

Assessment

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Environmental sustainability in health technology assessment: an analysis of the activities of Canada's Drug Agency and the England's NICE

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Abstract

Objectives: Medicines and devices have significant negative impacts on the environment. Increasingly, Health Technology Assessment (HTA) agencies, which inform healthcare decision making, are expected to integrate environmental issues into their assessments. This study assessed how HTA agencies have responded to these calls, with a focus on two national agencies that have committed to this agenda.

Methods: This descriptive study was conducted using document review. All relevant documents from both agencies were systematically collected and analyzed using descriptive statistics and content analysis.

Results: Thirty documents (2015–2024), from Canada's Drug Agency (CDA) (17) and England's National Institute for Health and Care Excellence (NICE) (13) that included environmental considerations were analyzed. Although no HTAs have assessed environmental data, primarily due to a lack of data and methods, documents demonstrate that CDA and NICE are employing varied strategies to incorporate environmental considerations through technology guidance. The agencies demonstrate both differences and similarities in approach: NICE focused on carbon and the use phase, whereas CDA focused on multiple environmental impacts across the lifecycle; both agencies are beginning to address the environmental impacts of devices, but there is a notable absence of medicines-related work.

Conclusions: This study demonstrates that the agencies are exploring alternative strategies to elevate attention to the environmental impacts of health technologies. Differences in focus (e.g., whether to prioritize carbon emissions) and shared inattention to medicines point to deeper tensions. Thus, although both agencies have taken important steps forward, much work remains to fully address the environmental harms of health technologies.

Background

The provision of health care, particularly medicines and medical devices, produces significant environmental harms, namely carbon emissions, ecotoxicological pollution, and plastic waste (1). The health sector's contribution to climate change is estimated at 4.6 percent of global greenhouse gas emissions (2), approximately 25–35 percent of which derives from drugs and devices across their lifecycle (including resource extraction, manufacturing, transport, use, and disposal) (3;4). Pharmaceutical consumption, through prescription and over-the-counter medicines, produces significant ecosystem pollution through the release of thousands of active pharmaceutical ingredients into waterways (5;6;7). Plastics are common components for health technologies, including devices, single-use items, and packaging. These all contribute to environmental harms, including carbon emissions, microplastics, and chemical pollution (4;8). Waste is also a significant harm from plastics, with studies reporting 25–30 percent of healthcare waste is from plastics (9;10). In this context, it is unsurprising that agencies charged with supporting the evidence-informed use of health technologies – test, device, medicine, vaccine, procedure, program, or system (11) – have become increasingly interested in incorporating environmental considerations into their evaluative processes. Health Technology Assessment (HTA) is a multidisciplinary activity that seeks to assess a health technology's "value" in order "to promote an equitable, efficient, and high-quality health system" (12, p. 188). Informing healthcare decision making is a central function, including coverage and reimbursement decisions and clinical and policy guidelines for public or private payers, or care providers (13;14). For many proponents of an environmental role for HTA, addressing the substantial climate and environmental impacts of drugs, devices, vaccines, and other technologies is a logical next step for a field committed to public health and health equity (15;16).

The growing interest in integrating environmental sustainability into HTA is evident in the burgeoning academic scholarship in the field. Numerous journal articles published in recent years – including commentaries and conceptual work (13;17;18;19;20;21), literature reviews (14;22;23;24), and empirical research (25;26) – have provided suggestions on how to incorporate environmental considerations into HTA.

Much of this literature is conceptual in nature, focusing on HTA methods and assessment processes. For example, much scholarship aims to develop rigorous and fulsome economic evaluation methods to quantify environmental impacts and incorporate them into decision making (13;14;17;20). As well, conceptual scholarship explores the processes HTA agencies can use to formally incorporate environmental considerations (20;21). For example, Toolan et al. (20) described four approaches to incorporating such evidence. Although “integrated evaluation” whereby environmental data are fully integrated into the assessment might be the gold standard, they suggest that other opportunities exist, including an “information conduit” approach. This is the simplest but also the least rigorous approach, involving “republishing environmental data that is in the public domain or has been submitted to the HTA agency (e.g., by a manufacturer) without further assessment” (20, p. 2). Meanwhile, a growing body of reviews and empirical studies identify how HTA agencies are approaching this work, and the challenges they face in doing so. Reviews, for example, point to the lack of disaggregated environmental data for single technologies, the difficulty in conducting full lifecycle assessments (14), and challenges with mobilizing the myriad established evaluation methods (24). Empirical work, such as a recent case study (25), provides an illustrative example of how carbon footprint data can be integrated into an HTA. Meanwhile, an international survey of HTA stakeholders suggests that few HTA organizations are currently engaged in efforts to formally integrate environmental considerations, noting evidence scarcity, data collection challenges, and lack of expertise and resources as key issues (26). Work to date, with its emphasis on economic evaluation and assessment, suggests a gap in understanding the full scope of actions that HTA agencies might take to address the environmental impacts of health technologies and motivated this study.

