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A structured intervention to improve asthma outcomes for children and young people in Ealing

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Executive Summary

This report looks at the development over one year of an innovative structured approach to improve outcomes for children and young people in Ealing, with a focus on reducing unscheduled asthma related hospital admissions and attendances.

Introduction

Nationally 30 children a year die from asthma and in Ealing there have been 3 deaths in school aged children from 2016 – 2018. In 2017 concerns were raised by Ealing CCG commissioners around the significant numbers of children and young people registered with an Ealing GP practice attending A&E or being admitted to hospital with asthma attacks. These concerns resulted in funding for an asthma specialist nurse post to design and deliver a service which would improve asthma care and asthma self-management thus reducing asthma attacks in children and young people aged 0-18 living in Ealing . This report will discuss the 'Asthma Support Programme' as an integral part of the service, the rationale and evidence that underpins it, along with the methodologies adopted to deliver and evaluate impact in line with strategic objectives. Additionally, the challenges to achievement of service objectives will be highlighted along with any significant findings and recommendations.

Children and Young People (CYP), as well their families and carers, with asthma, require a significant amount of support, guidance and intervention to manage their condition effectively. These interventions should be delivered by clinicians with an appropriate level of expertise in this field[7,8] .There is currently a significant variation in the standard of asthma care provided to CYP clearly demonstrated by the National Review of Asthma Deaths (NRAD)[1,3,4].

Following consultation with key stakeholders at LNWUHT, Ealing CCG and lead nurses within Primary Care in Ealing, the need for the provision of standardised support and education for primary and secondary care teams who regularly care for and make decisions with CYP with asthma was established.

The lead nurse at the CCG and the Divisional Head of Nursing – Children's services at LNWUHT envisaged that a substantial component of the Asthma Support Programme would be to deliver high quality educational sessions as well as training in a clinical setting.

Methodology

Previous projects in Ealing have demonstrated that acute asthma related hospital admissions and attendances could be reduced by introducing a variety of interventions and by working with a variety of key stakeholder across agencies. In 2010 the Ealing 'Asthma Friendly Schools' project which was in part funded by Asthma UK resulted in 40% reduction in admissions in the first year of the project[7]. Further interventions included the introduction of an asthma discharge bundle for all children and young people admitted to Ealing Hospital with a primary discharge diagnosis of asthma resulting in further reduced readmissions amongst this vulnerable group [9] . Both interventions shared an educational focus with personalised written asthma action plans and self-management as a key feature.

Any evidence based intervention is likely to have a positive impact on asthma outcomes [1,7,8] as above, but variability is likely to exist in the speed of impact of the interventions. When considering which methodology to adopt, consideration of impact in reducing admissions and attendances is crucial, but the sustainability of any impact and future proofing given the changing face of healthcare provision is of equal importance. Sustainability has proven difficult with the aforementioned projects.

Current guidance, recommendations and evidence support the value of both education and self-management in improving asthma outcomes.[1,2,5,6,7,8.] The role of general practice in helping people with asthma to stay well is well documented[7,8]. Key recommendations, guidance and quality standards exist to support practices to deliver high quality, safe, effective asthma care[1,7,8,12]. Education and support feature highly. Therefore any chosen intervention should include education and support with an emphasis on supported self-management. The overarching themes would be:-

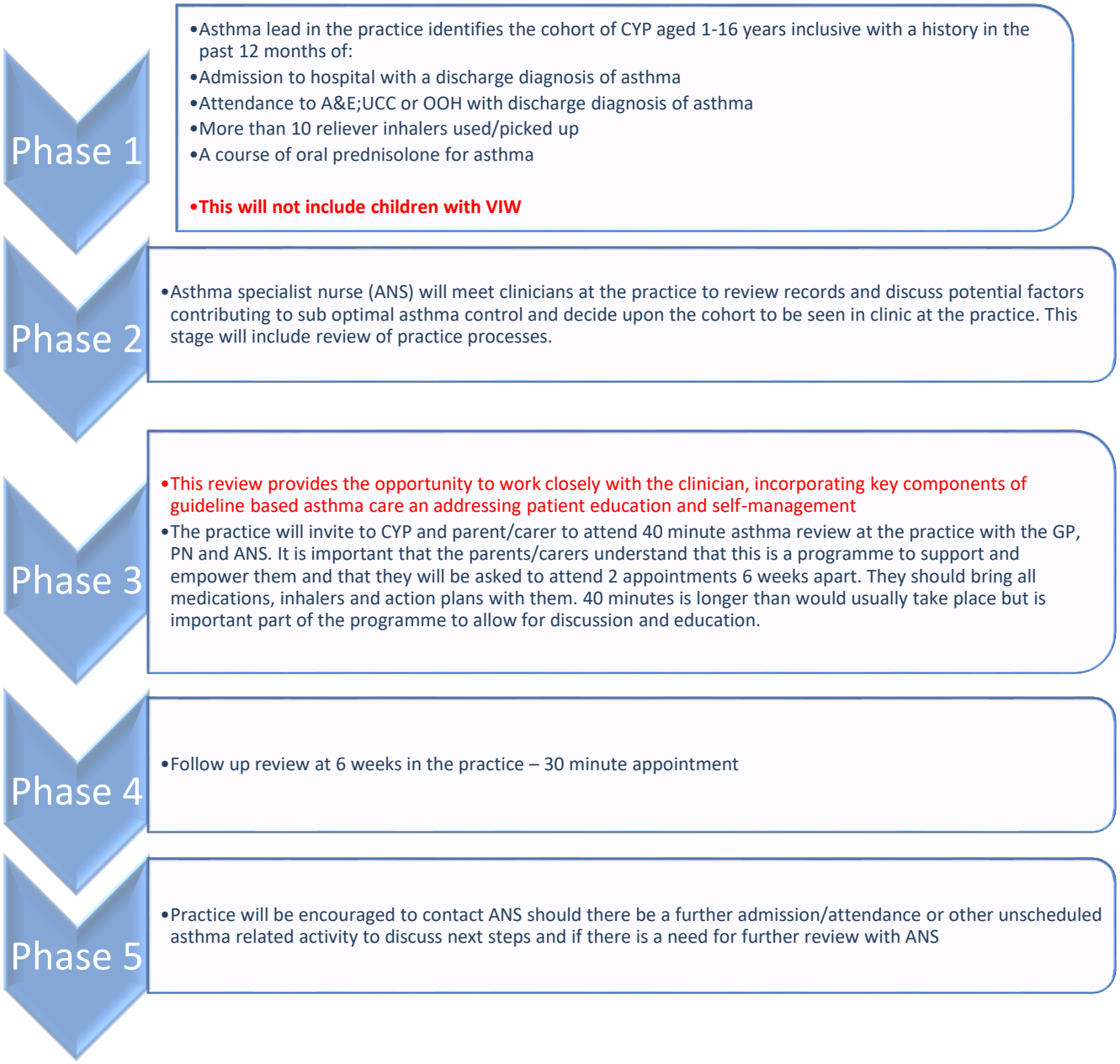
- to improve confidence and competence of healthcare professionals who care for people with asthma
- to improve systems and processes to ensure seamless, safe, effective care that is both proactive and responsive
- to increase self-efficacy in asthma self-management in children and young people with asthma and their parents/carers
- to bring about a change in culture and attitudes towards asthma and reduce complacency not only in healthcare services but also amongst people with asthma and their families.

