Previous pilot work has shown high acceptability with parents and children, and suggests digital-clinical interaction typically takes 10–15 minutes to complete, fitting well into a standard 60–90 minute initial paediatric developmental assessment.

Conclusions The Pirates app shows promise as a tool that can be used alongside initial clinical assessment including history taking and information from school, to determine whether full, detailed, diagnostic assessment is required. In some cases, it may support an early and shortened diagnostic pathway of the child at the initial stage of the diagnostic process. By improving early decision making, including increasing confidence in deciding whether or not a child needs to proceed to full diagnostic assessment, this could help improve the timeliness of diagnostic assessment, and reduce service delivery costs.

British Association for Community Child Health

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HOW CAN WE DELIVER TIMELY AND HIGH QUALITY DIAGNOSIS FOR CHILDREN WITH POSSIBLE AUTISM IN THE UK: A RAPID REALIST REVIEW OF AUTISM SERVICE DELIVERY LITERATURE

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Background Referrals and waiting times for diagnostic assessment of possible autism in children have increased substantially within UK NHS recently, delaying opportunities for intervention and frustrating families. Research exploring which service models could improve quality and timeliness of autism assessment is a key NHSE priority.

Objectives

- Explore evidence from research and grey literature about which autism assessment pathways work well, for whom and under what circumstances, to deliver high quality and timely diagnosis.
- Inform subsequent stages of our Realist Evaluation/study.

Methods We performed a Rapid Realist Review (RRR), a well-established approach to synthesising evidence to identify service delivery models achieving desired outcomes. RRRs seek to develop programme theories (PTs), or explanations, of how, why and in what contexts an intervention works. The focus was a clearly defined intervention (diagnostic pathway), specific outcomes (high quality and timely) within particular parameters (Autism diagnostic services in UK). This was carried out in five iterative stages. We collected 129 grey literature and policy/guidelines from the background search, and 220 articles from primary search (Jan 2011-Dec 2019; seven databases, terms: autism, diagnostic pathway, model of service provision, assessment process). Following duplicate removal and screening of abstracts, two researchers carried out data extraction by hybrid approach: basic details from each included article (n=79) were recorded in an Excel data

extraction form; highly relevant articles (n=45) were coded in NVivo. PTs were developed by cross comparison and synthesis of evidence from the articles and findings were discussed with expert stakeholders.

Results 7 PTs were identified, the first 4 informing stages contributing to effective diagnostic pathways, the remaining 3, overarching principles. Potential facilitative service models were identified.

1. If frontline health/education professionals are confident in recognizing symptoms of autism, understand referral pathways and take parents' concerns seriously, then children and young people (CYP) will be referred appropriately, in a timely manner.
2. If services provide clear guidelines for referrers on what information is needed, time will be saved and fewer CYP will be assessed unnecessarily.
3. If a structured and consistent approach to service delivery is adopted, making best use of available staff and expertise then the number of assessments per individual may be reduced.
4. If feedback takes an assets-based approach and management plans are individualized, then parental expectations will be moderated.
5. If parents have a single point of contact, are provided explanations throughout and included in decision-making then diagnostic pathway may be less stressful.
6. If 'experts' including CYP and parents work together and knowledge generated is embedded into local services, this will build capacity and support service planning.
7. If professionals have access to tailored training appropriate to their role, and services engage in development and evaluation, then there will be a higher degree of consistency.

Conclusions This first theory informed review of childhood autism diagnostic pathways has identified important aspects that may contribute to more efficient, high quality and family friendly service delivery. We will test whether the resulting PTs are met, and how service design could be further enhanced through a national survey of current practice and in depth case study of exemplar services.

Association of Paediatric Emergency Medicine

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'TO GIVE OR NOT TO GIVE – THAT IS THE QUESTION' – THE USE OF STEROIDS FOR ACUTE PRE-SCHOOL WHEEZE

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Background There is ongoing uncertainty amongst clinicians on the use of prednisolone in acute pre-school wheeze. Some studies report that there is no positive effect by prescribing steroids for this cohort of children whilst others have shown a reduction in illness severity and duration of hospitalisation.

Objectives In our emergency department a wheeze pathway with clinical proforma helps clinicians assess the severity of presentation (mild, moderate, severe, life-threatening) and directs them to an appropriate treatment course. For pre-school children (2–4 years) presenting with moderate severity

acute wheeze, the pathway states 'consider steroids'. This peer review examined the use of prednisolone in this group of patients.

Methods Two paediatric registrars and two paediatric consultants independently performed a retrospective review of the notes of all pre-school children presenting with moderate severity acute wheeze over one month (n=23). In each case reviewers were asked to document whether or not they would give steroids and the justification for their decision.

