reasons why prescription errors occur. ChemoCare treatment data was retrospectively reviewed in order to determine how many prescribed cycles had been marked as 'completed'.

Results 143 prescriptions were analysed. 34.4%(n=21) of written prescriptions contained errors, compared with 11.4% (n=5) of electronic orders. Two of the error types measured

- 'wrong calculation' and 'wrong drug prescribed for cycle'
- occurred significantly more frequently in written than electronic prescriptions.

The Fisher's Exact test produced p values of 0.017 and 0.008 respectively. Of the 409 treatment cycles prescribed and administered on the electronic system, 56.5% (n=231) had not been marked as 'completed', so would not be returned to SACT as administered chemotherapy. Failure to communicate accurate chemotherapy data to SACT not only limits research opportunities to progress safety aspects of delivering chemotherapy, but also has significant cost implications for the Trust, as chemotherapy treatment costs are not recovered.

Conclusion This study supports the use of an electronic prescribing system for ordering paediatric chemotherapy, given the significant reduction in errors compared with written prescriptions. The introduction of a chemotherapy-specific safe prescribing poster is suggested in order to improve compliance with ChemoCare. Further studies analysing national compliance with data return to SACT, are required to identify cost implications for the NHS and subsequent areas for quality improvement.

REFERENCES
1. Avery AJ, Ghaleb M, Barber N, et al. Investigating the prevalence and causes of prescribing errors in general practice: The practice study. *Pharmacoepidemiol Drug Saf* 2012;**21**:4.
2. NCRAS. Systemic Anti-Cancer Therapy Dataset [Internet]. [cited 2018 June 26]. Available from: http://www.ncin.org.uk/collecting_and_using_data/data_collection/chemotherapy

P008 | **MEASURING MEDICINES ADHERENCE IN CHILDREN: A SYSTEMATIC REVIEW**

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Aim 30–70% of children prescribed long-term medicines have poor adherence.[1] Knowing the degree of adherence is important to understand the consequences of nonadherence and to develop strategies to improve medication adherence in children. We therefore performed a systematic review to identify measures of medication adherence used in children and the strengths and weaknesses of those measures.

Methods A systematic literature search was performed using PubMed, EMBASE, Medline, CINAHL, IPA and Cochrane library databases covering the period March 2008 to March 2018 in order to focus on the methods recently used to assess adherence. Inclusion criteria were original research studies measuring medication adherence in children (aged 0–18 years) and included all countries and languages. To be included, the assessment tool used to measure adherence in each study needed to be described in detail. Exclusion criteria included: review articles, editorials, conference papers, reports, and studies reporting only adherence outcomes/rates without reporting measurement methods. As a reliability measure, 5% of titles and abstracts were assessed independently by a second researcher.

Results Of 9,747 papers identified by the search, only 31 articles met the inclusion criteria. Most studies were conducted in the US (14) with four in South Africa, three in Kenya and the remaining ten studies in various countries including one in the UK. Diseases studied included: HIV/AIDS (13), asthma (5), inflammatory bowel disease (3), epilepsy (2), type 1 diabetes (2), others (6). In the commonest disease studied, HIV, self-report, Medication Event Monitoring Systems (MEMS), dose counting, pharmacy refill data and medication plasma levels were used to assess adherence. In patients with diabetes, mobile phone, medication plasma levels and self-report were used. Canister weight and MEMS were used to assess adherence in patients with asthma. Self-reporting was the most commonly used method to assess adherence and was reported to be flexible, inexpensive, and time saving but it was the least accurate and overestimated adherence rates. MEMS was the most accurate method but was also the most expensive. Dose counting was easy to use and inexpensive but adherence was also overestimated with this method. Measuring medication plasma levels was more precise than self-reporting and dose counting but was costly, time consuming and difficult to perform. Pharmacy refill data was more accurate than self-reporting and less accurate than MEMS and medication plasma levels. Mobile phone methods were reported to be very expensive and difficult to perform. Canister weight had the same efficacy as using MEMS and was less expensive, but was only applicable to inhalation devices.

Conclusion Currently, no gold standard method to measure adherence to medicines in children exists as each method has its own advantages and disadvantages. Overall, the MEMS method was the most accurate but most expensive, while self-reporting was the least accurate but least costly.

None of these measures were reported to be highly accurate in the assessment of adherence, so it is important to use a combination of multiple measures in order to gain a true picture of adherence.

REFERENCE
1. Chappell F. Medication adherence in children remains a challenge. *Prescriber* 2015;**26**(12):31–4.

P009 | **MEDICINES OPTIMISATION WHEN TRANSITIONING FROM PAEDIATRIC TO ADULT CRITICAL CARE**

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Introduction Transitioning is the process of preparing, planning and moving from children's to adult services.[1] More young people are surviving with long-term conditions and it is therefore inevitable that more patients will require specialist care into adulthood.[2] Effective transition requires effective communication and planning between paediatric and adult multidisciplinary teams and must engage both the patient and their parents/carers.[1] A trust critical care transition pathway was developed in 2016 by the adult and paediatric critical care teams.

Case summary A 17-year-old transitioning patient required an urgent transfer from paediatric to adult critical care to receive treatment that was unavailable at the paediatric trust. On arrival at the adult trust, it became apparent that patients' previous and current drug history and allergy status was poorly documented resulting in confusion and delay in