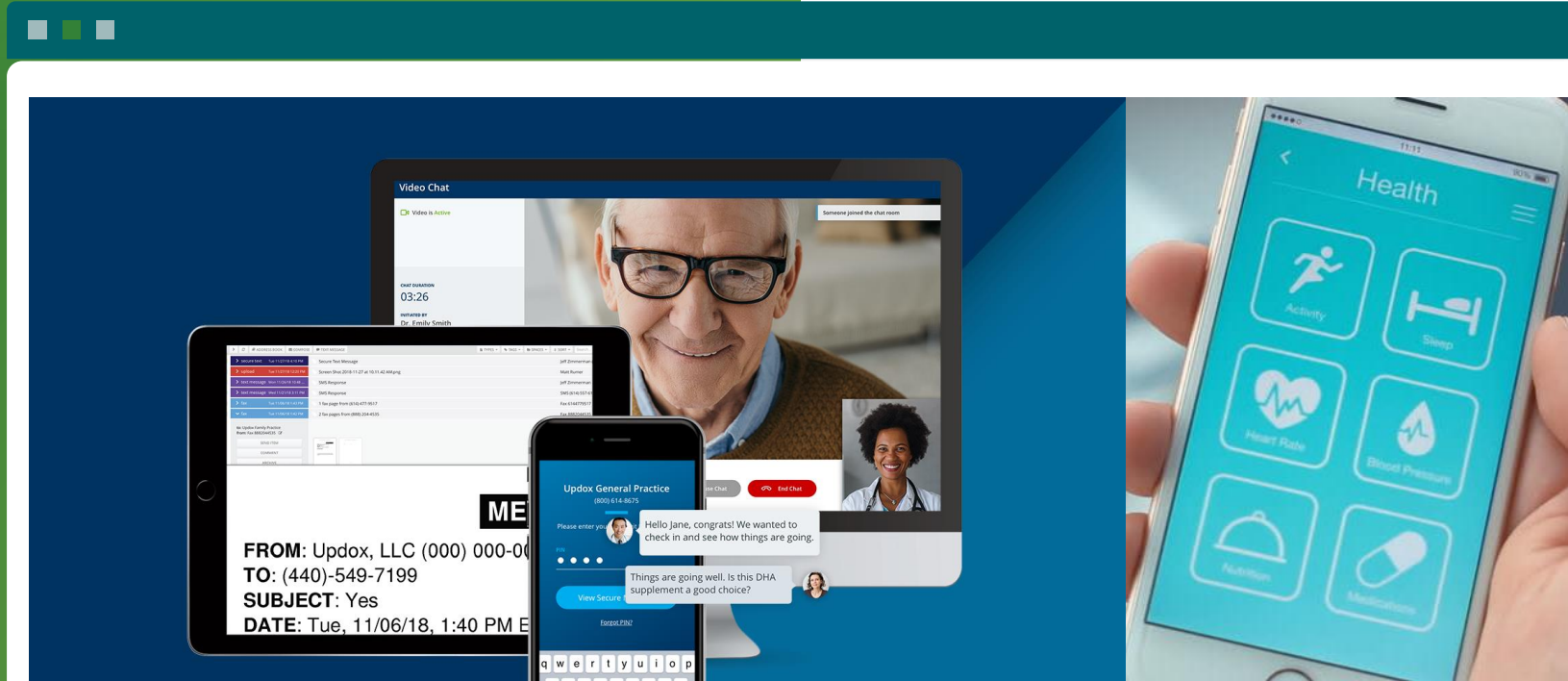


Choose
to Move

active
aging
society

BC
PARKS
FOUNDATION

PaRx
A Prescription
for Nature



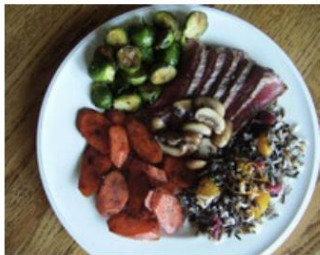
Research

JAMA Surgery | Original Investigation

Effect of Home Monitoring via Mobile App on the Number of In-Person Visits Following Ambulatory Surgery A Randomized Clinical Trial

Kathleen A. Armstrong, MD, MSc; Peter C. Coyte, PhD, MA; Mitchell Brown, MD, MEd; Brett Beber, MD; John L. Semple, MD, MSc





Food as Medicine:

Transforming hospital food systems for improved patient care and planetary health



Food as Medicine:

Transforming hospital food systems for improved patient care and planetary health



01

Hospital-wide survey of patient satisfaction with food, food preferences, traditional foods

02

Baseline study of food emissions & waste, patient experience, nutritional status & clinical outcomes

03

Trial implementation of planetary health diet with culturally-appropriate options





NOURISH
The future of food
in health care.

