



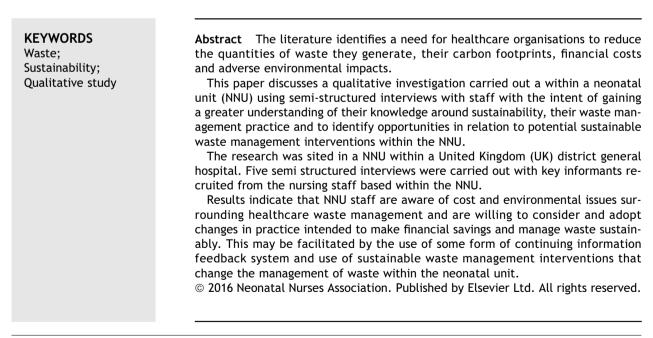
### **Original Article**

## Understanding and knowledge of sustainable waste management within the neonatal unit: A qualitative investigation

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#### Introduction

The need for prudent conservation and careful use of costly resources is recognised within the literature (Richardson et al., 2009; Nichols, 2014; Pencheon, 2015), similarly there is increased recognition that the National Health Service (NHS) and other healthcare providers need to reduce their waste, their carbon footprints and their subsequent adverse environmental impacts (Manzi et al., 2014; Pencheon, 2015). In 2012 it was estimated that the United Kingdom (UK) NHS had a carbon footprint of around 20 million tonnes of CO2E (NHS Sustainable Development Unit, 2012) a sizable portion of this originating from transportation and management of waste. In addition to the environmental costs of waste management, the financial costs to healthcare providers also need to be considered. In their investigation of bagged waste in health care settings, the Royal College of Nursing (RCN, 2011) found that it cost over £65 million to manage forms of waste that might typically be found within healthcare settings e.g. non-hazardous municipal waste, nonhazardous offensive waste and infectious waste. A key finding of the RCN report was the potential yearly saving of around £5 million in the NHS if improved classification and segregation of waste achieved a 20% reduction of infectious waste generated. Pencheon (2015) claims that in 2014 the NHS spent over £113bn of public money, with much of this according to the RCN (2011), spent on waste management practices that were themselves wasteful and expensive. Pencheon (2015) goes on to claim that climate change caused by the release of pollutant gases into the atmosphere via the burning of fossil fuels is the greatest threat to health in the 21st century, but it could also be argued that, ironically, this health threat is also contributed to by the incineration of clinical waste produced by healthcare organisations. In addressing this problem it could be contended that healthcare providers have a duty to develop and implement policies, practices and procedures to enable them to reduce their environmental impacts, cut their unnecessary waste management costs and function in a more sustainable manner.

It has been claimed that the public are in favour of more sustainable healthcare provision, i.e. healthcare that meets the needs of the present without compromising the ability of future generations to meet their own needs (Van De Kerk and Manuel, 2008; Pencheon, 2015; Richardson et al., 2016). Pencheon (2015) argues that such sustainable healthcare providers could place the reduction of their environmental footprints at the centre of their sustainability aims with this as a key indicator of sustainability. Furthermore, improved efficiencies and more sustainable waste management could produce significant cost savings, provide an indication of the financial success of sustainable practices and change the way that healthcare waste is viewed, so that it is no longer considered something to be disposed of but may instead be viewed as a resource providing opportunities to generate funds from recycling or reuse (Nichols and Allum, 2015; Pencheon, 2015). However, evidence within the literature suggests that reducing healthcare waste remains a low priority and requires greater attention and investigation (AOMRC, 2014; Nichols, 2014).

This paper reports on an investigation carried out a within a neonatal unit using qualitative interviews with staff with the intent of gaining a greater understanding of their knowledge around sustainability and waste management practice. The interviews aimed to identify opportunities and limitations in relation to potential sustainable waste management interventions and changes in the management of waste within the neonatal unit. A specific focus was placed upon neonatology, as this area has been identified as being especially dependent on the availability of resources and technology and may consequently generate significant amounts of waste with subsequent environmental impacts (Nichols, 2013, 2014).

#### Methods

#### Setting

The site of the empirical research was a busy neonatal intensive care unit (NNU) within a United Kingdom (UK) district general hospital. The site was selected for the research as it contained a relatively stable population of staff that would allow continuity of data gathering. The nature of the work carried out within the unit required staff, patients and visitors to manage waste safely and lawfully. Interviewing participants about this would enable research participants to demonstrate their waste management knowledge, beliefs, behaviours and attitudes.

#### Ethics

All staff based within the unit and the parents/ visitors of neonates cared for on the unit were

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