



Executive summary of Integrated Allergy Care Pathway Project

Report: Itchy sneezy wheezy (June 2014)

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We would also like to acknowledge the support and help received from Carole Bell, Project Chair

Terms of Reference:

This executive summary has been prepared to inform the commissioners of the Itchy Sneezy Wheezy project 2011 to 2013. A full report including more detailed findings is enclosed along with appendices

Introduction:

This reports sets out the work which has been carried out to improve the management of allergic and respiratory conditions for children in the West London (WL), Central London (CL) and Hammersmith & Fulham (H&F) Clinical Commissioning Groups (CCG's). This was initially funded by the NIHR CLAHRC and latterly by the CCG's commissioning the service.

Background:

1. Local Healthcare analysis

The 2011 JSNA showed wide variation in the diagnostic prevalence for asthma ranging from 5-15% in adjacent general practices (expected 20%-25%)¹. Practices with the lowest diagnostic rates were associated with higher rates of emergency admissions and respiratory and allergic conditions. Costs for hospital related admissions had been steadily rising prior to introduction of this programme:

Costs(£) of asthma and allergy related hospital admissions for each then PCT over 3 years:

PCT	2008/09	2009/10	2010/11	Grand Total
H+F	558,691	608,902	631,084	1,798,677
K+C	418,469	414,499	463,043	1,296,011
Westminster	614,179	574,338	650,354	1,838,871
Grand Total	1,591,339	1,597,739	1,744,481	4,933,559

2. National reports

The National Review of Asthma Deaths (2014) ² highlighted the general failings to change systems and approaches, as contributing to high levels of preventable deaths from asthma in the UK. NHS hospital admissions for allergic conditions across England in the 12 months to February 2014 rose 7.7% for children and adults from the previous 12 months (HSCIC 2014)³ a trend not reflected locally, since the introduction of this service.

3. Training and education

Despite asthma and other allergic related disorders being the most significant cause of long term illness in the UK paediatric population⁴ successive surveys of GP's (Levy 2009⁵, Ellis 2013⁶) found inadequate access to training and gaps within the current GP training programmes contributes to poor levels of allergy care in the UK. General Practitioners themselves rate the quality of NHS allergy care as poor across care settings⁷, highlighting a need for an initiative to improve care.

Aim:

Improve the health outcomes for children with common allergic conditions including eczema, asthma, hayfever, food allergies and anaphylaxis.

Objectives:

1. To raise awareness and recognition of allergic disorders and their management: To develop a multidisciplinary education and training programme

We recognised the need to raise awareness and the need to develop clinical competences within primary and community providers to recognise and manage common allergic conditions.

2. Improved Clinical service provision: quality of care accessibility and cost effectiveness

We wanted to provide experiential practice supporting the consolidation of theoretical learning within the training programme and at the same time provide a valuable cost effective, accessible clinical service outside the hospital setting.

3. Integration without structural change

To create opportunities for professionals to work more closely together sharing knowledge and skills; developing the relationships needed to work together not only within, but across the services without the need for large scale organisational restructure.

4. Improve patient experience and patient public involvement

Involving parents and patients, by contributing and shaping the services through their presence at board meetings, or other initiatives and by the application of the allergy specific PREM which we developed to monitor the implementation project.

Methodology:

1. **Quality Improvement Methodology:** using evidence based tools supported by CLARHRC and NIHR.
2. **Project board:** bringing together a broad cross section of representation across the local service providers, carers, young people, patient representatives and charitable organisations.
3. **Patient engagement:** service users and carers integral in developing this new model of service delivery to affect change locally.
4. **Training and Development**
A 12 month rolling programme of training using:
 - a. Educational workshops
 - a. multidisciplinary audience
 - b. wide variety of settings (community health centres, schools, GP practices and hospital)
 - c. theoretical and practical components covered
 - b. Online resources on our website: www.itchysneezywheezy.co.uk incorporating educational slide packages, practical video demonstrations, care plans and patient reported experience measures.
5. **Multidisciplinary clinics outside the hospital setting** across the 3 CCG's.
MDT Consultant led clinics with nurse and dietician in community settings,
Nurse and dietician led clinics
Nurse led clinics in baby clinics with health visitors
6. **Professional network development.**
Rolling training programme to foster learning and networking between professionals from multiple disciplines from primary care, community care and secondary and tertiary providers

