ESC European Heart Journal - Imaging Methods and Practice (2026) 4, qyag001
https://doi.org/10.1093/ehjimp/qyag001

ORIGINAL ARTICLE
Miscellaneous

An EACVI survey assessing the awareness of cardiovascular imaging's environmental impact among cardiovascular imagers

Alexandre Unger [1,2,3,*], Sonia Borodzicz-Jazdzyk[4], Josephine Heidendael[5], Eugenio Picano[6], Mohammed Y. Khanji[7,8,9], David Grimaldi[10], Tomaz Podlesnikar[11,12], Ahmet Demirkıran[13], Sanjeev Bhattacharyya [14,15], Emmanuel Androulakis [16,17], Marc R. Dweck[18], Giulia Elena Mandoli[19], Theo Pezel[3,20], and Steffen E. Petersen[7,8]

[1]Department of Cardiology, Hôpital Universitaire de Bruxelles, Hôpital Erasme, Université Libre de Bruxelles, Route de Lennik 808, Bruxelles Belgique, Brussels 1070, Belgium
[2]Department of Cardiology, Université Paris-Cité, University Hospital of Lariboisière, Assistance Publique des Hôpitaux de Paris (AP-HP), Rue Ambroise Paré 2, 75010 Paris, France
[3]MIRACL.ai Laboratory, Multimodality Imaging for Research and Artificial Intelligence Core Laboratory, University Hospital of Lariboisière, AP-HP, Rue Ambroise Paré 2, 75010 Paris, France
[4]1st Department of Cardiology, Medical University of Warsaw, Banacha 1a, Warsaw 02-097, Poland
[5]Department of Cardiology, Dijklander Ziekenhuis, Hoorn, The Netherlands
[6]Cardiology Division, University Clinical Center of Serbia, University of Belgrade, Belgrade, Serbia
[7]Barts Heart Centre, St. Bartholomew's Hospital, Barts Health NHS Trust, West Smithfield, London EC1A 7BE, UK
[8]William Harvey Research Institute, NIHR Barts Biomedical Centre, Queen Mary University of London, Charterhouse Square, London EC1M 6BQ, UK
[9]Newham University Hospital, Barts Health NHS Trust, London EC1M 6BQ, UK
[10]The Shift Project, rue de Liège 43, 75008 Paris, France
[11]Department of Cardiac Surgery, University Medical Centre Maribor, Maribor, Slovenia
[12]Department of Cardiology, University Medical Centre Ljubljana, Ljubljana, Slovenia
[13]Department of Cardiology, Kocaeli Şehir Medical Center, Kocaeli, Turkey
[14]Echocardiography Laboratory, St Bartholomew's Hospital, London, UK
[15]Cleveland Clinic London, Grosvenor Place London 33, London SW1X 7HY, UK
[16]King's College Hospital, NHS Foundation Trust, London, UK
[17]King's College London, School of Cardiovascular and Metabolic Medicine and Science, King's College London, Strand, London WC2R 2LS, UK
[18]British Heart Foundation Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, UK
[19]Division of Cardiology, Department of Medical Biotechnologies, University of Siena, Viale Mario Bracci, 1, Siena 53100, Italy
[20]Department of Cardiology, Hôpital Lariboisière, Assistance Publique-Hôpitaux de Paris, Université Paris Cité, Paris, France

Received 22 December 2025; accepted after revision 23 December 2025; online publish-ahead-of-print 23 January 2026

Abstract

Aims

Climate change poses a major threat to global health, with implications for cardiovascular disease. Cardiovascular imaging warrants attention due to its environmental footprint. Despite recognition of the need for climate-conscious healthcare, awareness and implementation of sustainable practices among cardiovascular imagers remain unclear. This study aims to assess current awareness, knowledge, and attitudes regarding climate change and sustainable cardiovascular imaging.