Food for Health Levers

Equity

Understand
Food as
Medicine

Improve
Patient &
Staff Food
Experience

Create
Health Care
Food Hubs

Build
Planetary
Health
Leadership

**Community
Well-Being**

Advance
Sustainable
Purchasing

Promote
Planetary
Health
Menus

Climate

Nourish Anchor Collaborative Cohort

Health care and community teams collaborating to impact health, equity and climate.

01

VCH Public Health

02

VCH Aboriginal Health

03

Vancouver General
Hospital

04

Planetary Healthcare Lab

05

Business Initiatives and
Support Services

06

Energy & Environmental
Sustainability





Food as Medicine



Food As Equity and Cultural Safety



Food Security



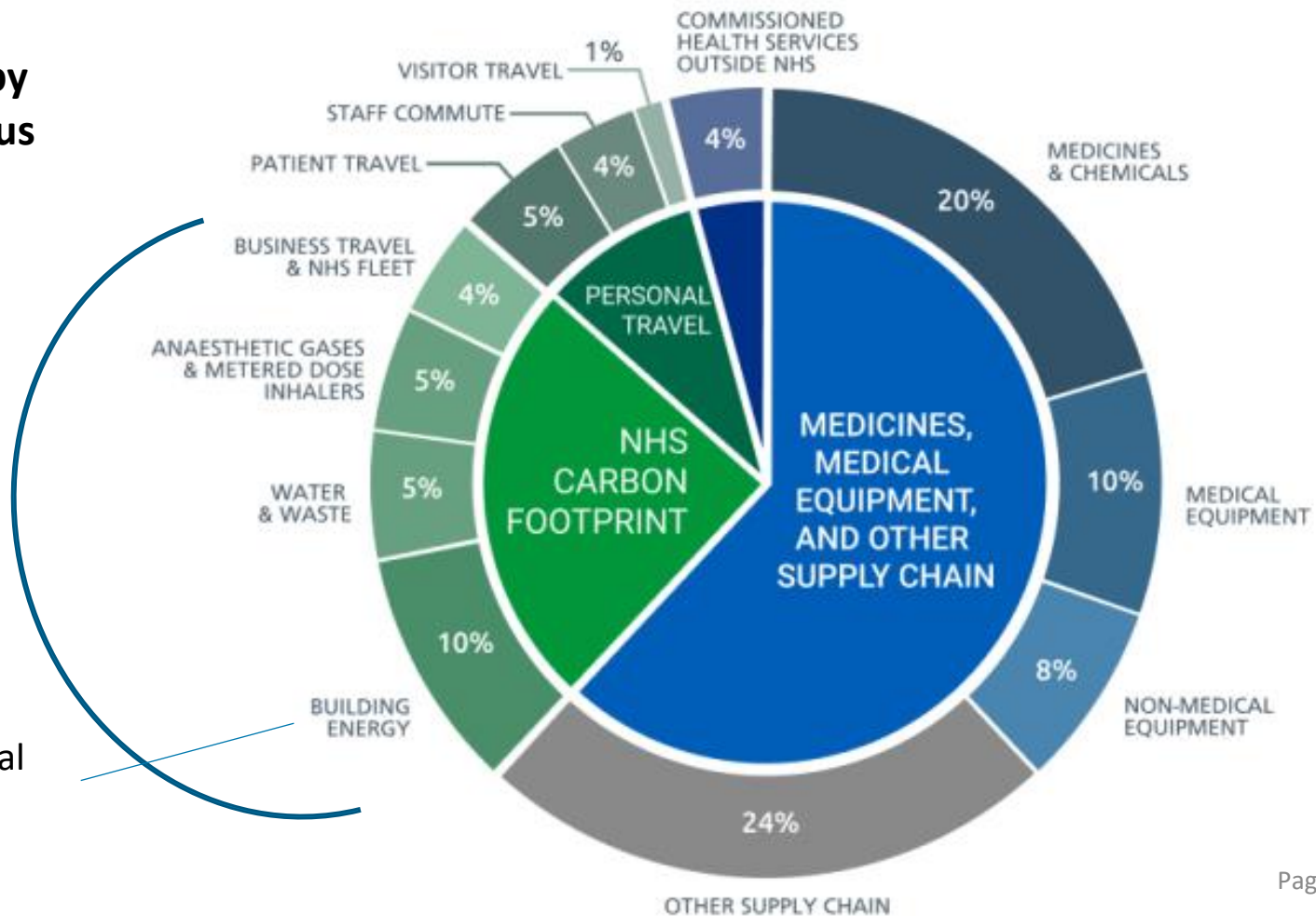
Food Literacy

Big Impact Opportunities in Supply Chain

Figure 2: Sources of carbon emissions by proportion of NHS Carbon Footprint Plus
 (Delivering a 'Net Zero' National Health Service, October 2020)

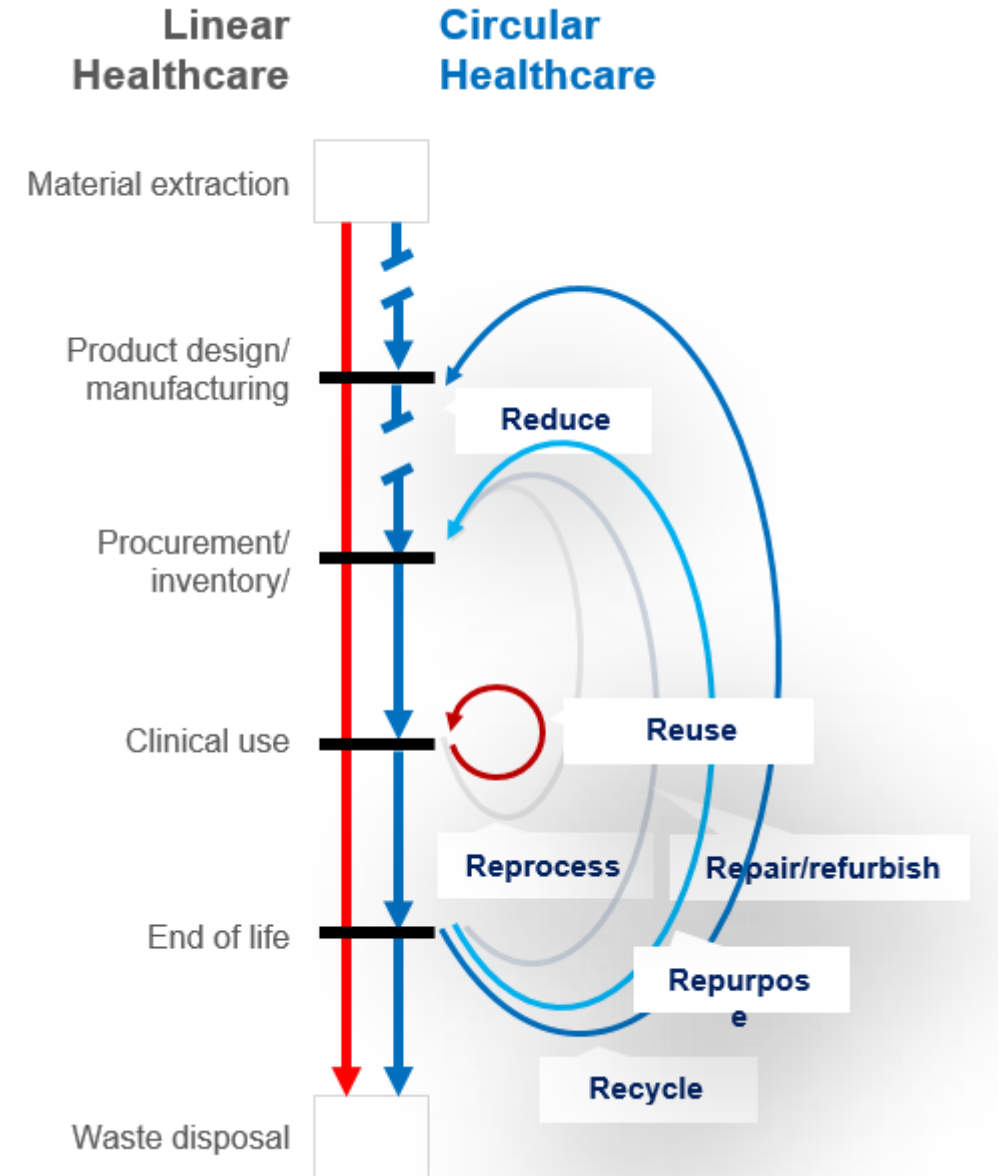
VCH currently tracks and reports annually