Any chosen methodology would need to be measurable and able to adapt and flex according to need.

The Asthma Support Programme

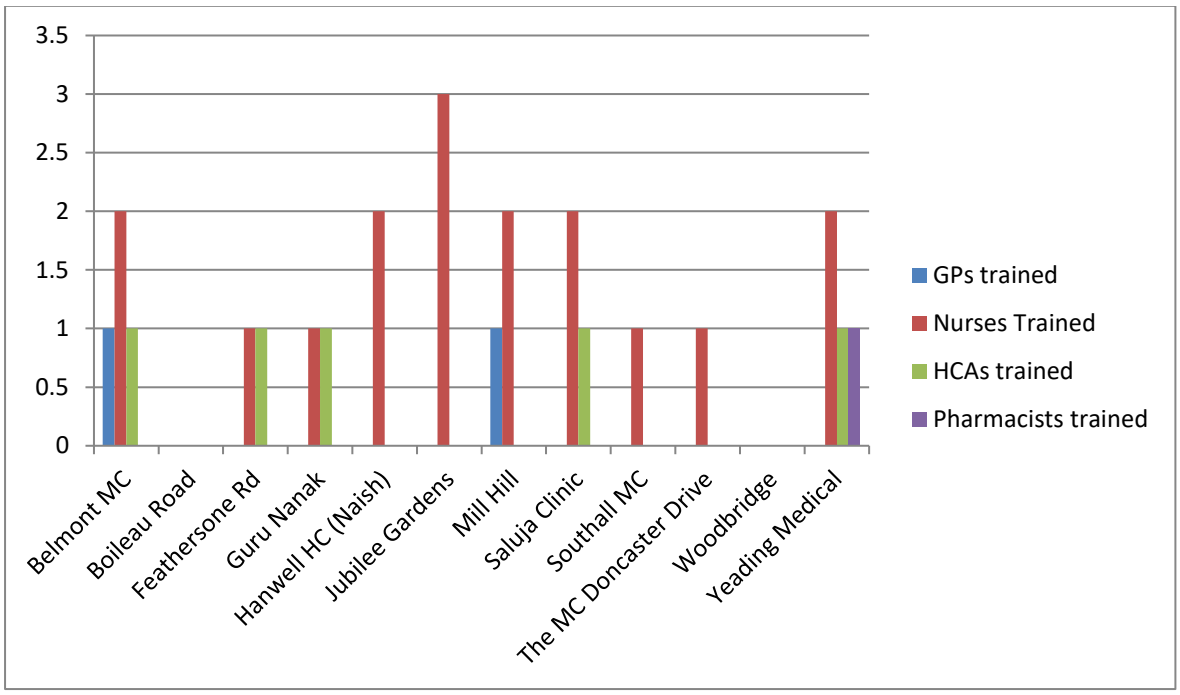
The Asthma Support Programme (ASP) for General Practice is an 8 week structured support programme delivered by the Paediatric Asthma Specialist Nurse Team based at Ealing Hospital. The purpose of the programme is to offer intensive support to reduce unscheduled paediatric asthma hospital admissions and attendances. The programme provides information, support, encouragement and direction to improve the confidence and competence of clinicians in primary care in looking after children and young people with asthma. The key participants in the programme are the practice manager, the named asthma lead in the practice, the GP or nurse practitioner/practice nurse that conducts asthma reviews and the children and young people with asthma themselves, their parents/carers. The latter should not be forgotten as any service should recognise and incorporate a people centric, cogent and individualised approach to asthma care. This is relevant to asthma, which is complex, variable and impacted by individual psychosocial factors.

The project plan of 2017 highlighted the importance of a targeted approach and working in a SMART way to achieve outcomes and prevent wastage of valuable resources. Therefore using CCG admission data by GP practice, 12 practices with the highest admission rates were approached to explain and recruit to the ASP. At the same time training days and sessions for all clinical team members were advertised and then delivered in Dec 2017 and March 2018 and quarterly form then on. The ASP adopted a mix of didactic and practical training as evidence suggests that the combination of approaches effects most change in clinical behaviour[7,8]. Those days are part of a planned, structured quarterly rolling programme. The Excel sheet below shows progress with ASP to date and includes numbers of staff who have attended training days.