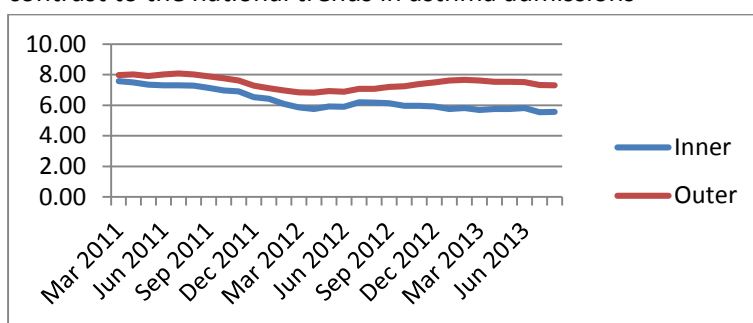
Outcomes and Key Successes:

1. **Clinical activity: (Table 1-5)**
 - 144 multidisciplinary clinics outside the hospital setting
(Consultant, nurse led with dietician, nurse led with Health visitors)
 - 612 children and their families seen.
 - Two thirds of children had 2 or more allergic conditions
 - Two thirds of children had skin prick testing
 - One third of families had dietician advice, mostly on food avoidance
 - All parents were given an written management plan and had education and training on the treatment for their child
2. **Training and development: (Table 6)**
 - 44 sessions provided for 324 professionals trained

- Increased professional confidence as measured by questionnaire scores pre and post training, ($p < 0.0001$) overall with breakdown by disease;
 - Asthma diagnosis ($p < 0.05$) and treatment ($p < 0.01$)
 - Allergic rhinitis diagnosis ($p < 0.0001$) and treatment ($p < 0.0001$)
 - Food allergy diagnosis ($p < 0.0001$) and treatment ($p < 0.0001$)
 - Eczema diagnosis ($p < 0.05$) and treatment ($p < 0.001$).
- Better recognition of allergic disease and complexity⁸

3. Impact on unscheduled care: (Table 7)

- **13% reduction** in children attending St Mary's Accident and Emergency Department with asthma, respiratory and allergic conditions when compared to 2012.
- Trend of reducing asthma admissions in tri borough compared to outer boroughs and in contrast to the national trends in asthma admissions



- **22% reduction** in emergency admissions (equivalent to £102 000 savings in 1 year)

4. Patient experience

Development of validated patient experience measures in paediatric allergic conditions
98% parents reported high or very high levels of patient satisfaction with the service they received using a validated Patient Reported Experience Measure

5. GP feedback

Four GP practice managers were approached for feedback from GP's within their practices on the GP experience of the service; all responses we received were positive:

"I have found the paediatric allergy service very useful. I have only referred one patient so far that I can recall but she was seen quickly and I believe her parents were happy with the service. I think it would be a shame to lose this service."

"Great for patients and a very useful resource. Feedback from patients uniformly positive. Clear management plans for us to follow. Would have liked to integrate more on pt management and for GP education."

"My experience of the service has been very positive. Patients get a prompt response, we get a report that is informative and helpful and parents are very positive about how helpful they find the service. So only good things to say. I have had no negative feedback."

“This service is a welcome addition to the increasingly complex primary care world. It is an extra benefit to patients that it takes place in the community, in a setting familiar to families and far less anonymous than a hospital outpatient setting.”