As noted in the literature (18;20;26), Canada’s Drug Agency (CDA) (in 2023, CADTH changed its name to CDA-AMC. For consistency, in this article, we use CDA to refer to the agency. CADTH is used if directly quoting a title or source containing the acronym; CDA, formerly CADTH, is an independent, not-for-profit organization responsible for providing Canada’s healthcare decision makers with objective evidence to help make informed decisions about the optimal use of drugs and medical devices for the Canadian healthcare system (www.cda-amc.ca) and the UK’s National Institute for Health and Care Excellence (NICE) (NICE helps UK practitioners and commissioners get the best care to patients, fast, while ensuring value for the taxpayer. NICE evaluates new health technologies for NHS use, considering clinical effectiveness and value for money. It also produces useful and usable guidance, helping health and care practitioners deliver the best care (www.nice.org.uk)). It has made strategic commitments and published the most documentation incorporating environmental considerations into HTA. For this reason, we decided to focus this study on these two agencies.

Objectives

The objectives of this document review were to understand how environmental considerations are being identified, prioritized, and actioned by HTA agencies, with a focus on CDA and NICE, who have demonstrated clear commitments to this agenda.

Methods

This document review included the systematic identification, collection, and analysis of all CDA and NICE publications that included environmental considerations for health technologies.

Search strategy

We searched for documents from CDA and NICE on (i) both agencies’ web sites, (ii) Google Scholar, (iii) Scopus, and (iv) PubMed. The search terms consisted of environment*, sustainab*, carbon, waste, pollution, contamin*, emission*, resources, recycl*, climate change, disposal. The search was conducted on 15 March 2024 and updated on 6 December 2024. No timeframe restrictions were applied.

Inclusion and exclusion criteria

Any type of document or publication produced by CDA or NICE was included. Journal articles were included if authors listed CDA or NICE as their primary affiliation, and the article’s objective was to advance the agency’s work on environmental sustainability and HTA. We did not include documents where information about the environment was restricted to the background section or if the environment was discussed generally (not specific to the topic of the document). As well, we did not double count; thus, if a document referenced another document produced by NICE or CDA, we only counted the original source.

Data collection

We collected data on (i) document and evidence use (type of agency publication, e.g., review or guidance and how evidence was used, e.g., assessment, informative); (ii) environmental impacts (e.g., type of environmental impacts and lifecycle phase); and (iii) health technology type (e.g., medical devices, medicines).

Data analysis

We used quantitative analysis to analyze the characteristics of the documents in terms of counts and percentage of occurrence and produced descriptive statistics. We also created document-type categories, based on the type of document and purpose, to characterize the included documents. We used content analysis to identify salient content, concepts, and key excerpts in the document text (27;28). For the technology guidance document analysis, we also used quantitative and content analysis to identify and count: (i) the types of environmental impact information included and (ii) where within the product lifecycle the environmental impact occurred. We used an Excel spreadsheet to facilitate data analysis and reporting.

Results

We identified and analyzed 30 documents from CDA ($n = 17$) (17;29-44) and NICE ($n = 13$) (14;45-56) that included environmental considerations for health technologies; all were published

between 2015 and 2024. NICE produced the first document in 2015 but did not publish it again until 2021. CDA published documents every year since 2016 (except 2020), with their most publications ($n = 6$) in 2023. The majority of documents (73 percent) have been published since 2022.

