



East of England Childhood Asthma

Insights to Impact



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NHS Digital Assurance with FRA certification
NHS England Section 251 Accredited

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Company No: 05913240

Data Protection Registration Number: Z2536678

Accreditations & Governance Summary

NHS Digital

Assurance of Prescribing Services Ltd. Advice & Guidance Service

Phase 1 Assurance December 2016

Phase 2 Assurance October 2017

Full Rollout Approval (FRA) Certificate issued Nov 2017

GP IT Futures

Organisation Name: Prescribing Services Ltd

Lot 1 Qualification

NHS England Section 251

Prescribing Services are accredited as a supplier of risk stratification solutions.

SCCIO129

Organisation Name: Prescribing Services Ltd

Clinical Risk Management

ISO 27001

Organisation Name: Prescribing Services Ltd

Certificate Number: 207172021

Original Approval: 29 August 2013

Current Certificate: 20 May 2021

Certificate Expiry: 28 July 2023

ISO 9001

Organisation Name: Prescribing Services Ltd

Certificate Number: 206222021

Original Approval: 12 July 2013

Current Certificate: 20 May 2021

Certificate Expiry: 11 July 2023

ISO 14001

Organisation Name: Prescribing Services Ltd

Certificate Number: 206892021

Original Approval: 21 August 2013

Current Certificate: 20 May 2021

Certificate Expiry: 20 August 2023

ICO. Data Protection Register

Organisation Name: Prescribing Services Ltd

Registration Reference: Z2536678

Date Registered: 04 February 2011

Registration Expires: 03 February 2023

Data Security and Protection Toolkit

Organisation Name: Prescribing Services Ltd

Organisation Type: Commercial Third Party

Organisation Code: 8HX18

Date Published: 28 August 2020

Approved NHS Health Research Authority database

Scholar (Secure Clinical Hub Leading to Online Learning And Reporting)

Date Approved: October 2017

Health of the Nation Report in Relation to Childhood Asthma

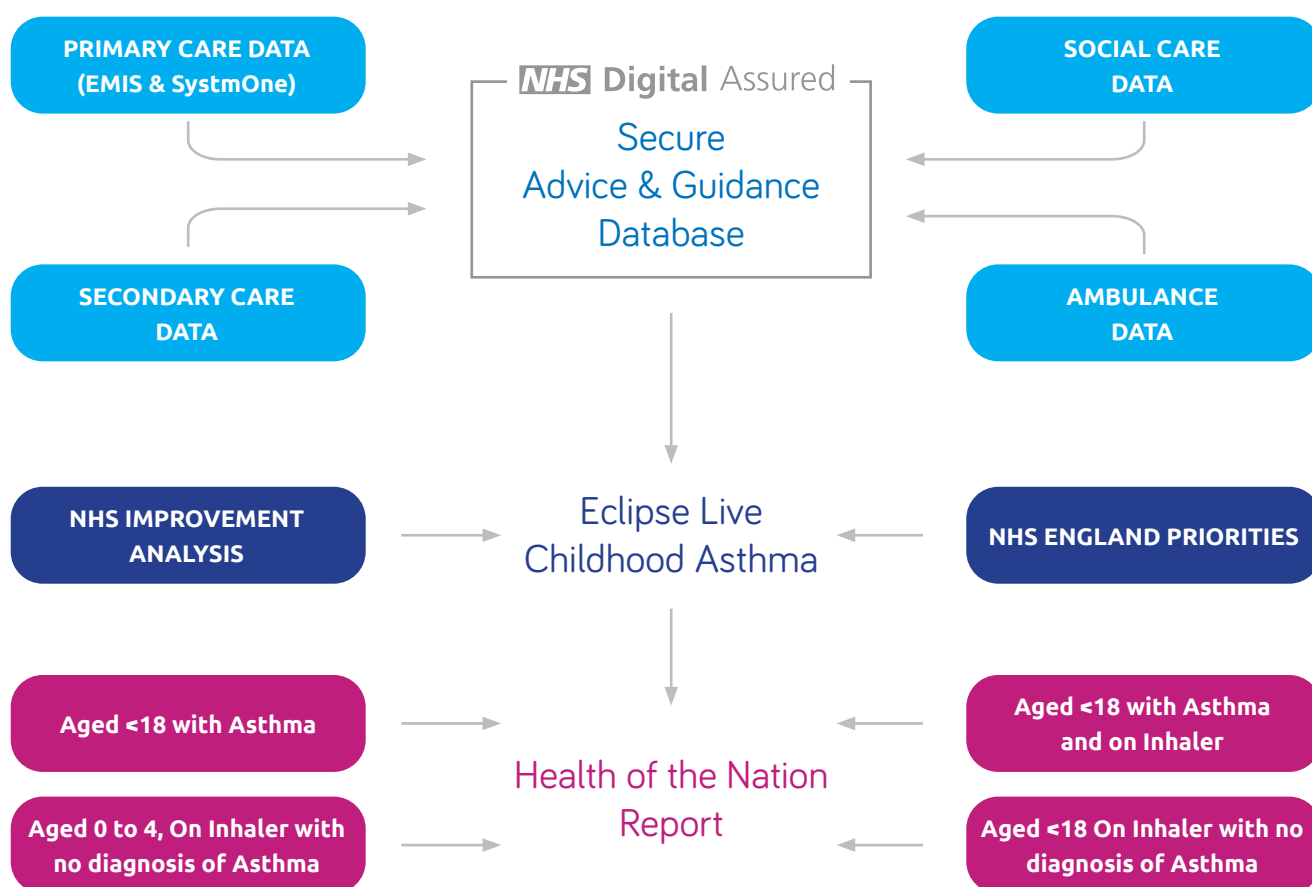
In this report analysis has been undertaken of 3.7million patients across the East of England as a health care analytics report for NHS Improvement.

