Better care across the system for children and young people with asthma

Introduction

- Asthma is a long-term inflammatory condition that affects the airways, causing wheezing, coughing, chest tightness and breathlessness. Asthma cannot be cured, but with appropriate simple approaches to management quality of life can be improved.

- Asthma is the most common long term medical condition among children in the UK, affecting roughly 10% of all children. More than 240,000 children and young people in London have asthma which equates to around three children in every classroom.

- Asthma can have a major impact on a child's life; they may have to take time off school which can affect their learning while time in hospital can be distressing. It may also reduce their ability to exercise. Asthma can also be deadly. Approximately, 25 to 30 children and young people die from asthma each year in the UK, including approximately 12 children and young people in London. It is hoped that 100% of deaths will be prevented by using elements of the Healthy London Partnership asthma toolkit.

- A high number of children are admitted to hospital as a result of problems with their asthma in London. On average there is an admission every 20 minutes (over 4,000 emergency hospital admissions per year). 75% of these admissions are avoidable[1].

- Asthma costs the NHS more than £1billion in medicines, GP visits and hospital admissions every year[1].

London and the UK has a higher rate of child asthma deaths when compared to other European countries. 90% of these deaths are preventable in children who were otherwise healthy and should have gone on to lead a full and productive life.[1]

The realisation that professional lack of knowledge of, or the inability to follow national guidance is the major modifiable factor in these deaths, means we do not have to wait for new medicines or a cure, but educate our workforce to achieve improved outcomes.

This document outlines the policy context, issues in London, factors for consideration and the desired outcomes.

[1] Asthma UK http://www.asthma.org.uk/asthma-facts-and-statistics

The vision for improving asthma care, by reducing deaths and avoiding admissions, in the capital is based on:

- **Forming a critical mass of educated asthma professionals** dedicated to continuous improvements in the care of children and young people with asthma.
- **Working through a networked and integrated care** approach to children and young people's asthma services, producing a single, seamless and overarching governance service that is proactive, accessible and co-ordinated.
- **With a clear named lead in all organisations** responsible and accountable for asthma and the delivery of London's ambitions for asthma, which are outlined in the London asthma standards for children and young people.

Overarching goals

- Have a named responsible individual is identified for liaison and decision making within each organisation, This was a key component of Finland's strategy to improve asthma across the whole country. [2]
- Strengthened role of the child, family and asthma nurse
- Greater role of prevention and public awareness
- Access to quality care through education and use of agreed guidelines and checklists
- Greater role for self-management and the use of asthma action plans
- Greater integration of care
- Achievement of Healthy London Partnership Children and Young People's asthma ambitions and standards.

Background

The UK has one of the highest prevalence of asthma in the world[3]. Prevalence in London is lower than the rest of England[4]. The expected prevalence in London is 9%[5], but it is currently only 4.7%, ranging from 3.5% to 5.7% probably due to under diagnosis[4].

Levels of mortality and morbidity in children and young people remain high.[6] The first National Review of Asthma Deaths (NRAD) (2014) found 14% of deaths were in the under 19 age group and care fell well below that expected in half of these.

A useful tool exists where you can compare your local CCG with the rest of London or individual CCGs. It is available on the Inhale Interactive Health Atlas of Lung conditions in England and includes data about prevention, diagnosis, outcome and spend.

Childhood asthma is one of three long term conditions supported by NHS England (NHSE), along with childhood epilepsy and diabetes.

London has a diverse, mobile population of over eight million people and approximately a quarter of this population (2,163,500) are children or young people aged 0-20.[7] Asthma is the most common long term medical condition in children, estimated to affect more than 240,000 children in London[8].

Asthma accounts for one in five consultations with a GP.[9] It is most common in children aged between five and 15. NHS England has recognised childhood asthma as a national long term problem, leading to the development of National Institute of Health and Care Excellence (NICE) quality standards [10], more

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[2] T Haahtela, et al (2006) A 10 year asthma programme in Finland: major change for the better Thorax. 61(8): 663–670
[3] Theresa To, et al (2012) Global asthma prevalence in adults: findings from the cross-sectional world health survey BMC Public health 12:204 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3353191/
[4] Inhale (2010-11) QOF data http://customer.instantatlas.com/INHALE/dataviews/report/fullpage?viewId=12&reportId=9&geoId=17&geoReportId=152
[5] Health Survey for England (2010)
[6] Global initiative for asthma http://www.ginasthma.org/
[7] ONS (2013) Mid-year population statistics
[8] Health Survey for England (2010)
[9] National asthma campaign (2002) An audit of children's asthma in the UK Asthma Journal 8:2, 3-11
[10] NICE Quality standards for Asthma (2013) QS25 http://www.nice.org.uk/guidance/QS25

than 16 documents of guidance including London asthma standards for children and young people[11] [12] [13] [14] and the creation of a National Paediatric Asthma Collaborative.