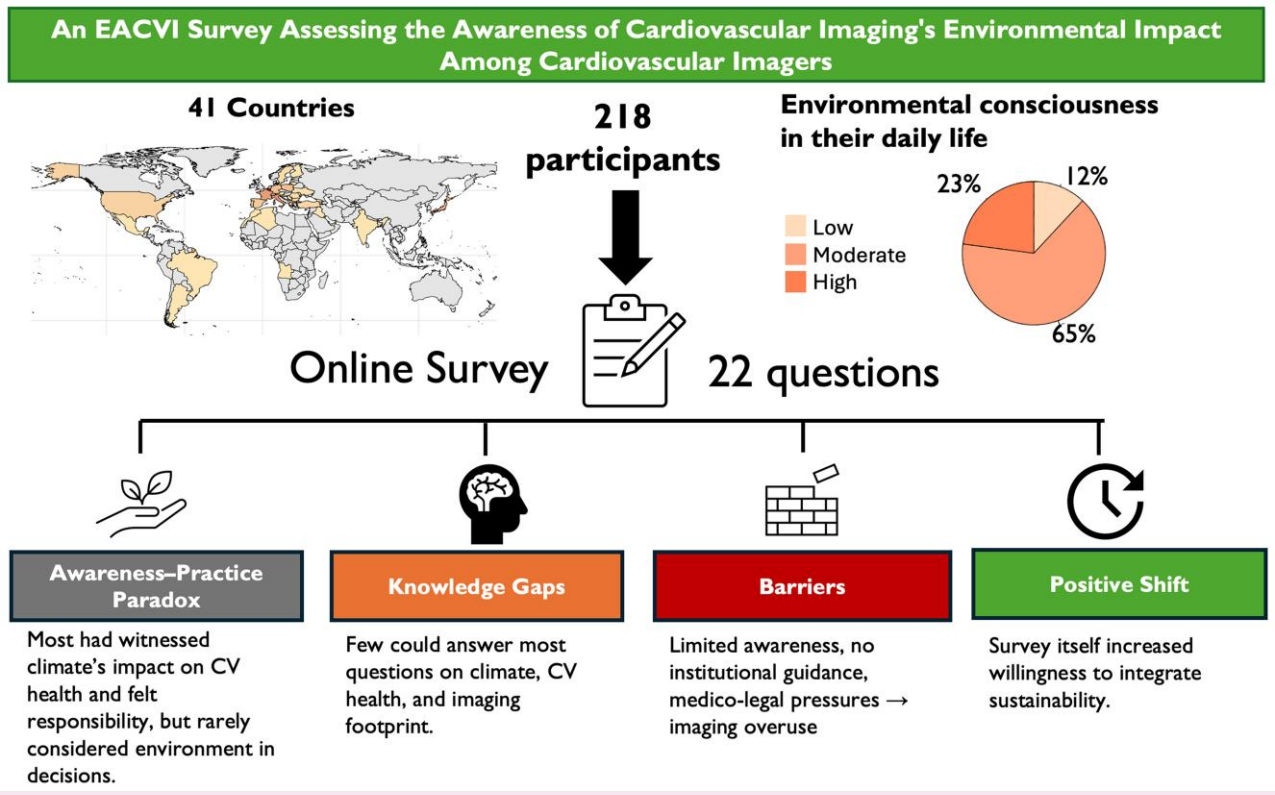
* Corresponding author. E-mail: alexandre.unger.pro@gmail.com
© The European Society of Cardiology 2026.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs licence (https://creativecommons.org/licenses/by-nc-nd/4.0/), which permits non-commercial reproduction and distribution of the work, in any medium, provided the original work is not altered or transformed in any way, and that the work is properly cited. For commercial re-use, please contact journals.permissions@oup.com

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026

Methods and results An anonymous 2-month online survey was disseminated via European Association of Cardiovascular Imaging newsletters, social media, and direct invitations. It explored: (i) general environmental consciousness, (ii) knowledge of climate–cardiovascular links, (iii) perceived barriers, strategies, incentives, and communication tools, and (iv) the survey's potential influence on practice. A total of 218 participants from 41 countries responded (51% female; 91% cardiologists; and 84% Europe). Only 11% had received formal education on climate or sustainable healthcare. Self -reported environmental consciousness was low in 12%, moderate in 65%, and high in 23%. While 90% acknowledged healthcare professionals' responsibility in addressing climate change, 60% rarely considered environmental impact when requesting imaging. Knowledge was limited: only 63% correctly answered ≥4 of 7 questions. Main barriers were the lack of awareness (47%) and institutional or medico-legal pressures encouraging frequent imaging (33%). Reducing unnecessary imaging and improving education were seen as the most effective strategies to address these barriers (50%). After completing the survey, 84% reported greater inclination to consider sustainable practice.