Results Of the 23 decisions made whether or not to give steroids, 9 children received steroids and 14 did not. The reviewers were in complete agreement with only 11 decisions (48%): 1 case where steroids were given, 10 when it was not. However, this value rose to 61% (14/23) where the majority of reviewers (3/4) agreed.

Of the 9 who received steroids, in 4 of these cases reviewers felt steroids should not have been given. The steroids were prescribed within 15 minutes of the 1st chest assessment, and in one case steroids were even given before salbutamol. There was significant clinical improvement between 1st and 2nd chest assessments (approximately 20 mins time interval) more likely due to bronchodilator administration rather than the steroid.

In the 14 children not receiving steroids, all reviewers agreed with 10 decisions (71%) not to give. In 1 instance all felt the child should have in fact received steroids due to the history of allergies and atopy, use of regular steroid inhaler, frequent admissions within the last year and poor response to bronchodilators. The remaining 3 decisions were split depending on the significance given to atopy by the reviewer and the impact of temperature on observations.

Overall, the reviewers were less likely to give steroids than the clinicians who saw the patients 9% (2/23) vs 39% (9/23). Factors that impacted this discordance included timing of steroid dose (prior to reassessment after initial salbutamol), inaccurate scoring of severity, incomplete history taken and history of atopy.

Conclusions This peer review illustrates that there is a potential overuse of steroids in acute pre-school wheeze in our emergency department. It is limited by retrospective bias contributed to by the accuracy of documentation in the medical records and any prior knowledge of the patient's outcome by a reviewer. However, the grade of reviewer did not influence our findings. Appropriate prescribing of oral steroids in acute pre-school wheeze can be improved with ongoing education on emergency management of acute presentations. Clinical wheeze pathways should avoid vague statements and provide clearer guidance with regard to when steroids are indicated.

Paediatric Clinical Leaders: Service Planning, Provision and Best Practice

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ESTABLISHING PAEDIATRIC TRAINEE CLINICS DURING THE COVID-19 PANDEMIC

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Background Paediatric trainees delivering outpatient clinics provides a valuable learning opportunity and forms part of

the Royal College of Paediatrics and Child Health (RCPCH) postgraduate paediatric training curriculum. Due to the current COVID-19 pandemic at Birmingham Children's Hospital it was identified that 2 months into the current post 83% ST4–8 trainees had attended 0 or only 1 clinic. Consequently, outpatient clinics were redesigned to incorporate telephone and video consults as well as continuing some face-to-face consultations.

Objectives The aims developed during this quality improvement project included:

1. In a 6-month post, trainees should aim to attend a minimum of 5 clinics.
2. To devise trainee clinics such that it provides a useful learning opportunity with adequate time built in for consultant supervision and to enable supervised learning events (SLEs) to be undertaken.
3. To develop trainee confidence in doing telephone or video clinics.

Methods An initial 2-week pilot was commenced with involvement of 5 supervising consultants which was subsequently extended. The standard operating procedure (SOP) for how to run a registrar clinic was distributed to trainees along with a clinic rota and supervising consultant. The SOP included:

- Step by step instructions regarding what to prepare before clinic.
- How to conduct telephone and video calls using the AccuRx NHS digital accredited system as well as face to face consultations.
- How to dictate letters and order investigations.

We organised regular monthly virtual meetings with consultants, management and the rota co-ordinator to facilitate clinic set up and address any issues. Questionnaires were sent to trainees and patients. Feedback from consultants took the form of a semi-structured interview. Details are available on the RCPCH website <https://qicentral.rcpch.ac.uk/projects/systems-of-care/establishing-paediatric-trainee-clinics-during-the-covid-19-pandemic/>.

Results 19 phone clinics and 12 face to face clinics were undertaken by trainees during the 4-month period generating a possible 106 appointments. The number of trainee clinics occurring monthly increased from an average of 2 to 8. All the trainees that completed the rotation had achieved 5 or more clinic attendances even being less than full time (LTFT). 2 trainees did not complete the rotation due to change of job or redeployment back to community. There were improvements in learning with consultant supervision as 14 requests for SLEs were submitted. A trainee survey conducted after clinics revealed confidence in doing a telephone or video consult increased to 8/10 on a rating scale from 5/10. When trainees were asked about advantages or disadvantages some of the comments included 'different way of working and gaining experience in an outpatient setting', 'ease of patient/family to attend but missing out on interaction that face to face clinics may provide', 'found completing SLEs easier during clinic'. A patient satisfaction survey revealed 100% felt the doctor listened and concerns were adequately addressed. Consultant feedback via semi structured interview included 'found watching the trainee do a video consult interesting/enjoyable', 'some trainees still feel nervous doing video consults', 'supervising trainee clinics remotely easier and not too much added work'.