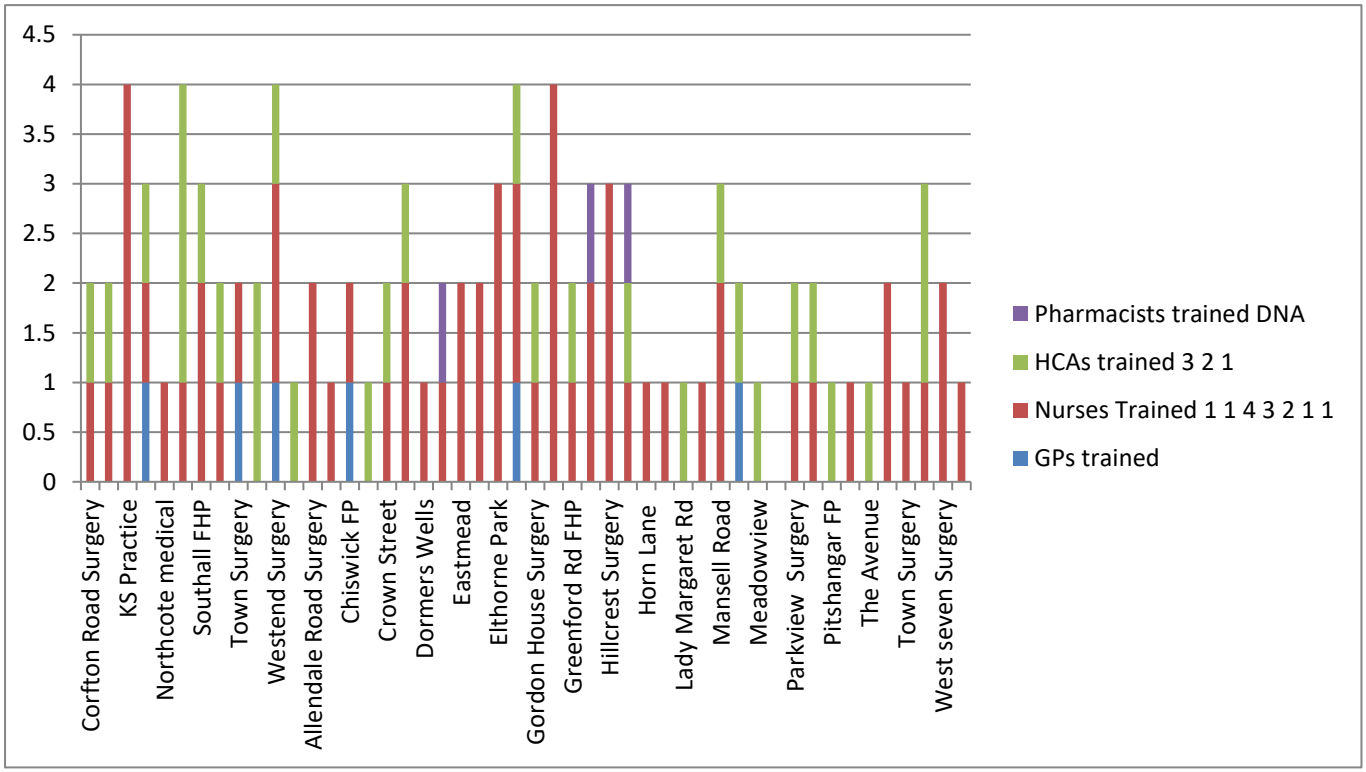

Phase 1
•Asthma lead in the practice identifies the cohort of CYP aged 1-16 years inclusive with a history in the past 12 months of:
•Admission to hospital with a discharge diagnosis of asthma
•Attendance to A&E;UCC or OOH with discharge diagnosis of asthma
•More than 10 reliever inhalers used/picked up
•A course of oral prednisolone for asthma
•This will not include children with VIW
Phase 2
•Asthma specialist nurse (ANS) will meet clinicians at the practice to review records and discuss potential factors contributing to sub optimal asthma control and decide upon the cohort to be seen in clinic at the practice. This stage will include review of practice processes.
Phase 3
•This review provides the opportunity to work closely with the clinician, incorporating key components of guideline based asthma care an addressing patient education and self-management
•The practice will invite to CYP and parent/carer to attend 40 minute asthma review at the practice with the GP, PN and ANS. It is important that the parents/carers understand that this is a programme to support and empower them and that they will be asked to attend 2 appointments 6 weeks apart. They should bring all medications, inhalers and action plans with them. 40 minutes is longer than would usually take place but is important part of the programme to allow for discussion and education.
Phase 4
•Follow up review at 6 weeks in the practice – 30 minute appointment
Phase 5
•Practice will be encouraged to contact ANS should there be a further admission/attendance or other unscheduled asthma related activity to discuss next steps and if there is a need for further review with ANS

Uptake of training: Oct 2017 – Mar 2019

Of the 12 practices targeted where there are avoidable admissions the following HCPs attended training:



Of the remaining 36 practices the following HCPs attended training:



Participation in ASP to date:

As is shown above and again below in Excel, of the top 12 practices targeted to date, 6 have engaged with the programme. We are awaiting compilation of cohort group from the remaining 6 practices and have been waiting for more than 6 months despite regular and frequent reminders. 3 have completed the ASP and 2 declined to continue before completion citing pressure of work too great to allocate time to follow up. 1 is still in progress. Other practices outside the top 12 who approached the service for support as can be seen from the document below are at varying stages of the programme.

At March 2019, 104 CYP with asthma or suspected asthma have been discussed with primary care teams and a plan put in place for them during Phase 1 of ASP. The asthma CNS has seen 31 children (some on multiple occasions with members of their primary care teams in practice, at home and in school. 8 children DNA to appointments arranged including home visits.

ASP participation Mar 19.xlsx

Feedback from ASP to date:

"Great support- I am learning so much and feeling much more confident" " It would be useful to do the training alongside the clinical support element of the ASP" ***PN***

"Feels that the team and support has helped a lot… she (daughter) is much better, I like the way that you really care about the kids" ***Father of child***

"It's really helped me" ***Child***

"Reviewing patients medical records ' with a fresh pair of eyes' has highlighted several issues where we can easily improve our care delivery and has highlighted one prescribing error which we are reflecting on as a team" ***PN***

"Your input is much appreciated and I think valued by ….. and his mother, as well as myself. I'll certainly be in touch as needed and great to know we have you as a useful resource."GP

All patients seen in the programme to date have reported increased confidence with managing their/their child's asthma. Children and young people themselves have told clinicians that they understand more about asthma and that using the Asthma UK resources have been both fun and helped them to feel more in control.

Education report Oct 2017- Mar 2019.

Implementation

Discussions with key stakeholders; admission data for CYP with asthma, together with the reports and documents [2,5,6], informed the plan to deliver several levels of formal taught days. Adopting this tiered approach would have the benefit of being able to deliver the information at the appropriate depth and complexity for the audience. The days delivered in December 2017 were:

- **Paediatric Asthma Day for nurses new to asthma or practice nursing** attended by 8 nurses of which 6 were from primary care, one paediatric branch student nurse and one school nurse.
- **Paediatric Asthma Update day for nurses experienced in looking after CYP with asthma** attended by 9 nurses 7 from primary care and 2 school nurses.
- **School Nurse Update – afternoon session delivered at GUV,** this was attended by 6 SNs and 2 HCAs with their team. Several school nurses subsequently attended the full day training and have requested more events specific to school nurses.

  These days were used to 'test' the format and teaching strategies, and from feedback, additions and amendments to the days were made.

Written evaluations of all the sessions within each day were obtained. Additionally candidates were asked to identify at least one practice point they would take from the day and implement, to change their practice as a result of learning from the sessions. Three months later candidates are asked to feedback what changes they have in fact implemented. Three month feedback from the first session candidates and results are shown in tables 1 - 4

Nurses and HCAs

Two days for new and experienced nurses ran quarterly; these were attended by 84 mainly primary care and community nurses. The sessions have been developed to accommodate all learning styles and are a mix of taught sessions, group work, workshops, video and web based activities as well as reflection on their own practice.

In response to demand from HCAs in primary and secondary care, an *'Introduction to Asthma'* for HCAs day was developed and delivered in March, August and October 37 HCAs predominantly from primary care attended. All feedback on sessions below in tables 5&6. Training rooms for Nurses, Clinical Pharmacists and HCA days to be repeated quarterly in 2019 have been secured, and it is envisaged that this will form the basis of a quarterly rolling programme of continuous education and updating for primary and secondary care

staff. Half day sessions which concentrate on subjects identified in feedback as the most useful or difficult areas to understand for example: Personalised action planning; use of asthma control score, have also been developed the first of these will be delivered May and June 2019.

Public Health and Children and Young People

A focus group with CYP and parents in December was attended through work with the Ealing public health consultant on developing *'Supporting Children with Asthma and Allergy in Schools'* policy development project. In March 2018 two asthma workshops for CYP, years 7-10 and 11-13 at Northolt High School were run at the request of school medical officer. A total of 19 CYP and their teachers attended those sessions and were well evaluated:

"*… thank you both so much for yesterday. I have had some very good feedback - the second group told their teachers it was very interesting and they learnt some things they had not known. Indeed so did I!!"* ***Medical Officer Northolt High School***

As a reciprocal arrangement for having delivered asthma workshops at Northolt High, a training room at the school was offered for a 'one off 'Welfare Officer study day 'Supporting *CYP with Asthma in Schools'.* This was to have been a 'test' session in response to requests from secondary school head teachers for a comprehensive day to be attended by staff leading on asthma in schools following the death of 3 school children at school in Ealing in the past eighteen months, however there were not enough applicants and the day was cancelled.

Doctors

The first GP training session took place in February 2018. 15 GPs booked, 9 attended. The session covered latest guideline updates and introduced the Asthma Support Programme. The session was well evaluated (see table 7). Responding to requests from GPs and junior hospital doctors, a session on *'Viral Induced Wheeze'* to be delivered by Prof. Sejal Saglani from Imperial College, London has been arranged (and is currently oversubscribed). This will inform practice and promote networking to improve care given by secondary care teams which is often not optimal.