Conclusion This international survey highlights a gap between environmental concern and its integration into cardiovascular imaging. Education, institutional support, and system-level strategies are needed to foster sustainable practice.

Graphical Abstract



Environmental consciousness was defined in three categories: Low—'I rarely consider environmental impact in my daily decisions'; Moderate—'I sometimes consider environmental impact and make eco-friendly choices when convenient'; 'High—Environmental considerations actively guide many of my daily decisions and habits'. Abbreviations: CV, cardiovascular.

Keywords cardiac imaging • environmental cardiology • survey

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026

Introduction

Addressing climate change is an urgent priority, since environmental factors exert a profound global influence on cardiovascular risk, incidence, prevalence, and severity. The European Society of Cardiology (ESC) Guidelines on cardiovascular disease prevention in clinical practice highlight air pollution

as a major health risk and an important driver of climate change, largely through fossil fuel combustion and rising carbon dioxide (CO_2) emissions.[1] Ambient air pollution has been estimated to reduce life expectancy by 2.9 years, contributing to an annual global excess mortality of 8.8 million.[2]

In this regard, it is also important to acknowledge that the healthcare sector itself contributes substantially to climate change, accounting for about 4.6% of global greenhouse gas (GHG) emissions in 2020.[3] This fact emphasizes the urgent need to integrate environmental sustainability into healthcare delivery, given its implications for both climate change and human health. Cardiovascular imaging contributes to environmental impact through its energy use, radiation, and use of contrast material.[4,5] Climate cardiology has recently emerged as a field dedicated to understanding and addressing these interactions between climate change and cardiovascular health.[6] Given the pressing need to enhance awareness regarding climate cardiology, this survey aimed to provide a first snapshot of cardiovascular imagers' knowledge, awareness, and attitudes regarding climate change and environmental sustainability.[7] It further evaluated their willingness to adopt sustainable cardiovascular imaging practices and the potential barriers to its implementation.

Methods

Study population

This survey was conducted by the European Association of Cardiovascular Imaging (EACVI) Scientific Initiatives Committee (SIC) and the Heart Imagers of Tomorrow (HIT) Committee from March to May 2025, in accordance with the EACVI criteria for surveys.[8] Its content and structure were reviewed and validated by members of the EACVI SIC to ensure relevance, clarity, and alignment with the objectives of the survey. The questionnaire was dedicated for cardiovascular imagers (including cardiologists, radiologists, imaging technicians/radiographers, biomedical engineers specializing in cardiovascular imaging and others) in Europe and beyond. The survey consisted of 22 questions, including single-choice questions addressing four key dimensions: (i) general environmental consciousness—including prior education on sustainability and the integration of environmental considerations in clinical decisions; (ii) knowledge of the climate crisis and its bidirectional relationship with cardiovascular health and imaging—assessed through seven multiple-choice questions; (iii) identification of key levers for action, such as perceived barriers, effective strategies, motivating incentives, and communication tools; and (iv) the potential influence of the survey on participants' willingness to integrate environmental considerations into practice. The survey was conducted using an online platform, was fully anonymized, and technical measures were implemented to prevent multiple submissions from the same IP address. Participation was voluntary, and informed consent was obtained from all respondents.

Statistical analysis

Categorical variables were expressed as frequencies and percentages.

Analyses were performed according to a three-group classification based on self-reported levels of environmental consciousness in daily life: Low ('I rarely consider environmental impact in my daily decisions'), Moderate ('I sometimes consider environmental impact and make eco-friendly choices when convenient'), and High ('Environmental considerations actively guide many of my daily decisions and habits').'

Comparisons of categorical variables across groups were performed using the χ^2 test. Statistical analyses were conducted using R software, version 4.2.2 (R Project for Statistical Computing).

Results

A total of 219 individuals participated in the survey; after exclusion of one incomplete response, the final analysis comprised 218 participants from 41 countries with 84% based in Europe (see Supplementary data online, *Table S1* and *Figure S1*). Among participants there was 51% female, 91% cardiologists (80% specialist in cardiovascular imaging), 72% had between 30 and 49 years of age (see Supplementary data online, *Table S2*).