“The service we host at Paddington green health centre is run by pleasant , efficient and responsive team of doctors and nurses from the chest and allergy Paeds department of St Marys/ Imperial .We can liaise easily regarding patients too.”

“I have only had positive feedback from patients parents and children to endorse my experience of referring to the service .”

“Overall this is a well set up service , which will leave a gap if it was to be closed down . This would be a backward step in the running of the health service as needed in today .I have no idea of the cost efficiency in running this service but do know that not all measures of quality and good service can be measured in numbers .”

6. **Quality:**

The service has provided high quality allergy care in the community and has been one of the first in the country to improved access in the community to allergy diagnosis. It has delivered early intervention for allergic conditions which are the commonest cause long term health conditions in paediatrics reducing the need for emergency and unscheduled care. Patients and carers have been involved from inception in the service development. Feedback from stakeholders has been positive. Patient experience measures of those seen in the community are equivalent to that of patients seen in the tertiary level clinics.

Quality issues in relation to the administration of the service have been apparent, two main reasons for this have been inadequate funding of administration and high turnover of staff working within systems and processes significantly different to what they are familiar with in an acute trust. A number of temporary staff have been allocated to role of which there has been a high turnover; many of these have not had the necessary experience to provide the level of customer service we hoped to achieve.

7. **Cost effectiveness**

- Reduced cost of consultant led community clinics (£27 per patient) £263 in the community vs £290 in OPD
- £102 00 saving year 1 through reducing unscheduled admissions by 22%
- Savings have been made by reducing respiratory and allergy A+E attendances (St Mary's Hospital only) by 13%
- A more cost effective nurse led model has now been developed this will significantly reduce the overall cost of the service whilst continuing to enable liaison between primary, secondary, tertiary and community services and allowing more patients to be seen and treated closer to home
- Overall this model provides a more economical way of delivering allergy care to our community

8. Integration of care:

Good links have been established through training and development and practice, allowing earlier and easier access to specialist advice as well as formal supervision sessions. This has led to earlier interventions in the management of these long term conditions and delivering improved outcomes and standards of care.

9. Role of the specialist nurse:

This role has been key in the development of all aspect of the service and creating the networks across the care providers. We have worked to create relationships with community based school nursing, health visiting and children's community nursing with the secondary and tertiary care staff; allowing staff to develop professional networks with the aim of sharing knowledge and skills thereby improving the efficacy of community services. Further to this it allows these staff to develop their clinical practice within a framework to which they would not otherwise have access. In the longer term this could be used to significantly develop community practice as well as individual professional development. The role of the nurse specialist has also provided a link for families to access support and advice as needed.

10. Sustainability:

To sustain this service a meaningful commitment from community provider is need. If care is to be moved downstream successfully, reducing demands on acute and primary care then capacity within existing community provision should be identified; then redesigned allowing us to pilot this new more effective way of working. Once resource is identified, and staff developed with a greater focus on the clinically outcomes of school health reviews for example, it should be possible to see greater improvement in health outcomes.

11.

Next steps:

To build on the work already completed and the success of itchy sneezy wheezy , streamlining future service development and delivery within Connecting Care for Children (CC4C) initiative:

- Determine the most appropriate service and governance structure, implement and evaluate this.
- Build capacity by developing nurse led /primary care delivered model of care with access to specialist allergy training and supervision, to provide a more sustainable and cost effective solution for the on-going delivery of community allergy clinics, maintaining ease of access and enhancing early intervention. The sooner allergic disease is diagnosed and effectively managed the better the outcomes. Costs attached within the role of the children's nurse practitioner.
- To strengthen the links within the professional networks building stronger and more robust structures to underpin this new model of service delivery and professional development that is cost effective and increases levels of integration through more shared working and learning.
- Incorporating further developments. These will include mathematical modelling of care pathways which will facilitate prediction of health and economic outcomes and the development of allergic disease specific Apps and other IT-based strategies for patients and professionals.

