Questions

Q1 Reducing Environmental Impact in Medicine

Which *one* of the following statements about environmental impact in primary care is *false*?

- ❍ 1. Building energy accounts for most of the environmental footprint in primary care.
- ❍ 2. Long-acting reversible contraceptives offer environmental benefits compared to combined oral contraceptives.
- ❍ 3. Insulin causes more environmental pollution than oral medication.
- ❍ 4. Dry-powder inhalers have lower environmental impact than metered-dose inhalers.

Educational Point: The health care system contributes to environmental harms and is responsible for 4.6% of greenhouse gas (GHG) pollution in Canada. Interestingly, most of this pollution is generated not within facilities, but upstream in the supply chain. Pharmaceutical manufacturing, for example, is highly energy intensive and resources are used at every stage of production, packaging, transportation, and disposal. In an analysis from the United Kingdom, **medications accounted for 61% of the environmental footprint in primary care, far exceeding other traditional targets for environmental action such as personal travel or building energy.** Since many pharmaceutical ingredients remain active after disposal or metabolism and excretion by the body, medications also lead to contamination of air, water, and soil. Antibiotics released into the environment contribute to antimicrobial resistance, which is predicted to cause 10 million deaths per year by 2050. For family physicians, appropriate use of medications is an important way to reduce the environmental impacts of clinical practice.

For many conditions, a nonpharmacologic approach is the recommended first-line treatment. Nonpharmacological options include exercise and diet, physical therapies, mental health counselling, and nature or social prescribing.

In cases where medications are indicated, there are often more sustainable options that offer similar or superior patient outcomes. **Long-acting reversible contraceptives (LARCs), for example, have patient and environmental benefits compared with combined oral contraceptives (COCs).** LARCs are safer, more effective, economical, and convenient for patients, and they can reduce refill visits for providers, and some can reduce menstrual flow and the need for sanitary supplies. Oral medications typically have a lower environmental impact than parenteral medications and avoid the need for extra supplies and visits. **The use of insulin to manage diabetes, for example, causes substantially more environmental pollution than oral medication.** As discussed in a previous article in this series, **dry-powder inhalers have a much lower environmental impact than metered-dose inhalers (MDIs).**

One family physician can have a large environmental impact while also improving patient outcomes, minimizing costs for patients and the health care system, and reducing provider workload through fewer refill visits, less monitoring, and fewer complications.

The correct answer is 1.

Overuse alert!
This practice question aligns with Choosing Wisely Canada's Climate recommendations. and the Canadian Thoracic Society recommendation: *Don't prescribe greenhouse gas-intensive metered-dose inhalers (MDIs) for asthma and/or COPD where an alternative inhaler with a lower carbon footprint (e.g. dry powder inhaler (DPI), soft-mist inhaler, or MDI with a low greenhouse gas potential propellant) containing medications with comparable efficacy is available, and where the patient has demonstrated adequate technique and patient preference has been considered.*

Reference: Hale I, Green S, Nowlan J, Lam I. Reducing the environmental impact of medications and improving patient outcomes using the ECO-Rx framework. *Can Fam Physician*. 2026 Apr;72(4):233-238.
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