Using the RP, 3.8% of all patients would be ‘inappropiately’ redirected but if decision to re-direct were based only on TN assessment this reduced to 3.6% with a 58% reduction in T4 and 5 patients being seen ‘unnecessarily’ in the PED. 

Conclusions
Over 30% of T4 and 5 patients presenting to the ED would be appropriate for re-direction to primary care services – 12% of all attendances. This would be considerably higher if a more inclusive RP was created to account for trivial and non-urgent presentations to ED. TN assessment safely and accurately identifies patients requiring PED specific care.

Abstracts

**G101(P)** TIME FOR BETTER NORMAL RANGES? THE IMPACT OF DISCONTINUITIES IN NORMAL RANGES FOR HEART AND RESPIRATORY RATE IN PAEDIATRIC A&E

1AI McArdle, 2PA Stilwell, 3H Kwong, 4M Blair. 1Department of Paediatrics, Northwick Park Hospital, London, UK; 2Faculty of Medicine, Imperial College, London, UK; 3Department of Paediatrics, Imperial College, London, UK

10.1136/archdischild-2015-308599.100

**Aims** Clinical assessment in A&E is heavily influenced by physiological parameters. However, paediatric normal ranges have large discontinuities and are based on poor evidence. Evidence-based centile charts (Fleming et al, 2010) demonstrate striking disagreements with widely used ranges.

We studied the change in proportion of children with high triage observations by age, and investigated whether discontinuities at age transitions are associated with discrete changes in management.

**Methods** We obtained details of 14,831 children attending our paediatric A&E in 2013 (excluding psychosocial and trauma) and extracted missing triage observations from scanned records. We determined whether CRP was measured for each patient.

Though our department uses PEWS normal ranges (transitions at age 1, 5 and 12) we used the more widespread APLS ranges for classification. High triage observations were determined by APLS, centile charts (90th centile) and derived normal ranges. For APLS, steps in proportions were determined with discontinuous linear regression.

Separately, we used spline regression models to test for the presence of steps at age 1, 5 and 12 in length of stay, probability of admission and CRP measurement, with subgroup analysis of children <8y with triage category “fever”.

For children presenting with wheeze, we compared the proportions receiving burst therapy or intravenous treatment prior to and after the first, fifth and twelfth birthdays.

**Results** The proportion of high triage observations by APLS showed significant steps at age 1, 2, 5 and 12. 16% of APLS classifications mismatched classification by centile chart. With derived age-specific normal ranges, this fell to 2%.

We found no evidence of discrete changes in length of stay, probability of admission or measurement of CRP at the age boundaries. Similarly, in the febrile children and wheeze subsets we found no steps.

**Conclusions** The APLS normal ranges create large steps in the proportion of children with high observations at age transitions. However, we found no evidence of effects on management in this large dataset, nor in subgroups where observations contribute strongly to management.

Nonetheless, given the better performance of newer ranges, we encourage their further trial.