

Pause Before You Puncture ! A Quality Improvement Project on Reducing the Number of Unnecessary Cannulations in the Medical Same Day Emergency Care Department

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Abstract

Peripheral intravenous cannulation is one of the most frequently performed procedures in the National Health Service (NHS) in the United Kingdom. During my time working in the Medical Same Day Emergency Care (mSDEC) Department, I observed a frequent tendency to insert cannulas pre-emptively, either to facilitate routine blood sampling or "just in case" intravenous access might be required later. Although well-intentioned, some of these cannulas were never used, resulting in avoidable patient discomfort, additional workload for staff, and unnecessary consumption of clinical resources.

This behaviour carries consequences beyond clinical inefficiency. In alignment with the NHS ambition to achieve Net Zero by 2040, reducing reliance on single-use plastics has become a key sustainability priority. Items such as gloves, syringes, and cannulas account for a significant proportion of clinical waste, with single-use plastics accounting for an estimated 1.4% of total NHS carbon emissions. Additionally, the carbon footprint of inserting a cannula is considerably greater than that of performing venepuncture alone because it requires more single-use plastic components, meaning that every unnecessary cannulation represents an avoidable environmental burden.

With the high-turnover of patients within mSDEC, where hundreds of patients are assessed each week, the cumulative impact of habitual, non-essential cannulation becomes substantial. The waste generated spans equipment costs, staff time, inappropriate use of intravenous fluids and medications, and increased clinical waste processing. Most importantly, patients are subjected to invasive, painful procedures that may offer no clinical benefit.

Pause Before You Puncture is a quality improvement project designed to challenge and refine current clinical cannulation practices within mSDEC. This project aims to reduce unnecessary cannulations, improve patient experiences, and support the NHS sustainability agenda. Ultimately, it asks a simple question: could a moment of pause lead to meaningful reductions in both carbon emissions and single-use plastic consumption, while still delivering safe, high-quality care?