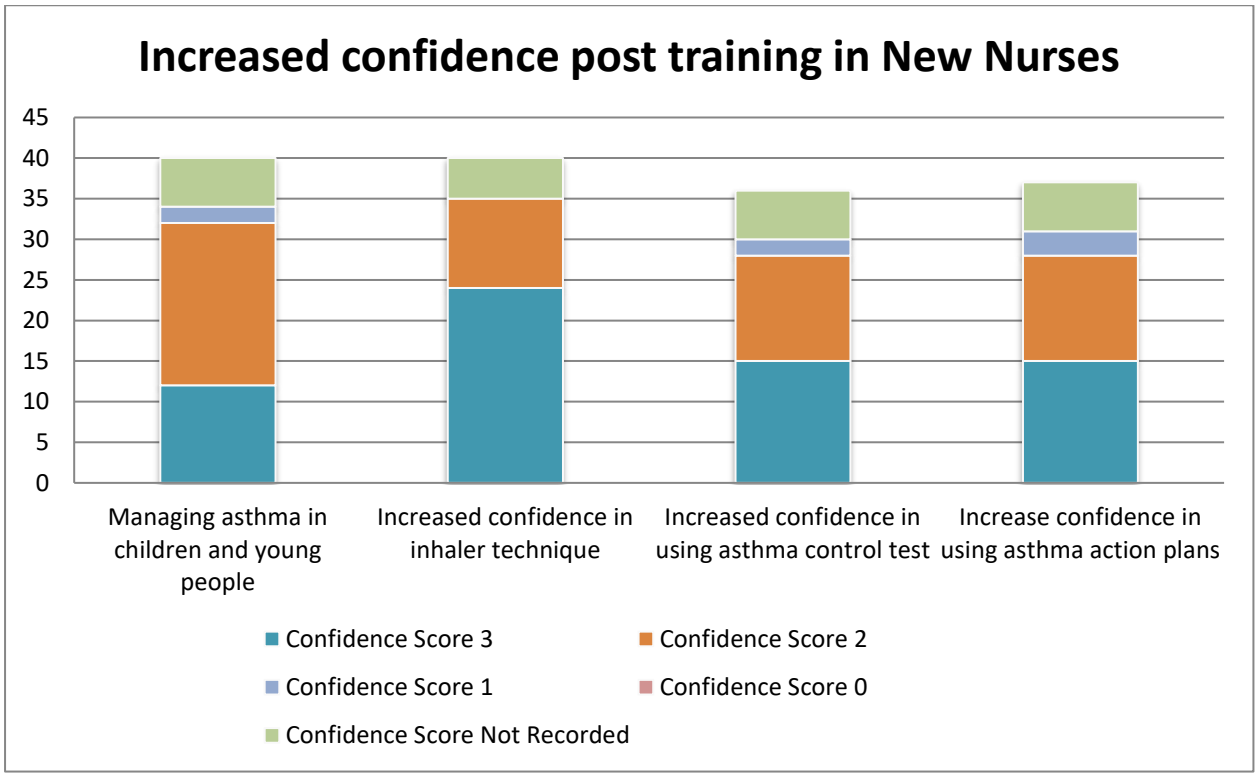
Teaching Resources

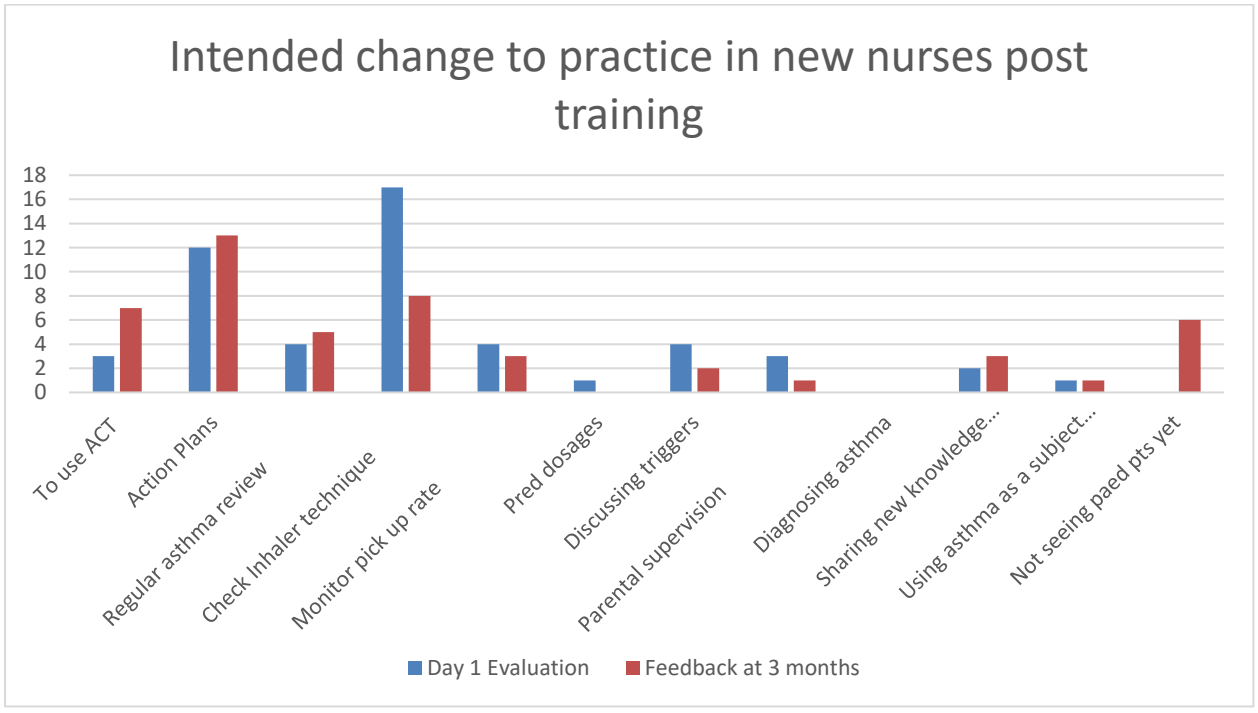
All PowerPoint presentations and learning resources have been developed for all of the aforementioned sessions and are being continuously reviewed and updated to ensure they are compliant with current best practice guidelines and Trust values.

FEEDBACK

Primary measurements are increase in level of confidence post training and practice points to change practice.

Nurses New to Asthma management in CYP.