General environmental consciousness, knowledge of the climate crisis, and its relationship with cardiovascular health and imaging

Only 11% of respondents reported receiving formal university or postgraduate education on the climate crisis or sustainable healthcare, whereas 41% had encountered patients whose cardiovascular health was potentially affected by climate-related factors. Regarding environmental consciousness in their daily life, 12% self-reported low environmental consciousness, 65% moderate, and 23% high. While 51% of respondents considered that healthcare professionals should play a significant role in addressing the health impacts of climate change, 59% reported that the environmental impact of imaging tests was of little or no importance in their clinical decision-making (*Figure 1*, Supplementary data online, *Table S2*).

Awareness of cardiovascular imaging's environmental impact

Regarding awareness of climate change and its cardiovascular environmental impact, 63% of respondents correctly answered at least four of the seven knowledge questions, with the proportion of correct responses increasing in parallel with higher self-reported environmental consciousness (see Supplementary data online, *Table S3* and *Figure S2*). A large majority (80%) correctly identified that GHG-related human activities are the primary cause of climate change,[3] and 73% recognized that the strongest predictor of the environmental impact of an imaging test is its energy consumption.[5,9] Furthermore, 67% of respondents correctly ranked imaging technologies according to their carbon footprint. However, only 39% knew that cardiovascular disease is the health field most directly impacted by climate change,[3] and just 20% were aware that the health sector contributes 4–10% of global GHG emissions, with ~1% attributable to medical imaging[5] (see Supplementary data online, *Table S3*, *Figure 2*).

Understanding and willingness to adapt cardiovascular imaging practice

The most frequently reported barriers to reduce the environmental impact of imaging practices were lack of awareness (47%) and institutional policies, clinical guidelines, or medico-legal pressures promoting frequent or unnecessary testing (33%). Reducing unnecessary imaging and enhancing education were perceived as the most effective strategies (50%) in reducing the environmental impact of cardiovascular imaging. When asked about incentives that would encourage prioritization of environmental sustainability in cardiovascular care, the most frequently selected were educational programmes addressing the environmental impact of treatments and diagnostics (24%) and policies integrating environmental impact