VCH has mandated provincial reduction targets for 2030



The shift to circular supply chain

- **90% of product emissions occur during manufacturing**
- Life cycle assessments consistently demonstrate environmental superiority and cost benefits to reusables
- *And* we want to shift our thinking beyond emissions – to environmental stewardship and resource conservation
- Solution: circular economy approach



The impact of shifting to reusables

Comparative Life Cycle Assessment of Disposable and Reusable Laryngeal Mask Airways

Eckelman M, Mosher M, Gonzalez A and Sherman J. Anesth Analg 2012.

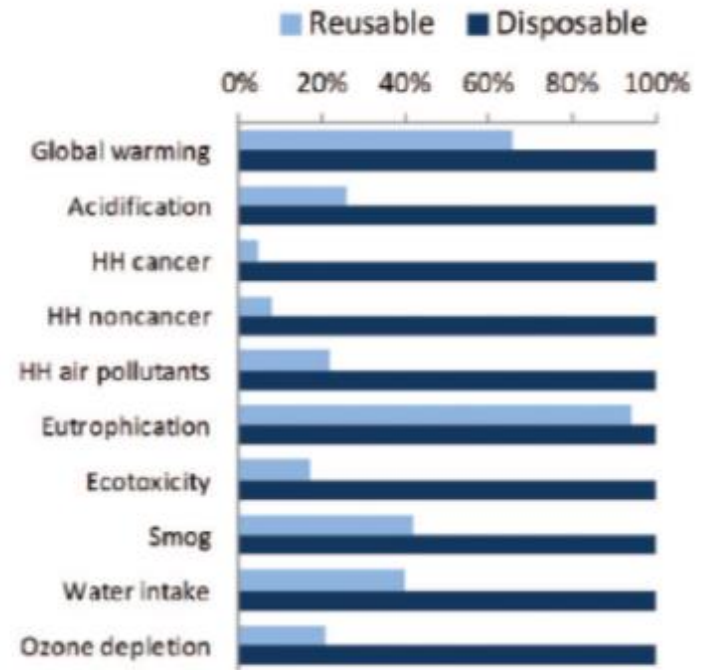


Figure 2. Comparative environmental and human health (HH) impacts for disposable and reusable laryngeal mask airways (LMA). Building for Environmental and Economic Sustainability (BEES) impact assessment method.



BC Gov News

Health

B.C. launches first accredited PPE testing lab in Western Canada

Share

News Release



Vancouver

Thursday, October 21, 2021 2:30 PM

[MEDIA ASSETS](#)



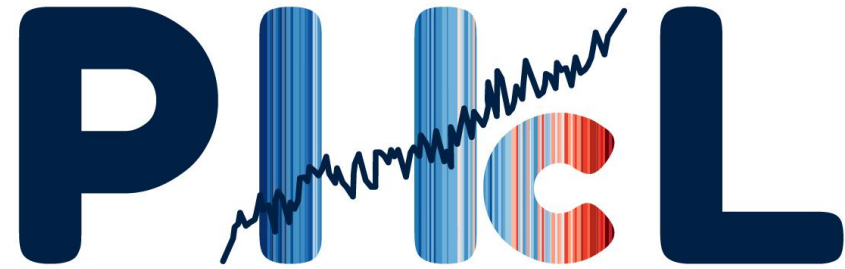
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Making the shift to circular health care

The ask: VCH make a commitment to circular health care, to reducing our emissions and waste where we have the greatest opportunity for impact and be a leader in environmental stewardship

This would include:

- Development of a circular health care strategy that prioritizes a *Reusables First* mandate across our system – clinical supplies, housekeeping and food services
- Updated procurement processes that prioritize contracting with sustainable/green suppliers (low waste and emissions manufacturing, transportation and disposal), as well as diversification of suppliers for climate resiliency
- Advocacy at the national level for regulatory changes and leveraging of purchasing power



PLANETARY HEALTHCARE LAB

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