Broad range of documents includes environmental considerations

Both CDA and NICE have mobilized numerous types of activities to acknowledge and begin to address environmental considerations for health technologies. Documents produced include strategic visioning commitments and plans, methodological development reports, technology guidance, policy guidance for decision makers, and general communications regarding incorporating environmental considerations. We created six document-type categories, based on the type and purpose of the publication, and organized the 30 documents into these categories: strategic visioning, methodological development, technology guidance, policy guidance, and communications. The category description, an example from included documents, and the number of documents from each agency are detailed in [Table 1](#). (See [Supplementary File 1](#) for the complete list of included documents.)

Strategic visioning

Our review identified 5 strategic visioning documents detailing the agency's vision and plan for incorporating sustainability and environmental considerations into HTA processes and products, including strategic plans, journal articles, and board presentations (CDA = 2, NICE = 3). For NICE, their strategic commitments include being a global leader in reducing the carbon footprint of health care:

Lead globally on the potential to include environmental impact data in our guidance to reduce the carbon footprint of health and care.... We are widely recognised by our peers as being a global leader in patient and public engagement; promoting access to our underpinning reviews and analyses; and in our approach to considering environmental impact. (45)

For CDA, their strategic commitments concern the inclusion of broader perspectives in HTA, including, but not restricted to, environmental considerations:

Adapt our methodologies and our analyses to include additional perspectives and considerations, including equity, environmental, and patient perspectives....CADTH will also assess how technologies impact the environmental footprint of health systems. (29)

Table 1. Summary of included documents by document-type categories

Type	Description	Example	CDA no.	NICE no.
Strategic visioning				
	Strategic communications outlining strategy or priorities regarding incorporating environmental considerations for HTA, including strategic plans and relevant journal articles	CDA. Ahead of the Curve: Shaping Future-Ready Health Systems 2022–2025 Strategic Plan	2	3
Methodological development				
	Methodological or process documents detailing potential, planned or proposed approaches to address environmental considerations for HTA, including proof of concept, prioritization exercise and relevant journal articles	NICE-wide topic prioritisation: the manual NICE process and methods [PMG46]. 2024	2	3
Recommendations or decisions to bind NHS or authoritatively inform CDA				
	Assessments, reviews, or guidance where environmental data are assessed, evaluated, or appraised as part of a decision or recommendation regarding a specific health technology, including reimbursement reviews, technology appraisals guidance, etc.	None	0	0
Technology guidance ^a				
	Reviews or guidance for a specific health technology, including rapid health technology reviews, medical technologies guidance, patient decision aid, evidence summary, guidelines	CDA. HTR – Rapid Review – Reprocessed Single-use Semi-critical and Critical Medical Devices. 2024	11	4
Policy guidance				
	Documents providing information or policy guidance for decision makers to provide substantive support on environmental issues for HTA, including a horizon scan and a deliberative public engagement dialogue report	NICE Listens: Public dialogue on environmental sustainability. 2023	1	1
Communications				
	Broad, public communications on actions or information regarding environmental considerations for HTA, including webpage, seminar, and response letters	NICE. Response Letter from NICE to the UK Health Alliance on Climate Change re: NICE's lack of urgency to act on environmental sustainability. 2024	1	2
Total			17	13

^aThese documents include references to environmental impacts, but these data are not assessed, evaluated, or appraised for recommendations or decisions.

Methodological development

The methodological development category includes both agency reports and journal articles outlining high-level plans or proposals for potential inclusion of environmental impacts (CDA = 2, NICE = 3); neither agency has published a finalized evaluative framework or methodology.

For example, CDA's *Deliberative Appraisal Processes in Health Technology, Environmental Scan* (30) includes environmental considerations as an assessment domain, reporting in the "Environmental Considerations" section a summary of recent literature identifying potential frameworks or methods, but cautions against their use: "Given the additional effort required to incorporate these considerations [environmental impact of health technologies], care should be taken in determining in what contexts this additional effort is warranted (Polisena et al., 2018)" (30, p. 46). Since its publication in 2021, this framework has yet to be operationalized.

