



The Royal College of Pathologists
Pathology: the science behind the cure

How Green Is Your Lab? NHS England Pathology Transformation and Greener NHS symposium

A recent NHS conference hosted at the Royal College of Pathologists explored the sustainability of pathology

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As part of a collaborative approach to improve sustainability across pathology, Rajeka Lazarus shares key points from the NHS England Pathology Transformation and Greener NHS symposium that brought together pathology network leaders and sustainability experts at the Royal College of Pathologists in December 2023.

I was invited to the RCPATH/NHS 'How Green Is Your Lab?' symposium as the College representative. I hoped to leave with practice-changing information and I was not disappointed! I was aware of some of the relevant sustainability strategies, accreditation schemes and resources and had been trying to work out how they related to each other and how best to use them. The information presented at the symposium provided me with an overview of how the different elements complemented each other and could be practically applied. The clinical lab is complex as it has multiple components and a reach that extends beyond specimen reception.

The symposium presenters covered different aspects and offered varied perspectives, which allowed me to separate out this complexity into the practical actions that need to happen in the analytic and pre-analytic spaces and beyond (more on this later). In addition, identifying the relevant organisations involved and meeting attendees from different pathology specialities and regions made me appreciate who I could approach for help.

The analytic space

I had read about several accreditation schemes, including the [Laboratory Efficiency Assessment Framework \(LEAF\)](#), the [European Laboratory Medicine Framework](#) and [My Green Lab](#), but had little time to work out which one would meet our needs best. All 3 provide a systematic approach to working through the main lab components that impact our natural environment: waste, water, energy and chemicals. The expert consensus at the meeting was that the available accreditation schemes were all equivalent, so it seems it is just a matter of choosing one.

In addition, to these accreditation schemes, implementation of NHS and local Trust strategies will support energy and waste reduction. Recently published [procurement guidelines](#) direct us to purchase consumables made from more sustainable and ethically sourced materials. Most Trusts have recycling policies in place and more diligent application of these within the lab could result in both financial and carbon savings.

The pre-analytic space

Despite the energy- and water-intensive nature of the lab, it was reported that the [carbon footprint](#) of common pathology tests is dominated by sample collection and phlebotomy. Therefore, the biggest carbon savings to be made are in optimising the pre-analytical component of all pathology tests, in keeping with the [Getting It Right First Time \(GIRFT\)](#) campaign. It is well recognised that many routine pathology tests performed are unnecessary. We were urged by Dr Martin Myers MBE, Senior Clinical Advisor for the GIRFT campaign, to reduce unnecessary sampling by at least 20%. The GIRFT campaign recommends the use of pathology care sets to help clinicians choose the most suitable test to request and to request at an appropriate frequency.

Dr Mike Simmons, from Public Health Wales, presented the innovative [narrative reporting initiative](#) which has significantly reduced the number of urine samples received for culture and the overall proportion of culture-negative samples. Narrative reporting was designed to offer more helpful clinical specimen reports to improve patient care. It would be useful to understand how and why narrative reporting led to a reduction in the number of inappropriate samples sent to the lab so the same principles could be applied more widely within pathology.

Several speakers showcased examples of how to minimise the carbon footprint of phlebotomy and specimen transport, including using smaller (4 ml instead of 7 ml) tubes for blood sciences, harmonising pathology workflow and transport from primary care, reusable racks instead of plastic bags to transport specimens and supporting retrospective testing to avoid having to rebleed a patient.

Overall, in contrast to the analytic space, there is a lack of a systematic approach in the pre-analytic space, despite the plethora of initiatives. Perhaps the lack of systematic approach is because the pre-analytic space is not defined by our walls and benches like the analytic space

and expands out beyond the hospital grounds, demanding close working with other pathology specialities, clinicians and patients to make a meaningful impact.

Beyond – digital space

For me the most profound take-home message was the true carbon cost of our digitised world. There is no doubt that digital histopathology slides save time, transport costs and storage and that virtual meetings can be more inclusive, but at what carbon cost? The carbon footprint of the digital landscape was reported to be greater than aviation by Ben Tongue, NHS England's Digital Net Zero Lead.

Digital transactions rely on servers that demand vast amounts of energy to run and water to cool them. This all happens, as with much production in our alienated economic system, in lands far away, so it is easier to ignore. How often do we now use Teams to meet with those in adjacent offices, sometimes due to the lack of meeting space within modern hospital buildings? What do we lose by not having in-person meetings? Perhaps we need to be more considerate in our digital use and recognise its limitations.

Building networks – who to ask for help?

I was fortunate enough to meet my local Pathology Network Sustainability lead at the meeting, in the queue for the plant-based lunch. No doubt we would have eventually connected in the virtual world, but the symposium provided an important opportunity to network. Professor Erika Denton's opening remarks highlighted the responsibility of the pathology networks in leading the sustainable transformation that is so urgently needed. This has led to discussions with my local network which will continue through regular drop-in sessions.

Putting learning into action – what next?

I am using the learning from the day to implement our local sustainability plans. As Vice President of the [British Infection Association](#), I will feed this information into the cross-professional infection societies' sustainability group, which aims to raise awareness and identify gaps to fill. Finally, on reflection, I recognise that we are at an early stage in our journey towards more sustainable pathology. There may be some individuals and groups who have experience in specific areas but no one has all the answers and a lot remains to be done!

Meet the author



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