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026

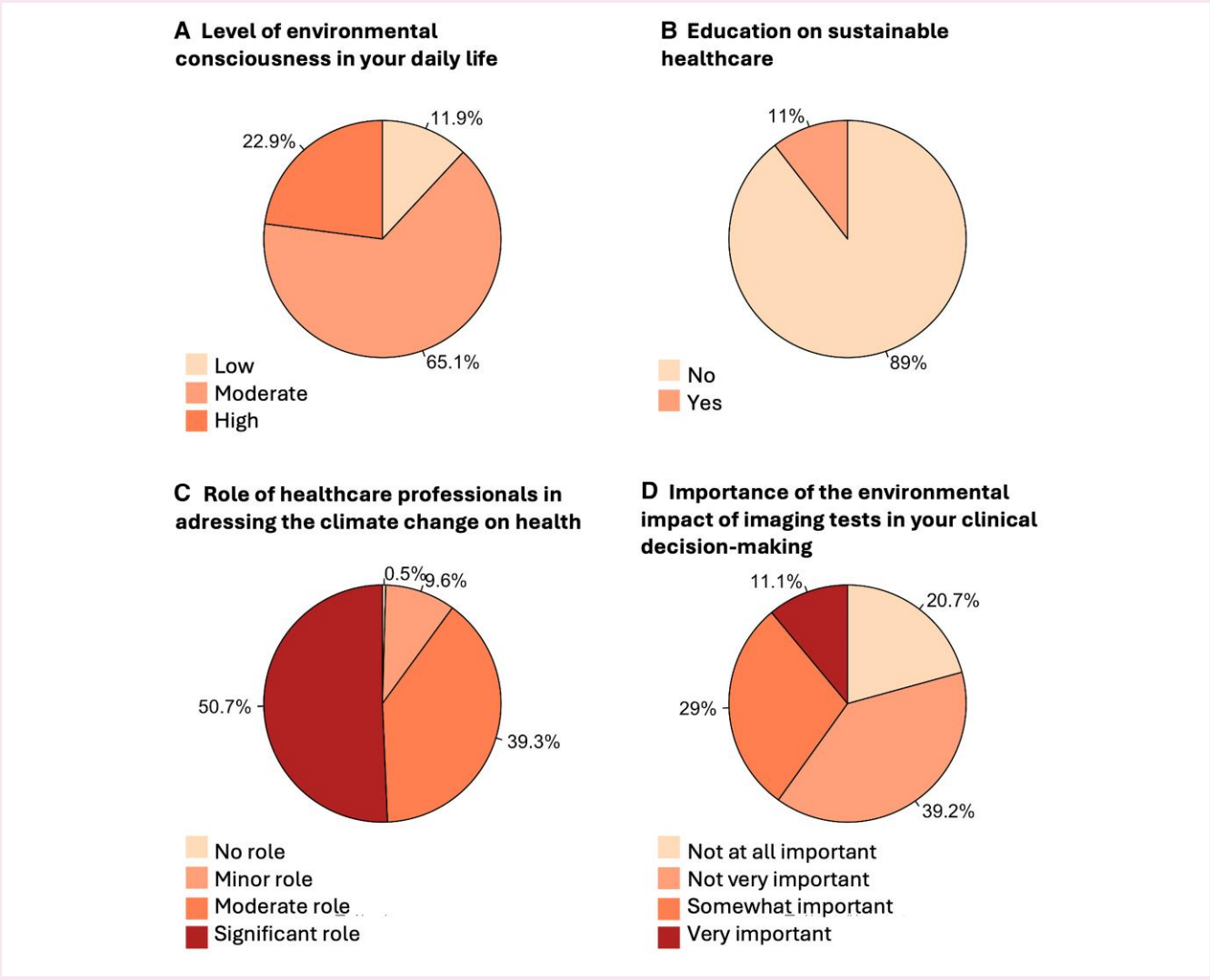


Figure 1 General environmental consciousness. General environmental consciousness and perceptions of sustainable healthcare among respondents (n = 218). (*A*) Self-reported level of environmental consciousness in daily life. (*B*) Proportion of respondents who received university or postgraduate education on sustainable healthcare. (*C*) Perceived role of healthcare professionals in addressing the impacts of climate change on health. (*D*) Reported importance of the environmental impact of imaging tests in clinical decision-making. Data are presented as percentages of respondents.

assessments into care planning (23%). Other options, including financial incentives, recognition initiatives, research grants, and support for adopting low-carbon technologies, were endorsed less often (see Supplementary data online, *Figure S3*).

Regarding strategies to raise awareness of the environmental impact of medical imaging, the largest proportion favoured the inclusion of CO_2 emission data (kg per scan) in clinical guidelines (37.3%), followed by displaying this information on the imaging request form (33.2%). Providing such information on informed consent forms or in practitioners' reports was less frequently selected (see Supplementary data online, *Figure S3*).

Importantly, after completing the survey, 84% of respondents reported being more inclined to consider environmental sustainability in their practice, regardless of their initial level of environmental consciousness (see Supplementary data online, *Figure S4*).

Discussion

In this first international survey on awareness, knowledge, and attitudes regarding climate change and environmental sustainability of cardiovascular imaging practices among cardiac imagers, we identified: (i) an awareness-practice paradox: despite limited formal training in sustainable healthcare, many respondents had already witnessed climate-related effects on cardiovascular health and recognized a professional responsibility—yet most did not consider the environmental impact while making their clinical decisions. (ii) Knowledge gaps persist, with only a minority able to correctly answer most questions on climate change, cardiovascular health, and imaging's footprint. (iii) Major barriers to implement sustainable cardiovascular imaging practices were identified, including lack of awareness, absence of institutional guidance, and medico-legal pressures driving overuse of imaging.