In 2024, NICE published their *NICE-wide topic prioritisation: the manual NICE process and methods [PMG46]*. (49) The manual details the agency's commitment to implementing an organization-wide approach to topic prioritization, with the environmental sustainability domain included within this prioritization framework:

Where there is appropriate evidence or intelligence, the impact of the wider determinants of health (such as social, economic and environmental factors) on health outcomes will also be considered during the deliberations of the NICE prioritisation board. (49)

In addition, both agencies have published journal articles exploring methodological approaches and processes. In 2022, Pinho-Gomes and colleagues (14) published a scoping review with the objective to summarize the evidence on incorporating environmental considerations into HTA to support NICE and "analogous bodies in other jurisdictions." The authors report that there is "uncertainty on how HTA and guideline committees will handle trade-offs between health and environment, especially when balancing environmental harms that fall largely on society with health benefits for individuals." (14, p. 1) Similarly, in their 2018 scoping review to inform CADTH's work to incorporate environmental considerations, Polisena et al. (31) reported that although there are some similarities in approaches – prioritizing transparency, repeatability, and integration of evidence – the available HTA frameworks are not unified in foci and objectives. The article concludes that more work is needed to understand the task and develop effective processes and methods to support the integration of environmental considerations into HTA.

Recommendations or decisions to bind the National Health Service (NHS) or authoritatively inform CDA

Although both agencies produce a diverse array of reviews and guidance that assess clinical and cost-effectiveness and make evidence-based recommendations or evaluate medical technologies, to date, none of these reports include an assessment of environmental data.

Technology guidance

CDA has produced 11 reviews, and NICE has produced four guidance documents that include environmental information related to specific health technologies. Although these resources include evidence on environmental impacts, such evidence is not assessed; rather, it is presented as the product of published research or as the claim of the manufacturer. The included information on environmental impacts is not used to develop recommendations or decisions to bind the NHS or authoritatively inform CDA (Table 2)

Table 2. Health technologies subjects

Agency	Health technology subject	Number
CDA Health Technology Reviews		
	Iodinated contrast media	2
	Nonsterile glove use	1
	Autoclave sterilization	1
	Aerosol therapy with inhalers during medical ventilation	1
	Ventilator circuit tubing	1
	Single-use semicritical and critical medical devices	1
	Wearable artificial kidneys	1
	Obstructive sleep apnea interventions	1
	Community water fluoridation programs	1
	Amalgam dental restorations	1
NICE Guidance		
	Anesthetic gases	2
	Asthma inhalers	2

Environmental impacts

For these technology guidance documents, we identified the types of environmental impacts included and where these impacts are located across four stages of the product lifecycle: R&D/production, supply chain, use, and end of life (CDA = 11, NICE = 4) (Figure 1).

Carbon emissions ($n = 8$) were the most frequently identified environmental impact, followed by waste disposal ($n = 7$) and water pollution ($n = 5$). End of life ($n = 12$) followed by the use phase ($n = 10$) was the most common lifecycle phase identified for the environmental impacts. When analyzed by the agency, the figure shows that CDA's reviews have incorporated six different environmental impacts across the product lifecycle. Comparatively, NICE's Guidance, in fewer publications (inhalers for asthma management and anesthetic gases), focused almost exclusively on use phase carbon emissions (the waste disposal guidance is regarding proper disposal of inhalers) (Table 3)

NICE has included the carbon emissions from a medicine (desflurane evidence summary, patient decision aid for inhalers, asthma management guideline), and CDA has included both the carbon emissions of a medicine (aerosol therapy with inhalers during medical ventilation) and the chemical pollution and water pollution from some health technologies (Table 3), but neither agency has addressed the ecotoxicological impacts of active pharmaceutical ingredients in these technology guidance documents.

Policy guidance

Each agency has recently published documents that we characterized as policy guidance to provide substantive support to decision makers on environmental issues in health care (CDA = 1, NICE = 1). The *NICE Listens: Public dialogue on environmental sustainability* (46), a deliberative public engagement exercise, explored whether the public supports the inclusion of environmental considerations in HTA. The exercise identified strong public support for sustainability initiatives, especially those reducing NHS burdens. Participants agreed that NICE should prioritize sustainability if it does not compromise care quality and access, and they supported environmental considerations