Conclusions and recommendations:

- We have demonstrated the feasibility, success and cost effectiveness of an integrated children’s allergy care service.
- We have demonstrated increased awareness and recognition of allergic disease by patients, primary and community based services, with improved quality and accessibility of care reduces admissions and unscheduled care this is in contrast to the national trend.
- This service has shown the viability of integration of paediatric allergy care across all providers without costly structural change and provides a model to carry forward within the wider integration of paediatric of services.

References:

1. Joint Strategic Needs Assessment for Kensington and Chelsea, Hammersmith and Fulham and Westminster 2011
2. Why asthma still kills, The Nation Review of Asthma Deaths (NRAD), Confidential Enquiry Report May 2014, Health Quality Improvement Partnership, Royal College of Physicians
3. Health and Social Care Information Centre: Provisional Monthly Hospital Episode Statistics for Admitted Patient Care, Outpatients and Accident and Emergency Data - April 2013 to February 2014. Published 3rd June 2014 <http://www.hscic.gov.uk/catalogue/PUB14196>
4. Punekar, Y. Sheikh, A. (2009) Establishing the sequential progression of multiple allergic diagnoses in the UK birth cohort using the general practice research database, *Clinical Exp Allergy* 39(12) pp 1889-1895
5. Levy, M. Walker, S. Woods, A, Sheikh, A. (2009) Service evaluation of a UK primary care based allergy clinic: quality improvement report, *Primary Care Respiratory Journal* (18)4, pp 313-319
6. Ellis, J. Rafi, I. Smith, H. Sheikh. A. (2013) Identifying current training provision and future training needs in allergy available for UK general practice trainees: national cross-sectional survey of General Practitioner Specialist Training programme directors, *Primary Care Respiratory Journal* (22) 1 pp 19-22
7. Hazeldine M, Worth A, Levy ML, Sheikh A. Follow-up survey of general practitioners' perceptions of UK allergy services. *Prim Care Respir J* 2010;19(1):84-86.
8. “Itchy-Sneezy-Wheezy” Survey 2013: Comparison of GP referral reasons to diagnoses on first allergy clinic letters. (Authors: S. Taha, N. Patel, C. Gore)

Appendix

Clinical activity Outcomes

Table 1: Clinical activity April 2013-Dec 2014

	Clinics	Consultan	Nurse	Pts	Pts	DNA rate	Referred to
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		t led	led	booked	attended		hospital
WL CCG	33	29	4	180	158	22 (12%)	2/81*
CL CCG	33	32	1	174	156	18 (10%)	4/156*
H&F	20	18	2	109	98	11 (10%)	3/98*
TOTAL	86	79	7	463	412	51 (10.7%)	No final data
HV clinics			1.5/week since June	-	49 (treated) Seen more for advice.	-	-

Table 2: Age Profile of children seen in ISW clinics

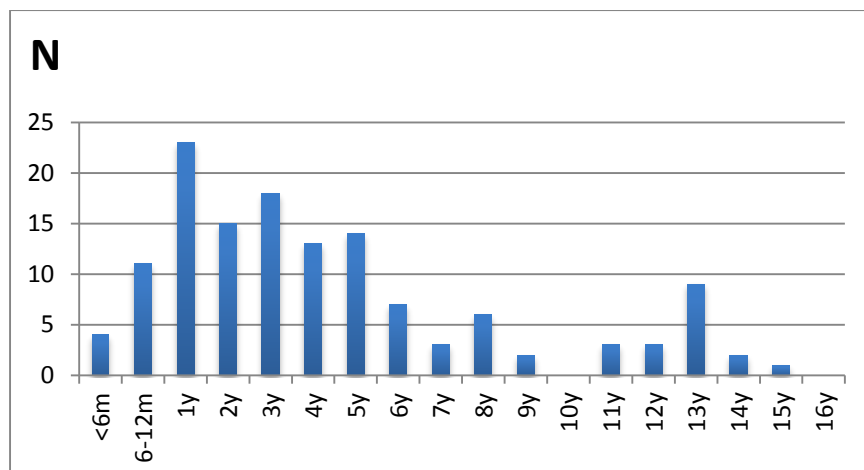


Table 3: Profile of Allergic co-morbidities of children seen in ISW clinics

Number of allergic co-morbidities	n	%
1	16	20%
2	31	38%
≥3	23	28%
Other (not allergy)	11	14%
Total	81	