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026

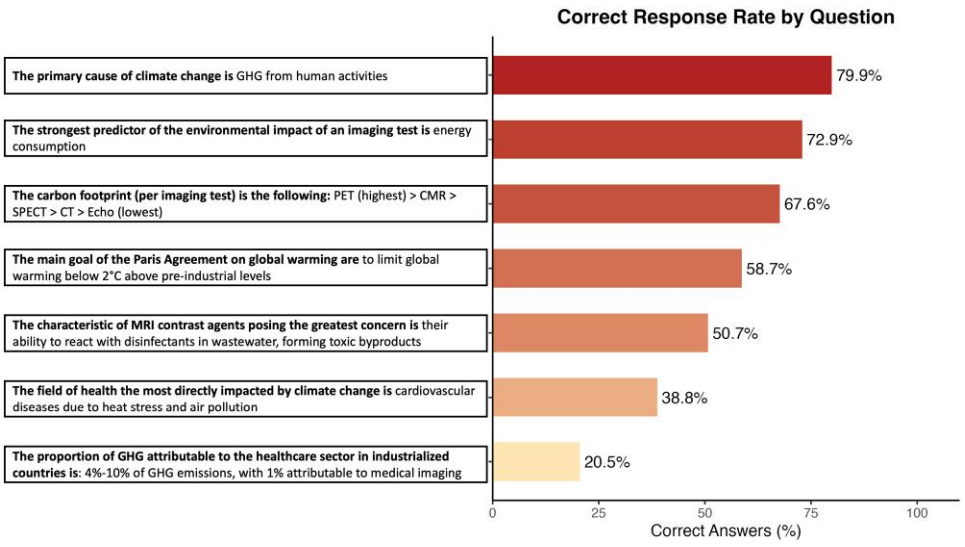


Figure 2 Knowledge of the climate crisis. Correct response rate to knowledge questions on climate change, health, and cardiovascular imaging ($N = 218$). Data are presented as percentages of good answers. Abbreviation: CMR, cardiovascular magnetic resonance; CT, computed tomography; Echo, echocardiography; GHG, greenhouse gas emissions; MRI, magnetic resonance imaging; PET, positron emission tomography; SPECT, single-photon emission computed tomography.

(iv) Encouragingly, completing the survey itself increased willingness to integrate sustainability into practice, suggesting that even brief educational exposure can shift attitudes.

An awareness-practice paradox

Our findings reveal a clear dissonance between awareness of the climate change problem and daily clinical practice. On the one hand, respondents acknowledged both the health impacts of climate change and the responsibility of healthcare professionals in addressing them. On the other hand, the environmental impact of imaging was rarely considered in daily clinical decisions. Only 11% of participants reported having received formal education in sustainable healthcare, and just 23% described themselves as highly environmentally conscious in daily life. These proportions are strikingly low, especially in light of the 2023 Lancet Countdown report, which highlighted that climate change is already negatively impacting health and survival worldwide at the current mean warming of 1.14°C above pre-industrial levels.[3] The report stressed that without urgent action, these health risks will accelerate sharply, but that climate action itself represents a major opportunity to protect and improve population health.[3] Against this backdrop, the limited integration of environmental impact into cardiovascular imaging practice appears particularly concerning, reflecting the absence of tools, incentives, and institutional guidance needed to translate awareness into action.

Insufficient knowledge

Knowledge gaps were evident, with less than two-thirds of respondents able to answer most questions correctly. While basic concepts—such as the human cause of climate change—were widely understood, far fewer respondents recognized the vulnerability of cardiovascular disease to environmental change or the healthcare sector's substantial contribution to GHG emissions. Yet, cardiovascular diseases are disproportionately impacted by environmental factors.[6] It has been estimated that air pollution was responsible for 9 million deaths worldwide in 2019, nearly two-thirds (61.9%) of which were cardiovascular.[10]

In parallel, the contribution of healthcare itself to the climate crisis remains underappreciated. The sector accounts for 4–10% of national GHG emissions, of which nearly 10% is attributable to medical imaging.[5] Importantly, imaging modalities differ substantially in their environmental footprint, as recently emphasized by Gunasekaran *et al.*[9] Strengthening knowledge and competencies in this field is therefore essential—not only to reduce the footprint of cardiovascular imaging itself, but also to ensure that clinicians are fully equipped to address the environmental determinants of cardiovascular risk.

Barriers to sustainable cardiovascular imaging

The survey highlighted structural and cultural obstacles that hinder the integration of sustainability into cardiovascular imaging. Lack of awareness was the most frequently cited barrier, followed by the absence of institutional policies or guidelines, and medico-legal pressures that encourage frequent imaging. While our results suggest that environmental considerations remain largely absent from daily decision-making, the issue has been recognized at the institutional level. The ESC's 2022 strategic plan explicitly identified environmental sustainability as a fundamental value, with a commitment to publish official scientific statements on the environmental impact of cardiovascular practice.[11] This demonstrates a growing willingness to foster change, although these ambitions are still at an early stage and have yet to be translated into routine clinical practice.