National clinical guidance is available, and has been available for over 20 years, [6] but implementation is variable which is results in variable local outcomes (Atlas of Variation).

In 2013, Asthma UK found that the majority of asthma patients were 'not getting adequate care,' with 80% of asthma sufferers receiving inadequate care. Only 14% of people in London were found to be receiving care that met the national standards. Comparatively 35% of people living in Northern Ireland received the right standard of care.

In 2015, the Secretary of State promised every person with asthma would have an asthma action plan, this commitment has not been met. People who use a written action plan are four times less likely to have to go to hospital for their asthma. London has very low numbers of children with an asthma management plan, 28% compared to 34% nationally. London also compares unfavourably in terms of the number of children and young people who have an annual asthma review, 68% compared to 76% nationally [15].

London continues to have significant variation in diagnosis, treatment, care and outcomes with high admission rates,[16] high morbidity and unnecessary mortality; and rising numbers of respiratory deaths particularly in the 1-4 year age group[17] . It is estimated that 75% of hospital admissions for asthma and 90% of deaths related to the condition are preventable with optimal care.[1. 18]

Policy Context

The case for change has been informed by the following policies:

- The Government's *Mandate to NHS England,*[19] The NHS Outcomes Framework[20] (Department of Health, 2015) and the *Outcomes Strategy for COPD and Asthma*[21] set out clear priorities to improve the care and treatment for children and young people with respiratory disease, in particular asthma and lower respiratory tract infections.

- The National Institute for Health Care and Excellence (NICE) quality standards define best practice, high-quality care for asthma. They provide quality statements, measures and descriptors for the public, health and social care professionals, commissioners and service providers to improve outcomes in care for patients aged 12 months and above.

- In 2014 the British Thoracic Society and Scottish Intercollegiate Guidelines Network made recommendations based on current evidence for best practice in the management of asthma adults and adolescents over 12 years old, children 5–12 years, and children under 5 years. The evidence showed that following discharge from hospital or emergency departments, more than 15% of children and young people are readmitted or re-attend within two weeks with many delaying seeking help, and often under-treated and/or under-monitored**Error! Bookmark not defined.**.

- The National Review of Asthma Deaths (NRAD) published a review in 2014 and identified poor management, patients not receiving key elements of routine care, lack of appropriate onward referral and widespread prescribing errors[22]. They outlined 17 key findings and made 19

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[11] British Thoracic Society/Scottish Intercollegiate Guidelines Network (2014) British guideline on the management of asthma, Edinburgh. https://www.brit-thoracic.org.uk/document-library/clinical-information/asthma/btssign-asthma-guideline-2014/

8 Primary Care Commissioning (2013) Designing and commissioning services for children and young people with asthma: A good practice guide

[13] Global Innitiative for Asthma www.ginaasthma.org

[14] NICE Guidance (2014) Inhaled corticosteroids http://pathways.nice.org.uk/pathways/asthma?fno=1#content=view-node%3Anodes-inhaled-corticosteroids&path=view%3A/pathways/asthma/asthma-management.xml

[15] Asthma UK survey, (2013) *Compare Your Care report* http://www.asthma.org.uk/compareyourcare-reports, London

[16] CHIMAT data (2014/15) http://www.chimat.org.uk/

[17] https://indicators.ic.nhs.uk/download/NCHOD/Data/23A_028NO_12_V2_D.xls

[18] Partridge et al (2011) *Understanding patients with asthma and COPD: insights from a European study* Primary care respiratory journal 20(3): 315-323 http://www.thepcrj.org/journ/vol20/20_3_315_323.pdf

[19] Department of Health (DH) (2013) *The Mandate: A mandate from the Government to NHS England: April 2014 to March 2015*, HMSO London

[20] Department of Health (2013) The NHS Outcomes framework 2015-16 https://www.gov.uk/government/publications/nhs-outcomes-framework-2015-to-2016 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/256456/NHS_outcomes.pdf

[21] DH (2012) *The outcomes strategy for COPD and Asthma* HMSO, London p.58-69

[22] Royal College of Physicians (2014) *National review of asthma death,* London. http://www.rcplondon.ac.uk/projects/national-review-asthma-deaths

recommendations for change in the care of people with asthma. However, they only reported on 190 out of potentially 900 deaths from asthma as there was no easy access reporting structure. The review therefore gives insight into causes but not into the true number of deaths.