Table 5: Diagnoses

Diagnosis (ISW clinic) (n=81, WL CCG)	n	%	Comment
Eczema	50	62%	6/50 severe 16/50 moderate-severe
Food Allergy	32	40%	8/32 multiple Food Allergies
Allergic Rhinitis	23	28%	
Asthma	11	14%	4/11 poor asthma control
Wheeze	4	5%	
Gastrointestinal	4	5%	
Other	13	16%	

Table 6: MDT input at ISW clinics

Test/Training (n=81, WL CCG)	n	%	Comment
Skin Prick Testing	55/81	68%	7/55 Aeroallergen only 17/55 Food allergen only 31/55 Both
Dietitian for advice in clinic	30/81	37%	2 documented further FU
Device/Treatment Training	ALL	100%	
Written Plan	ALL	100%	

Table 7: Prescriptions issued for ISW clinics

Test/Training (n=81, WL CCG)	n	%	Comment
Skin Prick Testing	55/81	68%	7/55 Aeroallergen only 17/55 Food allergen only 31/55 Both
Dietician for advice in clinic	30/81	37%	2 documented further FU
Device/Treatment Training	ALL	100%	
Written Plan	ALL	100%	

Training and Education

Table 8: Numbers of professionals trained and sessions offered

Professionals attended:			
	2012	2013	Total
GP'S:	39	8	47
Secondary Care:	15	15	30
Health Visitors:	39	51	90
School Nurses:	46	76	122
Practice Nurses:	9	2	11
Children's Community Nurses:	7	0	7
Consultants:	10	0	10
Dieticians:	7	0	7
Total number attended:	172	152	324

Training Sessions:			
	2012	2013	Total
Full days:	3	0	3
Alert to Asthma:	3	0	3
Introductory Sessions:	2	2	4
Asthma/Rhinitis:	2	3	5
Food Allergy:	2	2	4
Eczema:	2	2	4
Roving Workshops:	7	14	21
Total number of sessions:	21	23	44

Impact on Unscheduled Care

Table 7: 2012 Emergency attendance rates, St Mary's Paediatric A&E only.

2012 SMH A&E Data			
Condition	Attendances (n)	Patients (n)	Comment
Asthma (search: age >2 yrs)	337 (all)	262 (all)	45 patients had 120 attendances
Age 2-5 years	62		93/339 (27.4%) admitted
>5 years	275		
Viral induced wheeze	737 (all)	577 (all)	98 patients had 258 attendances
Age <2 years	300		226/737 (30.7%) admitted
2-5 years	365		
>5 years	72		
Chest infection	153		51/153 (33.3%) admitted
Eczema	189 (all)	167 (all)	18 patients had 40 attendances
Age <1 year	94	82	10/189 (5.3%) admitted
1-2 years	22	20	
2-5 years	35	33	(12 patients aged <1 year had 24 attendances)
>5 years	38	36	
Allergic Reaction	738	695	43 re-attenders
- anaphylaxis	6	6	No re-attenders
- angioedema	41	40	1 re-attender
- food allergy	131	130	1 re-attender
- drug allergy	24	22	2 re-attenders
- urticaria	145	135	10 re-attenders
- hayfever	15	14	1 re-attender
- stridor	18	14	4 re-attenders
- wheeze	97	96	1 re-attender
- contact dermatitis	11	11	No re-attenders
- other	375	352	23 re-attenders