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026

From a technical and practical perspective, Picano *et al.*[4] have argued for an integrated assessment of imaging based on three complementary pillars—environmental, social, and financial costs. This approach has recently been incorporated into the EACVI consensus on stress echocardiography in chronic coronary syndromes,[12] which explicitly called for sustainability to be considered alongside diagnostic accuracy and patient outcomes. However, such examples remain scarce, and most current guidelines do not yet systematically address environmental aspects. This gap is reflected in our survey: nearly 60% of respondents admitted that the environmental footprint of imaging had little or no influence on their clinical decision-making.

These findings emphasize that sustainability in cardiovascular care cannot rely solely on individual motivation; it requires systemic change. Professional societies, policymakers, and healthcare institutions must provide clear frameworks, align incentives, and embed environmental criteria into clinical pathways. Thus, allowing clinicians to feel supported in their environmentally conscious decision- making.

Willingness to change

An encouraging signal from our survey was that willingness to consider environmental sustainability increased simply after completing the questionnaire, independent of baseline environmental consciousness. This demonstrates that even short, low-intensity interventions can trigger reflection and change. Embedding sustainability into guidelines, training curricula, and awareness campaigns could therefore deliver immediate impact. At the individual level, clinicians can already contribute: reducing unnecessary imaging and making environmentally informed choices are simple actions with significant potential to cut emissions.[13]

Limitations

Several limitations should be acknowledged. First, the survey was disseminated through open communication channels without a predefined sampling frame or denominator, precluding calculation of a true response rate and limiting assessment of representativeness. In addition, no predefined quotas for sex, age, or geographic distribution were applied, as participation was open to all eligible respondents, which may have resulted in imbalanced representation across subgroups.

The geographic distribution of respondents was predominantly European, with strong representation from Western Europe. This imbalance may introduce selection bias and limits the generalizability of the findings to cardiovascular imaging communities in other regions. Although the survey was primarily conducted within cardiovascular imaging societies, it was also open to professionals from other fields; however, the small number of non-imaging respondents did not allow for meaningful subgroup comparisons.

Environmental consciousness was assessed using a self-reported, non-validated categorical measure. While more comprehensive instruments exist, their length was not compatible with the survey design. This subjective assessment may have introduced misclassification bias and should therefore be interpreted as exploratory. Furthermore, the reported increase in willingness to integrate environmental considerations after completing the survey may have been influenced by a Hawthorne-like effect, whereby participants modify reported attitudes or intentions as a result of survey participation.

Finally, real-world imaging volumes were not considered, precluding assessment of the overall environmental impact of each imaging modality, which also depends on frequency of use. Moreover, although cardiovascular imaging contributes only a limited proportion of total healthcare-related GHG emissions, it plays a central role in guideline-recommended multimodal strategies that improve patient outcomes. Sustainability considerations should therefore be carefully considered alongside proven clinical benefits and should not compromise evidence-based cardiovascular care.

Conclusions

This first international survey identified a gap: while awareness of climate change is rising, knowledge and implementation of sustainable cardiovascular imaging remain limited. Major barriers persist, yet even brief educational exposure increased willingness to change. To move from concern to action, sustainability must be embedded into training, guidelines, and institutional frameworks—making environmental responsibility an integral part of cardiovascular care.

Acknowledgements

Grateful acknowledgments are made to Oceane Marie, EACVI officer, and members of the European Association of Cardiovascular Imaging Scientific Initiatives Committee and led by the Heart Imagers of Tomorrow (HIT) group.

Supplementary data

Supplementary data are available at *European Heart Journal—Imaging Methods* and *Practice* online.

Author contributions

Alexandre Unger(Conceptualization [equal]; Formal analysis [lead]; Methodology [equal]; Visualization [lead]; Writing—original draft [equal]; Writing—review & editing [equal]), Sonia Borodzicz-Jazdzyk (Conceptualization [equal]; Methodology [equal]; Writing—original draft [equal]; Writing—review & editing [equal]), Josephine Heidendael (Conceptualization [equal]; Methodology [supporting]; Writing—review & editing [supporting]), Eugenio Picano (Conceptualization [supporting]; Supervision [equal]; Validation [equal]; Writing—review & editing [supporting]), Mohammed Y. Khanji (Conceptualization [supporting]; Methodology [supporting]; Supervision [supporting]; Writing—review & editing [supporting]), David Grimaldi (Conceptualization [supporting]; Methodology [supporting]; Writing—review & editing [supporting]), Tomaz Podlesnikar (Conceptualization [supporting]; Methodology [supporting]; Supervision [supporting]), Ahmet Demirkıran (Conceptualization [supporting]; Methodology [supporting]; Writing—review & editing [supporting]), Sanjeev Bhattacharyya (Conceptualization [supporting]; Methodology [supporting]), Emmanuel Androulakis (Conceptualization [supporting]; Methodology [supporting]; Writing—review & editing [supporting]), Marc R. Dweck (Conceptualization [supporting]; Methodology [supporting]), Giulia Elena Mandoli (Conceptualization [supporting]; Methodology [supporting]), Theo Pezel (Conceptualization [supporting]; Methodology [supporting]; Writing—review & editing [supporting]), and Steffen Petersen (Conceptualization [supporting]; Methodology [supporting]; Writing—review & editing [supporting])