The review made a number of recommendations which the former London Children's Strategic Clinical Network Asthma Group and the London Respiratory Network have responded to and can be found here:

London Respiratory Network and Children's Strategic Clinical Network Asthma Group's response to *'Why asthma still kills: The national review of asthma deaths (NRAD)'* Promoting best asthma care throughout London: http://www.respiratoryfutures.org.uk/knowledge-portal/npac-documents/london-respiratory-network-cyp-asthma-response-to-nrad/

Appropriate implementation of national guidance and the London standards will help prevent children and young people dying from asthma.

Implementation of a plan similar in style to that in Finland would help.[2]

This 10 year programme resulted in:

- ⬆ Diagnosis
- ⬆ Medication prescribed

Saw a:

- ⬇ Hospitalisation
- ⬇ ➡ 0 Deaths

If this is achievable for a country it is achievable for London.

London Issues

The Healthy London Partnership Children and Young People's transformation programme has identified asthma as one of its key priority areas of work.

We have identified London as having:

1. Higher than the rest of the country and rising numbers of respiratory deaths particularly in the one to four year age group[23]
2. High variation in diagnosis, treatment and care
3. High admission rates[24]
4. Low numbers of children with an asthma plan (28%) compared to 34% nationally or having had an asthma review (68%) compared to 76% nationally [25] although our recent London Pharmacy Public Health campaign audit showed an increase in this figure.

We have also identified asthma as a priority through a review of serious incidents[26] across London involving children and data from the child death review panels.

Variation in diagnosis, treatment and care

Variation in children's healthcare is well known. Socioeconomic status, ethnicity, health need and choice are all factors in why provision may differ. However, unwarranted variation due to differences in care quality, efficiency and equity need to be considered and reduced. There is variation in admission rates from borough to borough but also from year to year (see Table 2 below).

[23] https://indicators.ic.nhs.uk/download/NCHOD/Data/23A_028NO_12_V2_D.xls
[24] CHIMAT data (2011/12) http://www.chimat.org.uk/
[25] Asthma UK survey, (2013) *Compare Your Care report* http://www.asthma.org.uk/compareyourcare-reports, London
[26] London Children's SCN (2013) Serious Incident analysis

High emergency admission rates

There were 26,469 emergency admissions in the UK for children with asthma in 2014/15 which has slowly risen from 23,287 in 2011/12.[27] 4,255 of these were in London. 90% of asthma admissions for children were emergency admissions. The average hospital admission rates for asthma (in under 19 year olds) for London in 2014/15 was 205 per 100,000[27]

London Area		Emergency Admissions			Emergency Admission rate per 100,000 population		
SPG	**Area Name**	**2012/13**	**2013/14**	**2014/15**	**2012/13**	**2013/14**	**2014/15**
North Central London	NHS Barnet CCG	111	99	125	124	109	135
	NHS Camden CCG	79	65	79	184	146	170
	NHS Enfield CCG	116	125	189	138	147	219
	NHS Haringey CCG	122	111	107	200	180	171
	NHS Islington CCG	94	95	122	239	235	296
North East London (1)	NHS City and Hackney CCG	184	152	95	301	243	149
	NHS Newham CCG	239	193	226	285	226	261
	NHS Tower Hamlets CCG	94	108	127	156	171	193
	NHS Waltham Forest CCG	210	241	172	319	360	255
North East London (2)	NHS Barking and Dagenham CCG	125	100	142	214	166	230
	NHS Havering CCG	57	70	78	105	127	138
	NHS Redbridge CCG	171	161	194	226	210	249
North West London	NHS Brent CCG	166	207	171	220	272	220
	NHS Ealing CCG	235	213	177	287	256	210
	NHS Hammersmith and Fulham CCG	54	39	40	157	112	113
	NHS Harrow CCG	160	153	151	274	260	254
	NHS Hillingdon CCG	104	106	147	149	149	202
	NHS Hounslow CCG	98	99	99	157	156	154
	NHS Kensington and Chelsea CCG	38	44	35	135	155	121
	NHS Westminster CCG	55	49	51	139	120	120
South East London	NHS Bexley CCG	97	96	104	168	165	177
	NHS Bromley CCG	94	104	100	128	140	133
	NHS Greenwich CCG	146	149	195	222	223	287
	NHS Lambeth CCG	180	199	191	281	307	293
	NHS Lewisham CCG	263	163	184	389	237	263
	NHS Southwark CCG	158	166	180	250	259	278
South West London	NHS Croydon CCG	327	343	331	342	355	341
	NHS Kingston upon Thames CCG	64	38	81	174	101	210
	NHS Merton CCG	88	116	116	189	246	244
	NHS Richmond upon Thames CCG	41	36	57	94	81	125
	NHS Sutton CCG	67	90	77	144	191	161
	NHS Wandsworth CCG	96	125	112	162	206	181
Total Emergency Admissions		**4,133**	**4,055**	**4,255**			

The total emergency admissions have risen slightly in the last three years from 4,133 to 4,255 with the average emergency admissions rate per 100,000 remaining around 205 (range 113 - 341). Emergency admissions for asthma show a threefold variation across boroughs in London with Croydon at the highest and Hammersmith and Fulham having the lowest admission rate at 113 per 100,000 population (see Table 2).