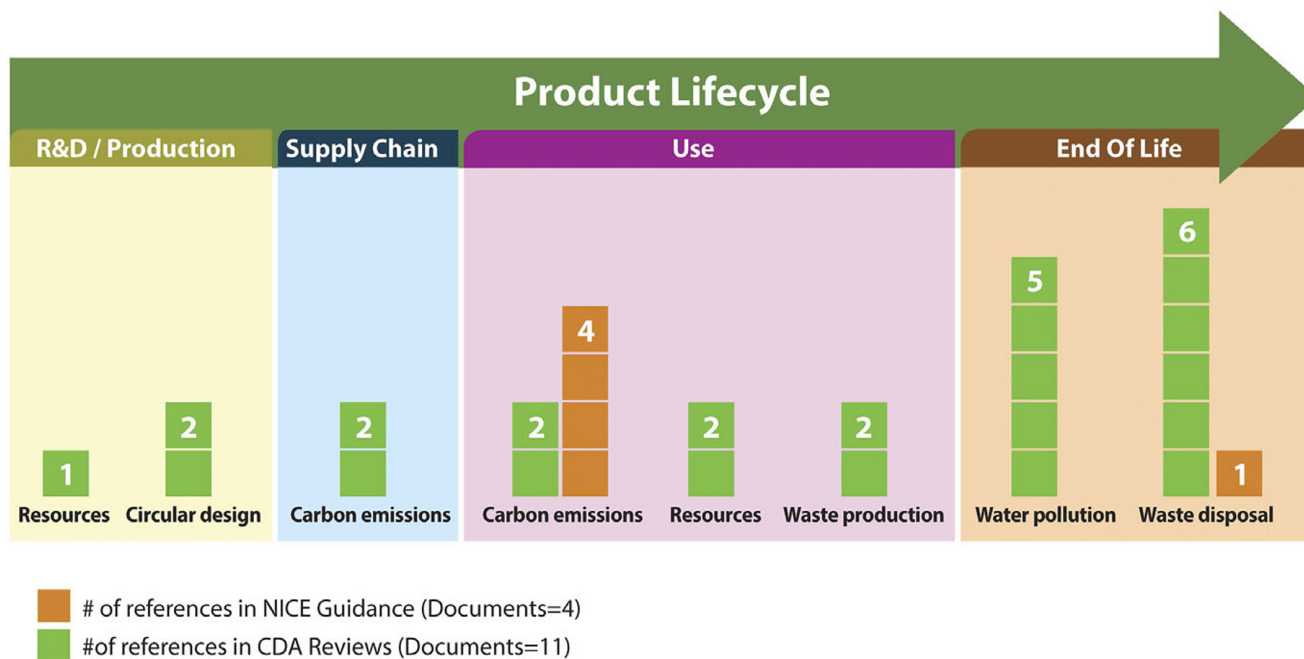


Figure 1. Environmental impacts across the lifecycle.

Table 3. Environmental impact references in technology guidance

Stage of product lifecycle	Environmental impact	Example excerpt from document
R&D/production	Resources	<i>The iodine used in ICM is a nonrenewable mineral resource (77). (36)</i>
	Circular design	<i>Given the potential economic and environmental benefits of using reprocessed SUMDs [single-use medical devices], (9–12) yet limited guidance for hospitals to pursue onsite SUMD reprocessing, there is a growing interest in determining the clinical safety of reprocessed SUMDs. (41)</i>
Supply chain	Carbon emissions	<i>Exploring alternative procurement practices, such as placing larger orders requiring less frequent delivery of critical medical supplies with long shelf lives, may enhance supply chain viability. These practices may also have some environmental benefits worthy of exploration when considering the fossil fuels required for their transcontinental delivery. (36)</i>
Use	Carbon emissions	<i>Desflurane has a global warming potential 2,500 times greater than carbon dioxide, which is significantly higher than alternative volatile anaesthetic agents (Sherman et al. 2012). (52)</i>
	Resources	<i>Concerns about the environmental impact of dialysis — in particular, the energy requirements, water use, and disposables involved — have led researchers in some countries to explore “green dialysis.”(65;66) (32)</i>
	Waste production	<i>Recent calls to reduce NSG [non-sterile glove] use cite overuse and consequent cost implications, occupational skin disease, medical waste, and environmental contamination as rationale for advocating appropriate glove use. (14,15) (38)</i>
End of life	Water pollution	<i>Whereas mercury has been established as a chemical that is persistent, bioaccumulative, and toxic, the relative small contribution of mercury into the Canadian ecosystem from its use in dentistry, as well as the over-time declines in its use, suggest that the potential impact on the environment is much less than from other sources. (34)</i>
	Waste disposal	<i>Even when there is no medicine left, metered dose inhalers and breath-actuated inhalers still contain propellant (gas). If you just throw them away or put them in home recycling, this will leak out over time. (51)</i>

in healthcare decisions, provided patient choice and safety were maintained.