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026

Funding

A.U. is funded by the 'Fonds Erasme pour la recherche médicale'.

Conflict of interest: None declared.

Data availability

The data underlying this article are available upon reasonable request.

Lead author biography

Alexandre Unger is a cardiology specialist in training from Belgium and a doctoral candidate in cardiovascular imaging. His research focuses on advanced applications of cardiac magnetic resonance and multimodality imaging for cardiovascular risk stratification. He has a strong interest in the emerging field of climate cardiology. Through this work, and with the support of the young community (HIT) of the European Association of Cardiovascular Imaging (EACVI), he aims to raise awareness of two key areas of interest: advanced cardiovascular imaging and the cardiovascular impact of climate change.

References

1. Visseren FLJ, Mach F, Smulders YM, Carballo D, Koskinas KC, Bäck M *et al.* 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice. *Eur Heart J* 2021;**42**:3227–337.
2. Lelieveld J, Pozzer A, Pöschl U, Fnais M, Haines A, Münzel T. Loss of life expectancy from air pollution compared to other risk factors: a worldwide perspective. *Cardiovasc Res* 2020;**116**:1910–7.
3. Romanello M, Napoli CD, Green C, Kennard H, Lampard P, Scamman D *et al.* The 2023 report of the Lancet countdown on health and climate change: the imperative for a health-centred response in a world facing irreversible harms. *Lancet* 2023;**402**:2346–94.
4. Picano E. Economic, ethical, and environmental sustainability of cardiac imaging. *Eur Heart J* 2023;**44**:4748–51.
5. Picano E, Mangia C, D'Andrea A. Climate change, carbon dioxide emissions, and medical imaging contribution. *J Clin Med* 2022;**12**:215.
6. Hadley MB, Vedanthan R, Ebi KL, Fuster V. Climate cardiology. *BMJ Glob Health* 2022;**7**:e008860.
7. Khanji MY, Patel R, Ricci F. Going green in cardiology. *Eur Heart J* 2024;**45**:411–2.
8. Haugaa KH, Marsan NA, Cameli M, D'Andrea A, Dweck MR, Carvalho RF *et al.* Criteria for surveys: from the European Association of Cardiovascular Imaging Scientific Initiatives Committee. *Eur Heart J Cardiovasc Imaging* 2019;**20**:963–6.
9. Gunasekaran S, Szava-Kovats A, Battey T, Gross J, Picano E, Raman SV *et al.* Cardiovascular imaging, climate change, and environmental sustainability. *Radiol Cardiothorac Imaging* 2024;**6**:e240135.
10. Rajagopalan S, Landrigan PJ. Pollution and the heart. *N Engl J Med* 2021;**385**:1881–92.
11. European Society of Cardiology. ESC Strategic Plan 2023–2028 [Internet]. 2025. https://www.escardio.org/The-ESC/What-we-do/strategic-plan [14 December 2025, date last accessed].
12. Picano E, Pierard L, Peteiro J, Djordjevic-Dikic A, Sade LE, Cortigiani L *et al.* The clinical use of stress echocardiography in chronic coronary syndromes and beyond coronary artery disease: a clinical consensus statement from the European Association of Cardiovascular Imaging of the ESC. *Eur Heart J Cardiovasc Imaging* 2024;**25**:e65–90.
13. Al-Kindi S, Brook RD, Rajagopalan S. Green cardiovascular care: a call for sustainable transformation of cardiovascular practices. *Eur Heart J* 2024;**45**:744–7.

Downloaded from https://academic.oup.com/ehjimp/article/4/1/qyag001/8439212 by City St George's, University of London Tooting user on 03 March 2026