[27] Data curtesy Public Health England . true/child-health-profiles

It is hoped that this toolkit will enable areas whose rates are rising to be able to learn from areas such as City and Hackney who have halved their rate in the last three years and Lewisham and Waltham Forest where rates have also dropped.

Interestingly, Croydon and Islington who both have a strong focus on asthma and feature in some of our case studies rates have remained quite high but this could be due to greater education and more emphasis leading to more appropriate identification and management.

Emergency hospital admissions, bed days and lengths of stay for asthma, under 19s, London by CCG, 2014/15

	2014/15						
CCG_Responsibility	**No of admissions**	**No of discharges**	**Admissions (rate per 100,000 population)**	**Bed days**	**Bed days (rate per 100,000 population)**	**Average length of stay (LOS)**	**Population [1]**
NHS Barking & Dagenham	139	141	223.0	193	309.7	1.37	62,327
NHS Barnet	128	130	137.7	113	121.5	0.87	92,969
NHS Bexley	105	109	190.5	98	177.8	0.90	55,107
NHS Brent	184	183	224.6	163	199.0	0.89	81,916
NHS Bromley	96	96	126.9	133	175.8	1.39	75,664
NHS Camden	82	86	179.6	112	245.3	1.30	45,660
NHS City and Hackney	106	110	155.6	100	146.8	0.91	68,102
NHS Croydon	333	354	349.9	350	367.8	0.99	95,173
NHS Ealing	180	183	187.7	177	184.6	0.97	95,898
NHS Enfield	170	174	206.1	249	301.9	1.43	82,491
NHS Hounslow	101	100	147.0	141	205.2	1.41	68,724
NHS Greenwich	206	223	296.8	274	394.8	1.23	69,408
NHS Hammersmith and Fulham	43	43	112.8	69	181.1	1.60	38,109
NHS Haringey	119	125	182.7	167	256.4	1.34	65,124
NHS Harrow	141	141	239.5	86	146.1	0.61	58,871
NHS Havering	90	91	155.2	108	186.3	1.19	57,985
NHS Hillingdon	134	135	187.3	150	209.7	1.11	71,535
NHS Islington	119	131	286.7	147	354.2	1.12	41,504
NHS Kingston	95	103	214.2	155	349.4	1.50	44,360
NHS Lambeth	220	227	306.0	370	514.6	1.63	71,902
NHS Lewisham	184	186	257.2	241	336.8	1.30	71,551
NHS Newham	234	243	248.0	268	284.0	1.10	94,373
NHS Redbridge	174	175	228.8	197	259.0	1.13	76,055
NHS Richmond	52	54	110.5	85	180.7	1.57	47,049
NHS Southwark	179	191	275.1	251	385.8	1.31	65,062
NHS Merton	111	124	227.3	161	329.7	1.30	48,830
NHS Sutton	74	81	166.5	109	245.3	1.35	44,435
NHS Tower Hamlets	132	136	199.8	192	290.7	1.41	66,056
NHS Waltham Forest	183	185	255.4	169	235.9	0.91	71,641
NHS Wandsworth	123	128	169.6	215	296.5	1.68	72,517
NHS West London (Kensington and Chelsea, Queen's Park and Paddington)	55	54	128.9	78	182.8	1.44	42,660

NHS Central London (Westminster)	39	39	117.6	45	135.7	1.15	33,152
London	**4,331**	**4,481**	**208.6**	**5,366**	**258.5**	**1.20**	**2,076,210**

[1]Number of Patients Registered at a GP Practice as at January 2015 (<19 year olds)

Source Hospital Episode Statistics (HES), Health and Social Care Information Centre

Small numbers To protect patient confidentiality, figures between 1 and 5 have been replaced with "*" (an asterisk). Where it was still possible to identify figures from the total, additional figures have been replaced with "*". Where the symbol "-" (dash) appears this represents the absence of data.
Please note that HES disclosure control rules only apply to 'known' values, e.g. small numbers where the age is unknown do not need to be replaced with "*".

Finished Admission Episodes (FAEs) A finished admission episode (FAE) is the first period of admitted patient care under one consultant within one healthcare provider. FAEs are counted against the year or month in which the admission episode finishes. Admissions do not represent the number of patients, as a person may have more than one admission within the period.