CDA’s Horizon Scan, *Reducing the Environmental Impact of Clinical Care (43)*, was published to provide support to decision makers to identify opportunities to reduce health care’s environmental impact. The report states it is a resource that:

...summarizes emerging activities that aim to improve the environmental sustainability of clinical care and help mitigate climate

change. It signals to decision-makers opportunities to reduce health care’s environmental impact, including ensuring the appropriate use of health care, reducing unnecessary health care, and rethinking and researching what and how health care is provided. (43)

Communications

The documents we characterized as communications (CDA = 1, NICE = 2) include a webpage, a public response letter, and a public

seminar. NICE includes a “Sustainability” (55) webpage under “Who we are” on their web site. By contrast, CDA does not have a dedicated page nor explicitly addresses sustainability or environmental impacts on its public-facing web site.

Discussion

This study aimed to assess how environmental considerations are being identified, prioritized, and actioned by the two national HTA agencies that have clearly committed to this agenda: the CDA and the UK's NICE. This study leverages a comprehensive document review to provide an in-depth analysis of the agencies at the forefront of this work and offers insights into how they are grappling with the challenges that this new agenda poses. First, our inquiry adds new insights into the field by extending the scope of HTA activities analyzed and identifying multiple ways in which these agencies have begun to address the significant climate and environmental impacts of health technologies. Second, our in-depth review of the technology guidance documents reveals important differences and similarities in the approaches taken, including the dominance of the information conduit approach to incorporate environmental information. Third, the results illustrate that the agencies differ with respect to the types and approaches to the environmental impacts prioritized. Finally, despite these important differences, we also show concerning similarities, as both agencies have focused on devices, leaving the ecotoxicity impact of medicines, are largely unaddressed.

First, our review identifies the growing efforts by CDA and NICE to advance their sustainability agendas, evidenced by the 30 included documents, the majority of which were published in the last two years. Although our results align with the literature in reporting the infancy of methodological development and absence of HTAs that assessed, evaluated, or appraised environmental data (24;26), we add insights through the analysis of six diverse activity types – from strategic plans to technology guidance to policy guidance. The broad scope of our review extends HTA scholarship (13;14;17;20), as strategic, policy, and informational work has not been analyzed in previous literature. Although representing a small percentage of included documents, the inclusion of environmental considerations into strategic and policy guidance shows that sustainability is a priority for the agencies and signals recognition that addressing environmental harms fosters long-term organizational resilience and supports the delivery of high-quality care. Policy guidance type reports can be responsive resources meeting decision makers' informational needs regarding “system-wide challenges” and help them “anticipate the direction taken by fast-moving innovations and their impact on health and social care systems” (57, p. 5). The CDA's Horizon Scan (2023) advocates that “productive dialogues across stakeholders involved in clinical interventions and devices can point to and advance shared goals, and deliver cost-effective, clinically effective, and environmentally sustainable health care. This includes opportunities...to rethink how and where clinical care is delivered, and rethink the design of medical devices to become more environmentally sustainable” (43, p. 16). The strategic and policy documents illustrate commitment and prioritization and demonstrate that, although evaluation of specific technologies is necessary, HTA agencies can also offer critical guidance to provide both warrant and direction as healthcare actors and decision makers aim to engage with the sustainability agenda.

Our review offers an analysis of the technology guidance documents, which represent important, alternative evidentiary contributions. These documents can be characterized as leveraging what

Toolan et al. have characterized as the information conduit approach (20). Although this approach, of citing or republishing without assessing, has been described as the easiest and least rigorous, these documents still signal an important effort by the agencies to broaden their scope of activities in efforts to meet their strategic priorities in this area. Our review extends the scholarship on HTA, as these documents were not included in recent reviews of HTA activities (24;26). For example, a recent scoping review on methods to include environmental impacts in HTAs and economic evaluations used Toolan's four approaches to categorize their data and reported that no publications used the information conduit approach (24). Similarly, Bobini and Cicchetti's (26) recent survey of HTA activities was restricted to formal evidence review processes (e.g., CBA, CUA, MDCA) and did not explore nonassessment HTA activities. This broader sample of work demonstrates that the information conduit approach has been taken up by the agencies in recent years as a viable method to incorporate environmental considerations into HTA activities.