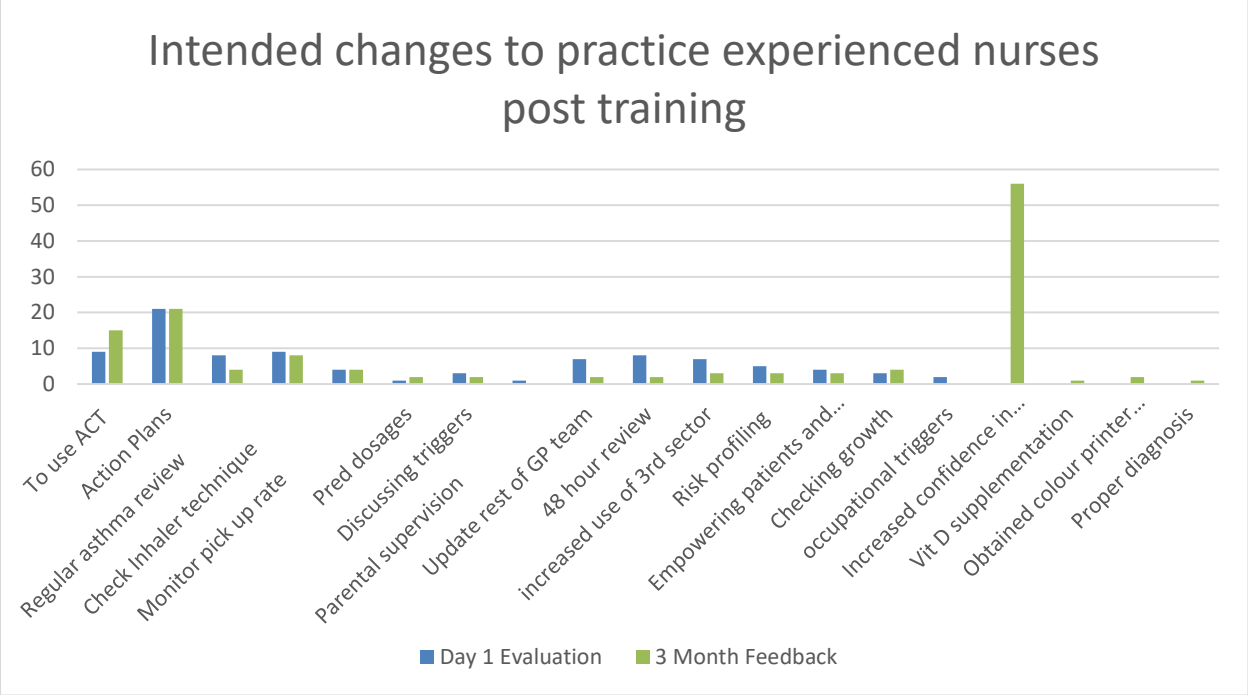


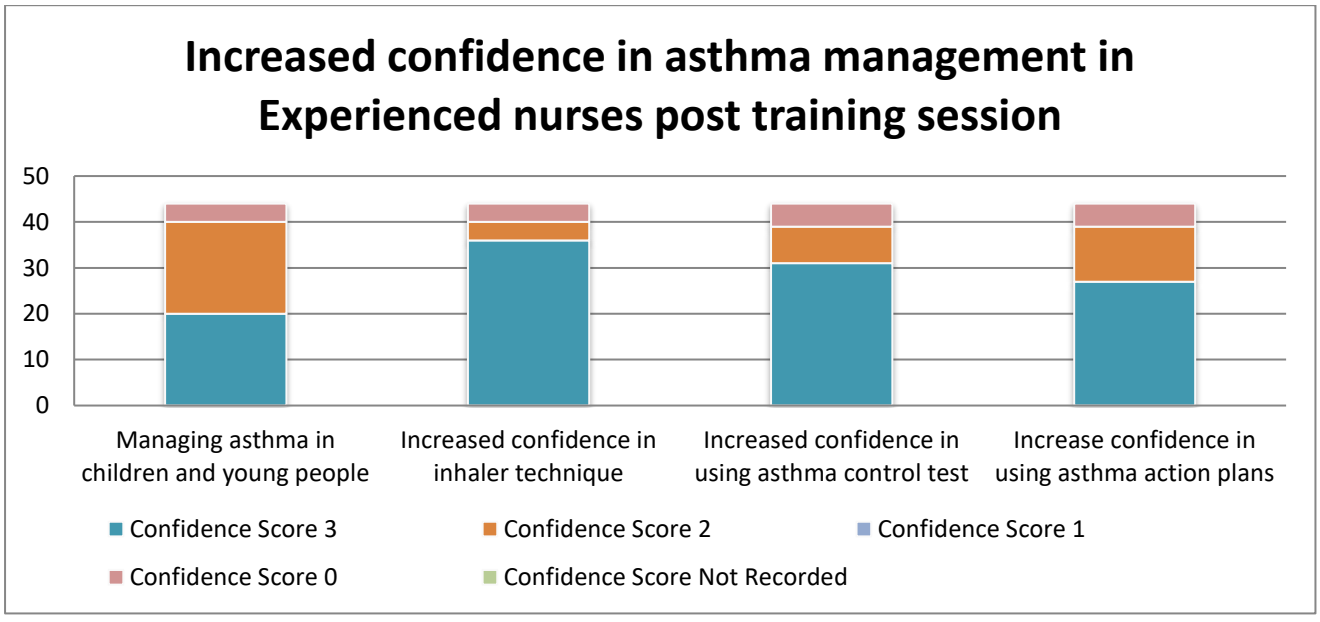
"When I attended the study day I was already studying for my asthma degree module, but what you taught made it all come together. It was a great day, really, really helpful. I have

now started to see children with asthma and am much more confident about talking to and explaining things to parents. The anatomy you taught was brilliant!" ***PN with asthma degree.***

"The study day was most valuable and I would love to attend again in future". ***PN***

Experienced Nurses and Clinical Pharmacist Asthma Update.