Inclusions / Exclusions:

Description	HES code
Finished admission episodes	EPIORDER = 1 and EPISTAT = '3'
Regular day patients are excluded from analysis	CLASSPAT = 1, 2, 5
London responsible CCGs only	CCG_responsibility in ('07L','07M','07N','07P','07Q','07R','09A','07T','07V','07W','07X','08A','08C','08D','08E','08F','08G','07Y','08H','08J','08K','08L','08R','08M','08N','08P','08Q','08T','08V','08W','08X','08Y')
Primary dignosis is asthma	Diag_01 in ('J45','J46')
Children and young people under 19s only	Startage < 19
Emergency admissions	Admimeth in ('21','22','23','24','28','2A','2B','2C','2D')

Analysis by PHE Knowledge and Intelligence Service (London), April 2016

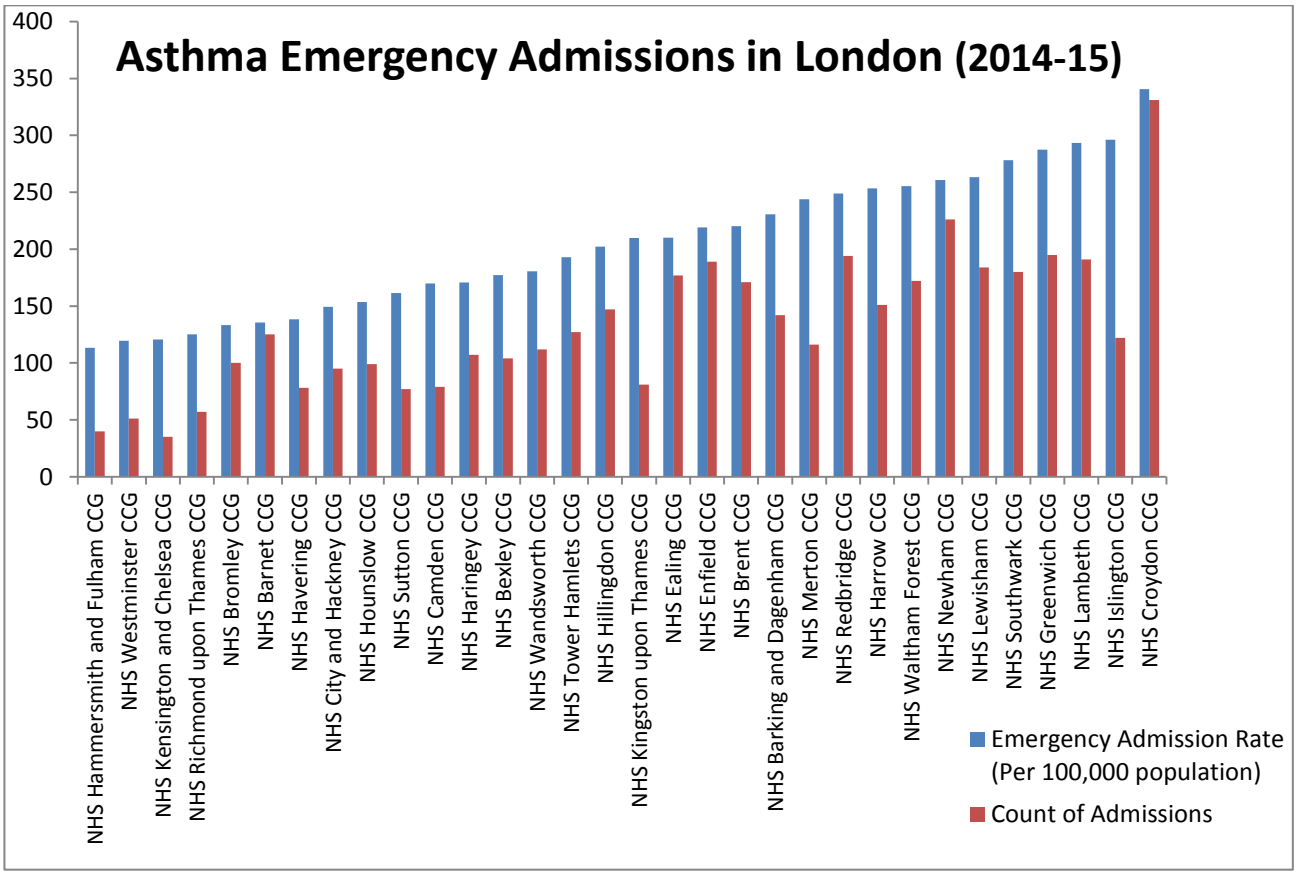

Figure 4 London emergency admissions for asthma

Source: Hospital Episode Statistics (HES) Copyright © 2015, Re-used with the permission of The Health and Social Care Information Centre. All rights reserved.

