

Improving the management and storage of portable medical gas cylinders



North of England
Commercial Procurement Collaborative

A collaborative project by:

NHS North of England Commercial Procurement Collaborative (NOE CPC)
NHS London Procurement Partnership (NHS LPP)
Harrogate and District NHS Foundation Trust

Background

An internal audit at Harrogate and District NHS Foundation Trust revealed serious issues regarding the management and storage of portable medical gas cylinders throughout various wards and departments. The audit found that cylinders were often not stored correctly, stock levels were inconsistent, and there was insufficient oversight of the cylinders held onsite.

These shortcomings introduced several risks. For patients, there was the potential for treatment delays if the necessary cylinder was unavailable or expired when needed. From a health and safety standpoint, improperly stored or unsecured cylinders created hazards for staff, patients, and visitors within both clinical and storage areas.

Objectives

The aim was to address these challenges by establishing a structured and sustainable approach to ensure that every medical gas cylinder across the organisation would be available, in suitable condition, and safely managed.

The key objectives were to standardise cylinder supply and management processes; review and rationalise cylinder holdings across clinical areas; align storage practices with safety regulations and best-practice guidance; improve visibility and accountability for cylinder stock; and introduce clearer procedures for ordering, returning, and monitoring usage.

Method

To address this challenge in a systematic and compliant manner, the Trust utilised the Total Pharmaceutical Gas Solutions framework, along with the support and expert knowledge provided by NOE CPC, to contract with a compliant supplier.

This collaborative framework brings together the regulatory expertise of NHS LPP, NHS Commercial Solutions, the East of England Collaborative Procurement Hub (EOE CPH), and NOE CPC. By leveraging this partnership, the Trust ensured a unified and robust approach to the management and procurement of portable medical gas cylinders.

Results

The Trust has seen measurable improvements across clinical and operational areas:

- ✓ Provides complete assurance to the Trust Board and the CQC that there are no expired gas cylinders on site, delivering a notable benefit for Trust Management.
- ✓ Cylinders in clinical areas are now the correct type and quantity for local needs.
- ✓ All cylinders are clearly identified and safely restrained in line with guidance.
- ✓ Site-wide stock holdings have been reduced and now align with actual usage.
- ✓ Leaner stock levels have contributed to reductions in cylinder rental costs.
- ✓ Staff awareness and compliance have improved through structured training and clearer processes.

This will also help the Trust work towards achieving its target of zero Datix reports related to patient incidents and health and safety issues.

Conclusion

The Trust's structured, framework-led approach has strengthened control of portable medical gas cylinders, improving patient safety, compliance, and reducing waste. This shows how focused review, collaborative procurement, and engaged staff can deliver real safety gains and financial benefits.

These are the potential tangible benefits that could be achieved by removing cylinders, in addition to optimising the existing assets.

Material Number	Material Description	Estimated Total Annual Rentals	Estimated Refills PA	Total Removed After Post-Audit & Implementation
101-CD	MEDICAL OXYGEN – CD SIZE	5263	3008	10
101-HX	MEDICAL OXYGEN – HX SIZE	1076	176	4
141-G	MEDICAL NITROUS OXIDE – SIZE G	62	240	1
201-E	MEDICAL CARBON DIOXIDE – SIZE E	583	367	2
211-ED	ENTONOX – SIZE ED	34	505	1
211-EX	ENTONOX – SIZE EX	238	67	2
211-G	ENTONOX – SIZE G	225	234	2
Potential Savings PA		£4,446.00		
Potential Savings Over a 4-Year Contract		£17,784.00		

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Harrogate and District
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