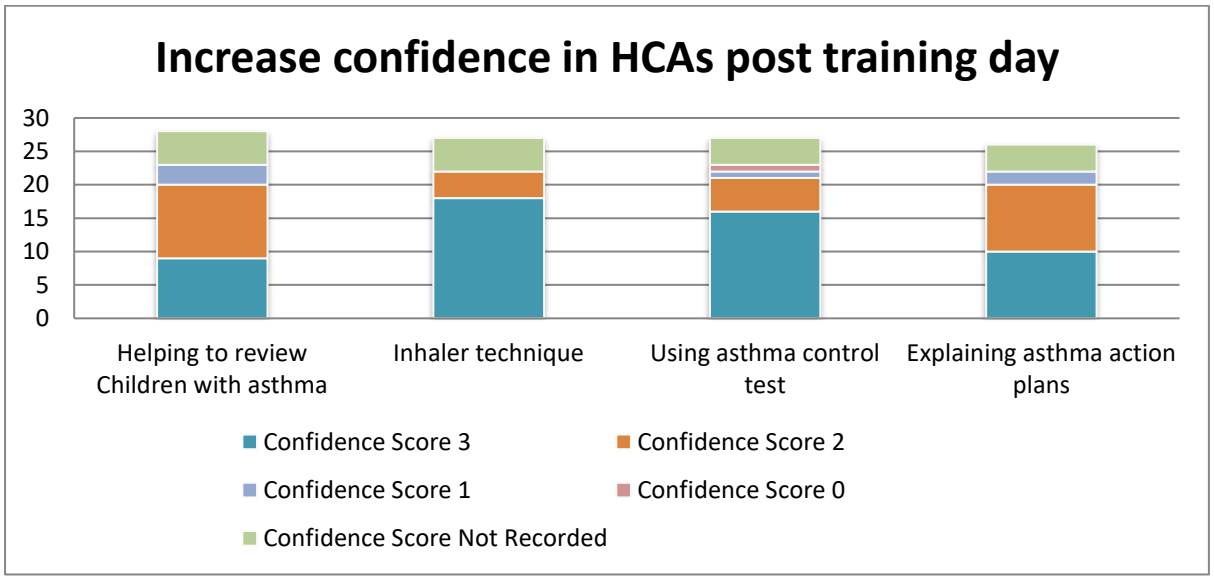


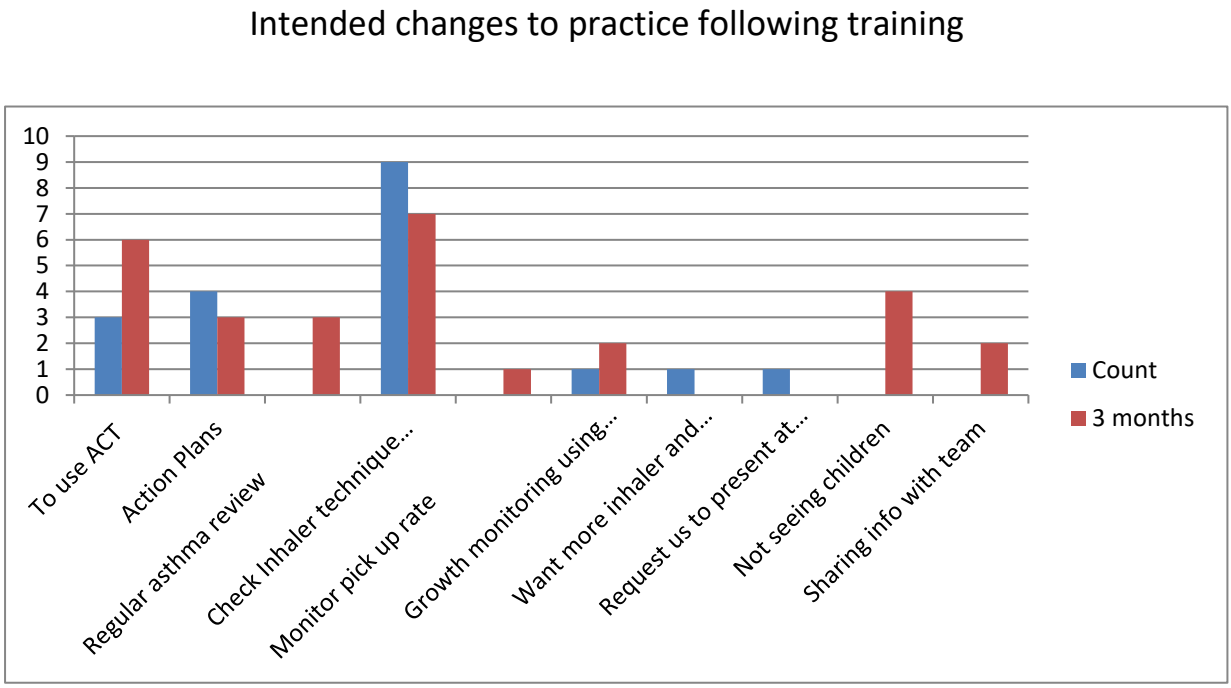
"I really loved your presentation. Lots of useful information with regards to managing asthma in the GP setting. The length of the session was just perfect, no time to get bored, as the discussion was so engaging and full of insights. Would definitely be interested in attending future updates." ***NP***

*"Very relevant and applicable to primary care. I particularly like the critical appraisal of BTS/SIGN/NICE guidelines which would have taken me forever to get through on my own. A brilliant day – thank you! "****PN***

"I sincerely hope this update will continue and that it is conducted by nurses who have first-hand experience of the management of asthma. Thank you for your expertise and help in managing our children in primary care." ***NP***

HCAs Introduction to Paediatric Asthma

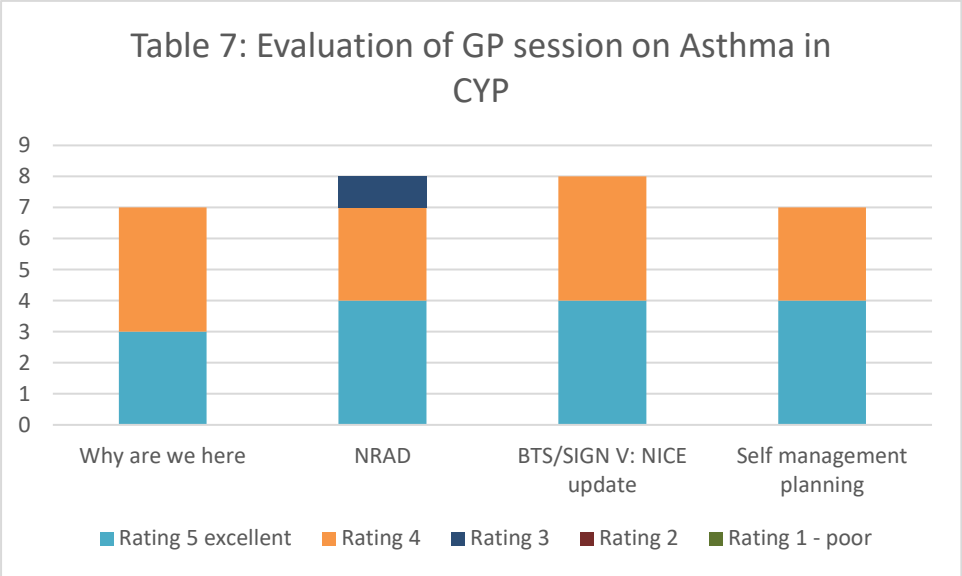




"Need another ½ day to do more practical work" ***HCA primary Care***

"Asthma paed training was excellent. I am more aware about careplans and teaching parents too.I would like to update this training in future Now I know more about inhalers." ***HCA Primary Care***

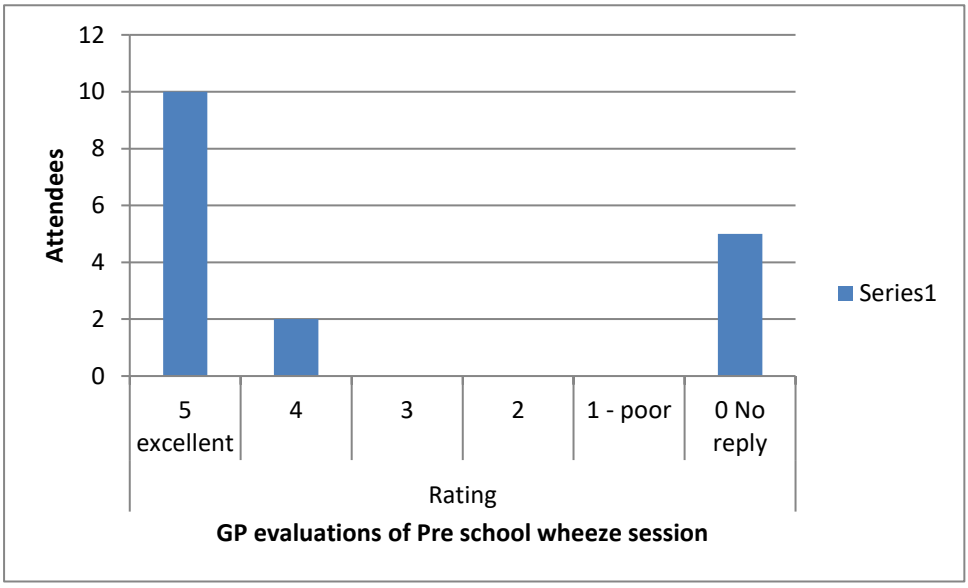
GP session on Asthma Guidelines Update Feb 2018