Data are for 2014/15, and relate to emergency admissions for asthma; ICD10: J45 or J46

Financial impact

Asthma has a significant impact on NHS spending; it was estimated to cost the NHS £1 billion in 2004.[28] In comparison the cost of COPD and asthma in Europe is over £200 billion Euros.[29] The cost of treating a child with asthma is higher than the cost per adult.[30] Based on findings from a study by Hoskins et al (2000), [31] a patient who experiences an acute asthma attack is likely to cost 3.5 times that of a patient who does not.[32] This could come down by a reduction in the length of stay or better still preventing the exacerbation in the first place.[33]

The costs of emergency admissions for asthma for each CCG in London are listed in Table 5 below.

The current amount spent by CCGs ranges from over £232,362 in Croydon compared with £24,570 in Kensington and Chelsea.

Number and cost of emergency admissions for asthma for children aged 0-18 2013/14 and 2104/15														
	2013/14						2014/15							
Area Name	Population 0-18	Emergency Admissions per 100,000 population	Emergency Admission rate per 100,000 population	PBR Cost of Emergency Admissions (Count *£622)	PBR Cost of Emergency Admissions (Rate *£622)	Potential saving from 60%* reduction in emergency admissions (Rate *£622*.6)	Population 0-18	Emergency Admissions	Emergency Admission rate per 100,000 population 0-18	PBR Cost of Emergency Admissions (Count *£702)	PBR Cost of Emergency Admissions per 100,000 population (Rate *£702)	Potential saving from 60%* reduction in emergency admissions per100,000 popln (Rate *£702*6)	Potential saving from 60%* reduction in emergency admissions (Count *£702*.6)	Potential savings for 75% reduction in admissions per 100,000 popln (count *.75)
NHS Barking and Dagenham CC	60,203	100	166	62,200	103,317	37,320	61,610	142	230	99684	161460	**96876**	59810	121095
NHS Barnet CCG	90,910	99	109	61,578	67,735	36,947	92,279	125	135	87750	94770	**56862**	52650	71078
NHS Bexley CCG	58,115	96	165	59,712	102,748	35,827	58,734	104	177	73008	124254	**74552**	43805	93191
NHS Brent CCG	76,230	207	272	128,754	168,902	77,252	77,692	171	220	120042	154440	**92664**	72025	115830
NHS Bromley CCG	74,149	104	140	64,688	87,241	38,813	75,111	100	133	70200	93366	**56020**	42120	70025
NHS Camden CCG	44,583	65	146	40,430	90,685	24,258	46,487	79	170	55458	119340	**71604**	33275	89505
NHS Croydon CCG	96,511	343	355	213,346	221,059	128,008	97,198	331	341	232362	239382	**143629**	139417	179537
NHS Ealing CCG	83,158	213	256	132,486	159,318	79,492	84,268	177	210	124254	147420	**88452**	74552	110565
NHS Enfield CCG	85,126	125	147	77,750	91,335	46,650	86,258	189	219	132678	153738	**92243**	79607	115304
NHS Greenwich CCG	66,727	149	223	92,678	138,891	55,607	67,864	195	287	136890	201474	**120884**	82134	151106
NHS City and Hackney CCG	62,477	152	243	94,544	151,326	56,726	63,667	95	149	66690	104598	**62759**	40014	78449
NHS Hammersmith and Fulham	34,722	39	112	24,258	69,863	14,555	35,294	40	113	28080	79326	**47596**	16848	59495
NHS Haringey CCG	61,727	111	180	69,042	111,851	41,425	62,721	107	171	75114	120042	**72025**	45068	90032
NHS Harrow CCG	58,801	153	260	95,166	161,844	57,100	59,561	151	254	106002	178308	**106985**	63601	133731
NHS Havering CCG	55,303	70	127	43,540	78,730	26,124	56,383	78	138	54756	96876	**58126**	32854	72657
NHS Hillingdon CCG	71,099	106	149	65,932	92,733	39,559	72,744	147	202	103194	141804	**85082**	61916	106353
NHS Hounslow CCG	63,461	99	156	61,578	97,033	36,947	64,441	99	154	69498	108108	**64865**	41699	81081
NHS Islington CCG	40,372	95	235	59,090	146,364	35,454	41,198	122	296	85644	207792	**124675**	51386	155844
NHS Kensington and Chelsea C	28,412	44	155	27,368	96,325	16,421	29,026	35	121	24570	84942	**50965**	14742	63707
NHS Kingston upon Thames CC	37,538	38	101	23,636	62,966	14,182	38,609	81	210	56862	147420	**88452**	34117	110565
NHS Lambeth CCG	64,816	199	307	123,778	190,968	74,267	65,143	191	293	134082	205686	**123412**	80449	154265
NHS Lewisham CCG	68,850	163	237	101,386	147,256	60,832	69,867	184	263	129168	184626	**110776**	77501	138470
NHS Merton CCG	47,063	116	246	72,152	153,309	43,291	47,598	116	244	81432	171288	**102773**	48859	128466
NHS Newham CCG	85,210	193	226	120,046	140,883	72,028	86,733	226	261	158652	183222	**109933**	95191	137417
NHS Redbridge CCG	76,702	161	210	100,142	130,560	60,085	77,976	194	249	136188	174798	**104879**	81713	131099
NHS Richmond upon Thames CC	44,649	36	81	22,392	50,151	13,435	45,573	57	125	40014	87750	**52650**	24008	65813
NHS Southwark CCG	64,070	166	259	103,252	161,155	61,951	64,719	180	278	126360	195156	**117094**	75816	146367
NHS Sutton CCG	47,097	90	191	55,980	118,861	33,588	47,682	77	161	54054	113022	**67813**	32432	84767
NHS Tower Hamlets CCG	63,162	108	171	67,176	106,355	40,306	65,798	127	193	89154	135486	**81292**	53492	101615
NHS Waltham Forest CCG	66,868	241	360	149,902	224,176	89,941	67,332	172	255	120744	179010	**107406**	72446	134258
NHS Wandsworth CCG	60,558	125	206	77,750	128,389	46,650	62,028	112	181	78624	127062	**76237**	47174	95297
NHS Westminster CCG	40,911	49	120	30,478	74,498	18,287	42,646	51	120	35802	84240	**50544**	21481	63180
Total	**1,979,580**	**4,055**	**6,311**	**2,522,210**	**3,926,827**	**1,513,328**	**2,014,240**	**4,255**	**6,553**	**2,987,010**	**4,600,206**	**2760124**	**1194804**	**3450155**