In addition, through our analysis of these technology guidance, we provide details and context on the environmental impact priorities of CDA and NICE. NICE's recent guidance documents – patient decision aid on inhalers, desflurane evidence summary, asthma management guidance – align with the NHS's focus on reducing carbon emissions from the provision of health and care. These guidance documents are focused on the use phase of high carbon-emitting products, and this use phase focus also highlights that NICE's prioritization of carbon emissions has not yet extended to emissions from production, supply chain, disposal, or waste disposal phases. A carbon focus, particularly to the exclusion of other environmental impacts, has been critiqued in the literature (58;59). The review documents produced by CDA demonstrate that the agency has not prioritized carbon and use phase in the same way, as they include eight different environmental dimensions at numerous phases of the product lifecycle (e.g., R&D/production, supply chain, use, end of life). Unlike NICE, CDA's rationale behind their approach is not explicitly described, but the agency does discuss the importance of the technology's lifecycle approach in their Horizon Scan (2023): “Understanding the environmental impact of a clinical intervention or medical device typically requires considering its life cycle (i.e., from resource extraction through to disposal) across different metrics (e.g., water use, energy use, pollution, and carbon emissions)” (43, p. 15). In addition, our analysis highlights an important focus on health technologies currently in use (not new products) as all of the included technology guidance addresses health technologies that are already on the market, for example, MDI inhalers, anesthetic gases, and nonsterile gloves. This approach may represent a broadening of scope, as HTAs are typically for new products and HTA agencies have been critiqued for this focus, particularly as almost all of the current environmental impacts (carbon emissions and others) are contributed by products already on the market and in use (21).

Finally, the significant environmental harms from medicines (5;6;60) and the opportunities for regulators to mitigate these harms (7;61;62) have been documented in the literature; the results show that CDA and NICE have done little work in this area. Five of the reviews by CDA do address the water pollution harms (from mercury, fluoride, and iodinated contrast media), but these are chemical substances, not medicines. Similarly, the carbon aspect of MDI inhalers (which relates to the propellant, not the medicine) and anesthetic gases (this medicine is addressed as a greenhouse gas during the use phase, not for upstream resource use or production, or downstream potential ecotoxicity) has been the focus of all NICE

Guidance and one CDA Review. Importantly, other than MDI inhalers and anesthetic gases, medicines do not significantly contribute to carbon emissions at the use phase; thus, this focus risks ignoring the much larger ecotoxicity impacts from medicines at the use phase, production, and disposal. Of note, the expansion of the CDA's work in the pharmaceutical sector (the transition from CADTH to CDA in May 2024) signals the agency's efforts to expand their mandate and functions to include drug-focused workstreams: "Helping make Canada's drug system more sustainable and better prepared for the future" (63). Although strategic plans have been issued, little detail has been published, but this expanded mandate may include actions to address the ecotoxicological harms from medicines.

Strengths and limitations

The strengths of this study include a robust search and comprehensive review of CDA and NICE documents that incorporate environmental considerations. Although we only focused on the two most prolific national agencies, the search yielded a significant quantity of documents and facilitated a detailed analysis of approaches, priorities, and outputs. Future research should explore work being done by other HTA agencies to glean different or additional perspectives and approaches on how environmental considerations are being incorporated into HTA.

Conclusion

The comprehensive scope of this study provides valuable insights into the incorporation of environmental considerations by CDA and NICE. As stated in the literature and reflected in the agency documents, a rigorous, effective, and accurate assessment of environmental harms of health technologies is not possible at this time. Although the issues of methodology and evidence have stymied progress in assessment and appraisal, these HTA agencies have leveraged the information conduit approach to advance the task of addressing the environmental impacts of health technologies. The agencies have taken different approaches on which environmental impacts to prioritize, but neither agency has yet addressed the ecotoxicological harms from medicines. Our results illustrate that the agencies see the importance of the task, are challenged by a lack of evidence and methodology, and are expanding their scope of activities to incorporate environmental considerations through useful and meaningful, albeit nonevaluative processes and publications.

Supplementary material. The supplementary material for this article can be found at <http://doi.org/10.1017/S0266462325100366>.

Data availability statement. All data are available within this publication or in the corresponding Supplementary File.

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Competing interests. The authors declare none.

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