Score 0-5 5 being excellent

"Very useful session – all really relevant. Would like future sessions on viral wheeze, inhaler technique and managing difficult asthma" ***GP***

GP session on pre-school wheeze 25th April 2018



'Excellent update on viral wheeze, ... with useful, practical evidence based tips'
'Thank you! - one of the best training sessions I have attended'

'This was a brilliant course! really appreciated the trial data and evidence'
'The videos and audio of wheeze and what to tell parents was really useful'

Findings

It is apparent that asthma care is provided across Ealing practices not only by doctors and nurses with training in asthma, in line with current guidelines [7,8] but also in some cases by unregulated healthcare assistants with no formalised asthma training, experience or protocols. The absence of protocols or policies pertaining to HCA involvement in managing long term conditions in primary care make it difficult to standardise messages and ensure consistency in quality of care.
The initial impression is that there is significant variability in the quality and consistency of asthma care for CYP across Ealing; furthermore there is anxiety and lack of confidence among HCPs around looking after CYP with asthma as opposed to adults.

Diagnosis

Diagnosis is perceived as extremely difficult by many clinicians in primary care and this belief hasn't been helped by conflicting and often impractical algorithms for diagnosis in CYP in NICE and BTS/SIGN. The service has found that the majority of CYP on asthma registers in Ealing have no documented evidence for diagnosis of asthma and this means that often, neither the clinician nor the patient/carer is really convinced of the validity of the diagnosis. This observation is further supported by low numbers of CYP with a firm diagnosis of asthma confirmed in CCG data in 'the Impact of Paediatric Specialist Support in Primary Care' Excel document below. This inevitably leads to less than optimal treatments and management advice.

Future Education

Reinforcement of the 'Brilliant Basics' of asthma care such as inhaler technique and use of written personalised asthma action plans must be the focus of any future programme of education. It cannot be assumed that senior clinicians are either confident or competent in these areas. Future proofing will depend upon a shift to personalised medicine. Asthma is complex and there is no 'one size fits all approach'. Existing clinical algorithms do not prescribe a course of action, they rely on a level of clinical decision making and consideration of the very individual nature of asthma and the psychosocial factors that impact upon it. Continuing a programme of education for senior clinicians and leaders in primary care, which focuses on the importance of personalised care; phenotyping and risk profiling, while embedding the brilliant basics is vital. Formal training objectives and

competencies for HCAs and Nursing Associates are being developed nationally and once they are ratified it will be possible to develop and deliver more targeted training for those groups. In the meantime, HCAs and NAs should not be encouraged to participate in any care delivery which involves them making clinical judgements or decisions for which they have not been adequately trained and assessed. Recognising the value of technology and digital media in caring for younger people will ensure that our clinicians are able to meet the needs of children and young people with asthma.

Post training, clinicians were asked to report what changes they would make to their current practise. Healthcare professionals who described themselves as 'experienced nurses' highlighted **novel** use of asthma action plans and inhaler technique. These are two key components of asthma care that would be in line with the expected standard.[1] This finding in this cohort of healthcare professionals was surprising as many had declared themselves to be **the asthma lead** in the practice. This finding alone demonstrates that there is a level of unconscious incompetence and a lack of understanding of the basic components of good asthma care in clinical leaders responsible in some cases for the organisation and delivery of care.

As a result of the feedback on the day and at three months post training, half day sessions on diagnosis, Personal Asthma Action Plans, Asthma Control Scoring and inhaler technique for all HCPs have been developed in addition to all day sessions. These areas consistently scored lowest for HCP confidence in practice and lend themselves to shorter focussed sessions. Training will continue to be delivered quarterly and will be open to Ealing community, primary and secondary care staff to promote integrated learning and practice.

Prioritising a proactive approach to asthma care

There is a reluctance and uncertainty around the perceived benefits of adopting a proactive approach to asthma care. This is demonstrated by several practices who claim they regularly review their acute asthma admissions and attendances reactively after the event to establish whether they were indeed appropriate but do not appreciate that an earlier proactive intervention based on risk profiling and searching could have prevented these asthma episodes. However, there is evidence at some practices of a whole team approach to asthma care with strong leadership and commitment to provision of high quality, proactive, safe care. There is real potential for these teams to share their models of best practice with others who are struggling across Ealing. A network approach across practices could be instrumental in driving up standards.

Complacency and lack of knowledge and skills around asthma and co existent allergic conditions, despite NRAD findings, is still apparent, not only in healthcare professionals but also in parents/carers and CYP with asthma[1]. This means that for many children with asthma and allergy their heightened risk of severe or life threatening attack is not identified, understood or planned for. This is especially disappointing given that 3 children have died of asthma and anaphylaxis in Ealing in the past 2 years. The latest death occurred in June 2018 and a substantial piece of work has been undertaken to support the team around that child both in primary care and school by this service.
There are challenges with data availability and extraction, which has a negative impact on proactive working. Some of the feedback from practices themselves highlighted the difficulties they face with obtaining patient level data relating to acute admissions and attendances in a timely way. This impacts upon their ability to respond to 48hr review in line with best practice[7].

In practices where IT expertise is limited, the ability to undertake effective searches to facilitate effective risk profiling is significantly compromised. This appears to be a common challenge which has in some cases delayed the delivery of the Asthma Support Programme. It is unclear at this time whether a lack of IT competence is the sole problem but time constraints could also contribute. Use of WISIC is very limited only 2 practices visited had even heard of it and none were using it to inform delivery of asthma care to CYP. However now that Ealing have a respiratory project lead in post, as well as a lead clinician ,obtaining accurate and timely data feedback is envisaged. This will help both to gain access to struggling practices and to provide them and this service with accurate feedback on progress.

In situations where searching is undertaken routinely, it is clear that search criteria to support risk profiling must be specific and relevant. This is also dependent on robust coding practise by clinicians in both primary and secondary care. Competence of clinicians, underpinned by evidence based knowledge and skills will inform search criteria. Therefore a sound knowledge of asthma and what to look for to determine who is at heightened risk is crucial.

Empowering Primary Care teams

There appears to be reluctance both in secondary and primary care teams to embrace change or differences in asthma specialist support models. As the Trust has merged, 3 CCGs are commissioning services and there is confusion regarding service provision. The model of support that has been developed for Ealing, aims to maximise evidence based, quality, measurable outcomes for very limited resourcing. However there is a persistent desire among clinicians from primary and secondary

care for a specialist service to exist which provides reactive care for patients in clinic formats away from primary care and without involving their teams. Such models have contributed to the loss of expertise and confidence among primary care teams and junior hospital doctors over previous years and are dependent on the posts being filled.

Reliance on specialist services encourages dependence of patients and carers, potentially undermining their self-efficacy and their confidence in their GP. It gives the child and their parents the impression that their condition warrants intervention at a specialist level- away from their primary care team. This is well illustrated by an entry in a clinical record which stated that a mother had expressed a desire for her child to stay on a suspended asthma specialist nurse caseload, even though she was aware there was to be nobody in post for an unspecified period of time; as 'she felt safer being in a specialist system'. This is neither clinically appropriate nor cost effective. Furthermore, the principles and concepts of supported self-management promote care close to home; supported by health care professionals who are both confident and competent to work collaboratively with patients and their families. This empowers and motivates patients to work toward optimum control and effective self-management [1,7].