Table 5 Number and cost of emergency admissions for asthma for children aged 0-18 - 2013/14 and 2014/15

a Source: Health and Social Care Information Centre (February 2016, based on number of patients registered at a GP Practice

[28] NHs, Asthma UK, BTS, PCRS, PCC (2012) *Designing and commissioning services for adults with asthma good practice guide* `(Estimated from National Asthma Audit by National Asthma Campaign 1999/2000)

[29] European Respiratory Society (2014) European Lung White book http://www.erswhitebook.org

[30] Asthma UK (2010) Memorandum submitted by Asthma UK (AQ 29) to Environmental Audit Committee http://www.publications.parliament.uk/pa/cm200910/cmselect/cmenvaud/229/229we26.htm,, London

[31] Hoskins et al (2000) http://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC1745605&blobtype=pdf

[32] Calculated from estimated prevalence of treated asthma in National Asthma Campaign 2001 Out in the Open: a true picture of asthma in the United Kingdom today. Asthma J 6 (suppl), and unpublished data from Hoskins G, McCowan C, Neville RG et al 2000 Risk factors and costs associated with an asthma attack. Thorax 55:19-24

[33] Asthma UK *News centre facts* www.asthma.org.uk

b **2014/15 Hospital Episode Statistics**
c **Based on PBR rate of £702 per emergency admission**

The current cost of emergency admissions per 100,000 population based on £702 PBR rate equates to London spending **£4,600,200 per year.**

If 60% of child emergency admissions for asthma were prevented, this would mean asthma admissions would cost London **£1,840,082** amounting to around **£2,760,124 million in savings across London**.

If CCGs were able to achieve the 75% reduction this would be even greater at around **£3,450,154 savings.**

If adult asthma was included in the plans there would be even greater returns.

In addition, the combined prescribing costs for bronchodilators and corticosteroids alone, in children and adults, is £1,031,720,912 in England and **£105,702,558.87** in London. It is possible there would be a slight rise in drug costs as patients were prescribed more appropriately. This is what was found in the Finnish study [2] . Between 30% and 50% of prescribed medicines for long-term conditions are not taken as recommended. We need to make sure our children are receiving support to take their medicines so they receive the health benefits and the NHS gets value for money from those drugs dispensed.

These costs include diagnosis, acute and primary care, and medications, but there are significant indirect costs, beyond healthcare, to the wider economy:

- A child with poorly controlled asthma is three times more likely to take time off school than a child whose condition is well controlled.
- Poor school attendance is likely to have a detrimental effect on emotional wellbeing and educational attainment.
- A carer is four times more likely to take time off work, with a further effect on their own productivity.

