

## I.

### Individual Actions / Stewardship Opportunities

1. **Optimize Medication Choices:** Prescribe medications with a sustainability lens – considering different medication types, administration methods, prescribing quantities, deprescribing, patient needs, and optimizing the number of refills to reduce waste emissions. When appropriate, consider non-pharmaceutical treatments. Examples include:
  - Prioritize oral (or enteral tube-based) medications over intravenous ones when appropriate to reduce waste and emissions.
  - Design order sets to prioritize these alternate medication pathways, and promptly transition to oral medications once oral diets are resumed (i.e., after surgery).
  - Engage with inpatient pharmacy teams and antimicrobial stewardship programs to identify high-yield opportunities to reduce IV medications.
  - Use lower environmental impact alternatives when possible and clinically appropriate. Examples include choosing dry powder inhalers over metered-dose inhalers (MDIs), choosing alternatives to desflurane anesthetic gas, and prescribing nature-based solutions and non-pharmaceutical treatments when applicable and clinically appropriate.
  - Design clinical decision support systems in electronic health records that support environmentally preferred options and minimize medication waste and emissions.
  - Consider prescribing a shorter initial duration (e.g., 30-day supply instead of 90) for starting new medications, before committing to a larger supply, while also considering patient costs and insurance plans that may offer lower co-pays for 90-day orders.
  - Educate patients on the importance of proper disposal of medications, including over-the-counter medications and MDIs.
2. **Engage with Telehealth:** Use telehealth for patient visits, when appropriate, to reduce patient and staff travel, emissions, and resources.
  - Consider telehealth for simple visits, such as patient follow-ups for test results.
  - Create easy pathways to simplify scheduling for telephone and video visits.
  - Encourage patients to identify adjunctive treatments closer to their home (e.g., serial imaging or lab testing, physical or occupational therapy, speech therapy, nutritional therapies, etc.), when appropriate and available, to minimize travel.
  - Consider opportunities for home-based care, including home exercise programs, as alternatives or supplements to programs that require travel.
3. **Optimize Diagnostic Testing:** Consult evidence-based practice recommendations to reduce low-value testing and treatments.
  - Avoid unnecessary testing, particularly when risks to patients and the environment outweigh the potential clinical benefits, such as performing ultrasounds instead of CT or MRI scans.
  - Reduce duplicative lab work by reviewing the need for additional testing based on past results and considering clinical guidelines (e.g., daily PT/INRs, daily labs in inpatient/ICU, and viral panels).
4. **Reduce Waste:** Implement practices that reduce waste and emissions and conserve resources while maintaining quality and patient safety.
  - Optimize resource use in clinical workflows by minimizing use of single-use plastics in clinical care when appropriate; appropriately sizing surgical, suture, or procedure kits to avoid unnecessary instruments; and conducting workflow assessments to identify hotspots where plastic waste can be minimized.

# Key Actions for Health Professionals to Advance Sustainable Health Care (cont.)

- Reconsider glove use when performing low-risk examinations on patients who do not otherwise require contact precautions (i.e., chest auscultation, musculoskeletal exams, HEENT exams, etc.). In such situations, proper hand hygiene provides sufficient protection.
  - Gauge whether patient exams can be performed in the patient's own garments; where patient garments are necessary, consider reusable options to minimize waste.
  - Become familiar with, and if necessary, re-evaluate waste disposal practices to ensure that regulated and non-regulated waste are properly separated and disposed of in the appropriate disposal bins.
  - Ensure that recyclable, reprocessable, universal, hazardous, and pharmaceutical wastes are disposed of in the appropriate bins, when available.
  - Reduce printing waste by using digital tools and electronic health records. Re-evaluate the use of disposable paper products, such as exam table paper, when clinically appropriate.
5. **Assess Personal Protective Equipment (PPE) Use:** Minimize overuse and inappropriate use of PPE while prioritizing staff and patient safety.
- Use organizational protocols and consultations with infection control to determine when contact precautions can be safely discontinued and remove contact precaution signage and materials to avoid unnecessary use.
  - Collaborate with infection control staff to determine settings and situations for using reusable PPE.

## II.

### Health System-Level Actions

#### 1. Support Institutional Programs

Participate in institutional initiatives to reduce waste and emissions. Examples include reducing the use of single-use plastics in clinical care, supporting waste reduction initiatives, increasing medical device reprocessing, integrating sustainability into contracting and procurement processes, and reducing emissions related to employee commutes, such as promoting public transit, biking, online meetings, and consolidated work schedules.

#### 2. Promote Sustainable Procurement

Identify and encourage procurement from vendors who prioritize sustainability efforts. Such vendor efforts could include reuse, refurbishment, and single-use device reprocessing programs; use of recycled materials; electronic instructions for use; and clear product labeling for disposal pathways and recycling.

#### 3. Educate on Climate, Health, and Health Care

Leverage the trust people have in health professionals to educate peers, trainees, and patients on the health impacts of climate change, how climate and health care intersect, and what opportunities exist to reduce the climate impact of health care delivery.

#### 4. Integrate Climate Resilience into Care

Incorporate climate resilience into care plans of patients at higher risk by considering how climate hazards, such as extreme heat, can impact their health conditions and ensure they are prepared for disruptions in care. Encourage organizational leaders to develop and release a climate resilience plan for continuous operations, anticipating and incorporating the expressed needs of groups in the community that experience disproportionate risk of climate-related harm.

See the full National Academy of Medicine resource: [nam.edu/ClimateCollaborative](https://nam.edu/ClimateCollaborative)