

company was informed and a request for reformulation made. Alternative preparations were sought from other specialist manufacturing companies where necessary. Each product was assessed in the same manner. Pharmacy colleagues were consulted throughout the process and provided feedback on alternative preparations available. Concerns around labelling and similarities with other products, cost and reimbursement status, whether tablets could be crushed and dispersed in water as an alternative were highlighted and discussed. Relevant prescribing consultants were also informed. An informed decision was made to switch to an alternative product where indicated.

**Results** In total, a review of fourteen preparations stocked was conducted. Five out of 14 (36%) were changed to an alternative more appropriate preparation in terms of excipients. Four of the fourteen (29%) were suitable for use in patients across all age groups. Four of the fourteen (29%) exceeded the ADI for a particular excipient for preparations for use in neonates (suitable for all other age groups). Of the four, two were not routinely prescribed in neonates. One preparation was removed from the market. The remaining two products were considered suitable for use for their respective indications and dosing regimens.

**Conclusion** Unlicensed medicines and medicines that are used in neonate and paediatric patients must be carefully assessed for excipients before use.<sup>1-3</sup> A risk benefit assessment<sup>4</sup> should be conducted to establish if an unlicensed medicine should be used and prescribers notified of any excipients of concern.

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### IMPLEMENTATION OF STANDARD PARENTERAL NUTRITION (PN) IN A LARGE TERTIARY NEONATAL SERVICE DURING COVID-19 PANDEMIC – THE CONSIDERATIONS, THE CHALLENGES AND THE LESSONS LEARNT

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The COVID-19 pandemic brought with it many challenges for the NHS; for our neonatal unit, staffing and resource concerns necessitated a review of PN provision to our dual site neonatal managed clinical service. Our service comprises of two sites (and includes neonatal surgical cots) and has a combined capacity of 90 cots. Prior to the pandemic the usual PN requirement was between 12 and 20 patients per day, approximately 75% of the PN was individualised

(bespoke) and manufactured on site in our unlicensed aseptic units.

To support the nursing teams in adult critical care areas, pharmacy aseptic unit were asked to manufacture ready to use infusions; the requirement to make new products along with staff shortages challenged our capacity.

Patient individualised parenteral nutrition is highly complex, requiring specific prescriber training of those involved in requesting or ordering, and those involved in ensuring clinical suitability of the prescription. In addition, bespoke compounding or manufacturing is an intricate process requiring appropriately trained staff and specialised equipment.

An MDT approach was adopted to review and improve the resilience of our PN service and reduce the need for aseptic manufacture.

An options appraisal of the following factors was carried out: availability of sufficient product, license status of the products, nutritional content of regimens, lipid and protein sources, time taken to prescribe, time taken to clinically validate, time taken to prepare, storage requirements, stability/shelf life of chosen product, time taken to set up, provision of vitamins and trace elements, total fluid volume required for nutrition, supplementation of electrolytes, composition of the PN (2 phase system vs 1 phase system), pump and equipment provision.

For our neonatal population Baxter Numeta G13E and G16E bags were selected as the most appropriate option.

Moving away from prescribing and administering individualised PN products to using Numeta we were challenged to: design an appropriate prescription chart and regimens, ensure that we were able to prescribe and administer supplementary electrolytes and fluids, review the use of filters for fungi, bacteria and endotoxins on lines used for the administration of PN, ensure that we had sufficient stock of IV lines to enable more frequent line changes, review PN – drug IV compatibility and provide training to prescribers, nurses and pharmacists.

Standard bag PN allows greater flexibility to manage unstable patients and has increased our PN capacity. For the proportion of infants for whom Numeta is not appropriate we prescribe either 'start up potassium and sodium free PN' or individualised PN for infants who require long term PN with specific micro or macronutrient requirements. Audit is required to evaluate hypercalcaemia seen in a proportion of infants less than 2kg in weight. Numeta bags do not provide 100% of normal fluid volume for most patients, the additional fluid requirement significantly increases the number of infusion pumps required to administer PN. After 15 months, Numeta continues to be used as the primary PN product in approximately 90% of our neonatal population.

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### EVALUATING PATIENT/CARER SATISFACTION WITH MEDICINES INFORMATION PROVISION WITHIN PAEDIATRIC NEUROLOGY OUTPATIENTS

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**Background** Providing patients/carers with relevant medicines information (MI) helps adherence and therefore patient outcomes. Improved adherence is particularly important in patients with long term conditions. To provide greater