Summary findings

Many children have poor control of their asthma. Improved adherence with therapy would help reduce exacerbations and hospital admissions. Hospital admission for children and young people with asthma is a proxy for failure of asthma management and acts as an indicator of poor symptom management.

Two thirds of hospital admissions could be averted, with improved preventative care, incorporating asthma plans, education and risk reduction.[34] Much of this can be achieved through working closely with primary care to integrate care as asthma makes up 4% of primary care activity.

Better care can yield fewer attendances at A&E departments, fewer emergency admissions and evidence suggests that average length of stay following asthma exacerbations can be reduced by 25%.

75% of asthma admissions are thought to be preventable through better disease control. Currently we have 4,255 admissions per year. If we were to reduce this by 60% we would have 1,702. This could potentially save 2,533 children in London from being admitted to hospital each year.

Admission rates vary from year to year and throughout the year with a peak usually in September when the children return to school.[35] This is known as the 38 week peak and has been occurring regularly for years, which is why we ran the London Pharmacy Public Health campaign over the summer period. (see Pharmacy section of toolkit)

[34] Reindall et al (2006) Hospital admissions for wheezing and asthma in childhood are they avoidable? Journal of asthma and Fuhman C et al (2011) Hospitalisations for asthma in children are linked to under treatment and insufficient asthma education Journal of asthma cited in Wolfe et al (2013) Health in Europe 4 Health services for children in Western Europe

[35] HSIC (2014) *Asthma emergency admissions: fall in August, rise in September* http://www.hscic.gov.uk/article/4989/Asthma-emergency-admissions-fall-in-August-rise-in-September

Two thirds of children's admissions could be prevented through more joined up care, better support for primary care, rigorous pre-discharge assessment with optimisation of treatment by hospital specialists and the use of personal asthma action plans, hand held records and regular reviews.

The *British Thoracic Society / Scottish Intercollegiate Guidelines Network (BTS/SIGN) guideline*[36] and recent *National Review of Asthma Deaths* (NRAD)[37] suggest that every child with asthma should have a personal asthma action plan. However, NRAD found only 14% of those who died had a plan and a recent Asthma UK survey found implementation and uptake of these asthma management plans is slow, with London being the worst in England.[38]

Conclusion

In summary children and young people with asthma are not always receiving the best care, asthma makes a compelling narrative and case for change to collaborate across the entire health and social care pathway. Therefore, London is implementing a programme of improvement similar to the hugely successful one undertaken in Finland [2] with the aim of lessening the burden of asthma for individuals and to London.

By harnessing and aligning transformation efforts, children and young people with asthma and their families would benefit from earlier diagnosis, optimised management, improved quality of life, reduced morbidity and mortality and reduced burden of asthma on the child, family and NHS.

The implementation of the London asthma standards for children and young people across boroughs helps begin the journey to achieve these aims.

Healthy London Partnership is recommending harnessing and aligning transformation efforts across the entire pathway in line with recommendations outlined in the *Five Year Forward View*[39] . The aim would be for CCGs and providers to work together to:

- Improve asthma awareness for the public and professionals and signpost to appropriate services
- Improve recognition of symptoms and diagnosis rates
- Provide more consistent information that included tailored information and education through provision of regular community support
- Improve the experience of children and their families when there is an acute exacerbation and ensure early follow up to reinforce messages

Resources

Access to data

London Local authority child health profiles data (and see reference section in toolkit).
http://www.chimat.org.uk/resource/view.aspx?RID=101746&REGION=101634

Inhale Interactive Lung data

http://fingertips.phe.org.uk/profile/inhale/data#page/0/gid/8000004/pat/46/par/E39000018/ati/19/are/E38000004

Implementation tools on NICE website

https://www.nice.org.uk/guidance/qs25/resources

Support for commissioners document

https://www.nice.org.uk/guidance/qs25/resources/support-for-commissioners-and-others-using-the-quality-standard-for-asthma-252373933

European respiratory Society European Lung white book

Useful chapter on childhood asthma http://www.erswhitebook.org/chapters/childhood-asthma/

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[36] British Thoracic Society/Scottish Intercollegiate Guidelines Network (2014) British guideline on the management of asthma, Edingburgh. https://www.brit-thoracic.org.uk/document-library/clinical-information/asthma/btssign-asthma-guideline-2014/

[37] Royal College of Physicians (2014) *National review of asthma deaths,* London. http://www.rcplondon.ac.uk/projects/national-review-asthma-deaths

[38] Asthma UK survey, (2014) *Compare Your Care report* http://www.asthma.org.uk/compareyourcare-reports, London

[39] NHS England (2014 Five year Forward view http://www.england.nhs.uk/ourwork/futurenhs/