It is estimated that only 3.5-5% of people with asthma have severe refractory asthma[7] which would warrant tertiary intervention. The majority of CYP with asthma should be able to be looked after in primary care most of the time. The primary care team is best placed as they will have all the information from **all** sources providing care; an understanding of the local demographic and practice population and are more likely to have knowledge of any psychosocial issues or family dynamics that could negatively impact on asthma control. However this will only work if the team have the knowledge, skills and commitment to proactive asthma care.

The ASP requires input from primary care teams to risk profile their asthmatic children and young people as well as identifying those who are already causing concern through admission, OOH attendances or oral steroid use. The practices who embrace this proactive approach are definitely benefitting the most. Others are trying very hard to 'adapt' the model to a 'specialist- nurse- holding- clinics- in -the – surgery' without clinicians investing too much in the care planning and delivery. This will not foster sustainability and clinician confidence and competence. Secondary care clinicians are fixating on historic specialist nurse models with home visiting as a key feature for patients who they feel need more intensive support. Home visits by specialist nurses may seem attractive and have relevance for some but for others there is limited benefit. Home visiting is very demanding on resources.

The specialist nurse is often seen as 'catch all' for patients who for whatever reason do not easily fit existing care pathways or who are perceived as 'heart sink 'patients. It isn't specialist knowledge that is required to help them, rather a commitment to a well led, team approach which is supportive and acknowledges the patients' needs [10] delivered close to home by clinicians they know and trust. Currently there are eight children on the caseload who are receiving on going input from the service either at home, in their practice or at school visits but the aim always is to hand patients back to their primary care teams as soon as a safe plan has been developed for the child.

While the initiative to promote and train HCPs to undertake 'gold standard' spirometry is laudable, there is a problem within Ealing Primary Care that most HCP's qualified to undertake spirometry are not confident to assess children. Formal training programmes need to be delivered to all members of primary care teams. The success of provision of safe care is a whole team and systems issue not just the responsibility of committed individual clinicians. It is apparent that the most successful practices are those who have fostered a whole team approach, supported by clearly defined and well communicated systems and processes to support asthma care in all age groups. The team at Mill Hill for example, have adopted such an approach very successfully.

Asthma in schools

Many of the CYP, parents and teachers who attended focus groups and training sessions expressed real concerns regarding the expertise of staff in schools to recognise and deal with asthma and allergy emergency situations. Currently school nurses aren't contracted to provide training any more than annually and the service is significantly less well-resourced than other areas like Hillingdon for example. Schools have an enhanced duty of care in supporting CYP with medical conditions[11] and are requesting training and support with individual children. There is a real desire to return to the Asthma Friendly Schools Project model of support amongst head teachers and school staff. Expectation is high but whilst this service has had input into schools policy development with the Public Health consultant in Ealing, there are inadequate resources to offer training regularly and frequently to school staff and school nurses to support schools in meeting their statutory obligations. There is also some concern based on poor uptake of a training session for school staff that despite information to the contrary schools are reluctant to release staff for training. Output in terms of developing resources and materials, planning sessions and associated admin tasks for these sessions is high and is not cost effective if uptake is poor.

Discussion/Conclusion

Routine asthma care for CYP in Ealing is variable and frequently lacks the key components and standards of basic care identified in current guidelines and quality standards [1,7,8]. According to Dr Mark Levy in his recently published audits of asthma care in general practice in both Harrow and Bedfordshire noted "*GP computer systems used in primary care currently do not have the functionality, without the need for manual audit, to implement the NRAD recommendations starting with the identification of patients at risk. Modifications to existing systems within both primary and secondary care are required in order to prevent unnecessary deaths related to asthma. There is a pressing need to move towards a more pro-active model of care.*"[3,4.] This is an issue within Ealing CCG too and has been one of the major challenges to full implementation of the Asthma Support Programme.

Engaging practices in Asthma Support Programme has taken longer than initially anticipated and this is largely due to challenges to practices to deliver the proactive element of the programme. Whilst continuing to promote full engagement with the ASP the asthma specialist nurse has begun to review single patients with primary care teams in their practices (rather than home visits or clinic appointments out of the practice) in the hope that this will introduce the model of working alongside primary care teams to deliver gold standard asthma care to CYP. Whilst currently there is limited evidence that this strategy is working, this approach has proved popular and the service is now receiving requests from teams to help them manage CYP with asthma and has even secured repeated requests from several practices. Going forward, this model would be a poor use of resources and practices should be encouraged to risk profile and aim to see and plan the care for those most at risk rather than just reviewing 'one off' patients however it seemed the most pragmatic way to try to embed a new culture of asthma care given the challenges described. The service is also now receiving regular requests for help and information regarding asthma management in CYP from medical students, GP registrars, Clinical pharmacists, school welfare officers as well GPs and nurses. Requests are answered by email, telephone and face to face. Following the appointment of a project lead for respiratory services in addition to the clinical lead and subsequent meetings to share ideas and findings it is hoped that specific practice level data will be available to facilitate targeted support of practices which are struggling to cope with their children with asthma. The data on admissions 2017-2018 and 2018-2019 in the 'Impact of paediatric specialist support in primary care' Excel document (below) demonstrates a reduction in asthma admissions in Ealing during the first year of this service and it is the result of all the strategies discussed above. Now the service is in receipt of up to date admission data, targeting practices will be easier and more relevant to each practice.

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It is interesting to note from feedback from nurses (Tables 2&4) that none of the new nurses had taken risk profiling on board as a behaviour change and a potential lifesaving intervention. Only three nurses (from the experienced nurse group) gave feedback at 3 months post training that they had introduced risk profiling to their asthma practise. From the evaluations of the sessions on the study days (which have not been included here), it was noted that the session on NRAD findings and recommendations which was intended to motivate and nudge behaviour was least well received and evaluated. There is clearly a need for more work around changing the culture that surrounds asthma care. Examples of excellent practice, based on latest guidelines and evidence have been noted in Ealing. Future proofing must involve sharing of best practice with a pragmatic practical approach. There may be an element of 'burn out' as primary care healthcare professionals struggle to work with ever increasing demands and an ever changing healthcare landscape.

A programme which offers support in a friendly non-judgemental way, and a pragmatic approach with simple 'how to' and 'top tips' has the potential to change asthma care.

Next steps could consider the involvement of practice nurses in delivering the programme through secondment opportunities. This 'grow your own' approach has the potential to improve 'buy-in' and embeds and grows the role of the practice nurse in asthma care. Urgent consideration should also be given to increasing asthma service staff resourcing to schools; either by amending the school nurse contract provision or by increasing funding for specialist community nurse to reignite the 'Asthma Friendly Schools' project within Ealing. School staff are requesting additional training and support which currently is given ad hoc and on an informal basis and is significantly less than 5 years ago in Ealing. The asthma specialist nurse service at that time 'blazed the trail' nationally and led to the development and publication of the London Asthma Standards for Schools by Healthy London Partnership.

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