Cohorts used:

1. All children aged under 18
2. Children aged under 18 with a coded entry of asthma¹ in their GP records within the last 12 months
3. Children aged under 18 and no diagnosis of asthma but has received inhaler²
4. Children aged under 18 with asthma and on Inhalers
5. Children aged under 18 not on inhalers and no history of asthma

Asthma defined with NHD Digital SNOWMED Asthma diagnosis codes

Cluster ID - AST_COD (999009611000230103) - for full list see Annex Page 28



1. Please see annex 1 for definition of codes used to determine underlying asthma.

2. Inhaler defined as all drug classes - encompassing relievers and preventers - and device types - MDI, DPI, breath actuated devices - available at the time of publication

Asthma in Children Background Population Statistics

East of England

Total East of England (EoE) patients aged <18 analysed - 704,206

Total East of England (EoE) patients aged <18 with asthma or on an inhaler identified- 57,533

Total East of England (EoE) patients aged <18 with asthma identified- 44,180*

Total East of England (EoE) patients aged <18 with asthma and on an inhaler identified - 24,991

Total East of England (EoE) patients aged <18 on an inhaler with no diagnosis of asthma identified- 13,353

Total East of England (EoE) patients aged <18 not on Inhaler and no diagnosis of Asthma- 647,200

Gender

For full details relating to gender please view page 7



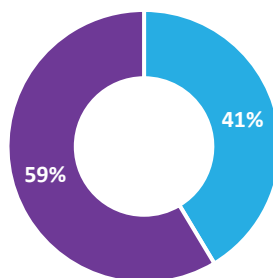
18,340

Females with asthma



26,198

Males with asthma



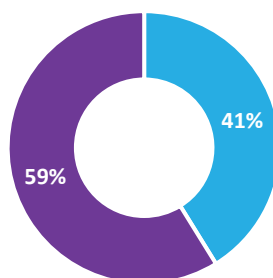
10,226

Females with asthma
and on an inhaler



14,483

Males with asthma
and on an inhaler



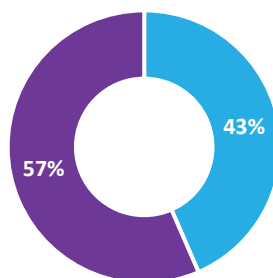
5,986

Females on an inhaler with
no diagnosis of asthma



7,780

Males on an inhaler with
no diagnosis of asthma



*This is in keeping with the national coded asthma rate of 6.0% as per the QOF national database (<https://www.gpcontract.co.uk/browse/UK/Asthma/21>)



HEALTH OF THE NATION REPORT

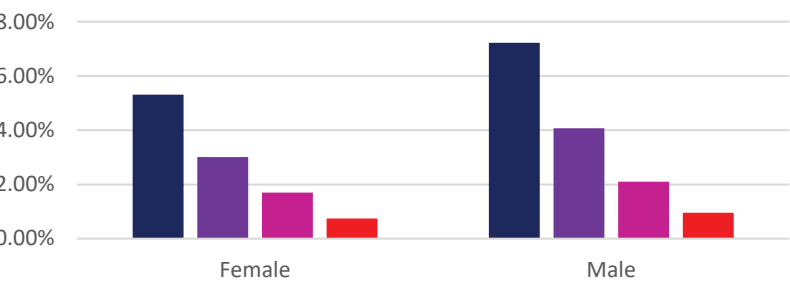
Population Demographics
Statistics

Population Statistics - Gender

EoE Prevalence by Gender (Table 1)

	Aged <18 Not on Inhaler and no diagnosis of Asthma	Aged <18 with Asthma	Aged <18 with Asthma and on Inhaler in last 365 days	Aged <18 On Inhaler (90 days) with no diagnosis of Asthma	Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma
Female	93.33%	5.31%	3.02%	1.70%	0.74%
Male	91.03%	7.22%	4.08%	2.10%	0.96%

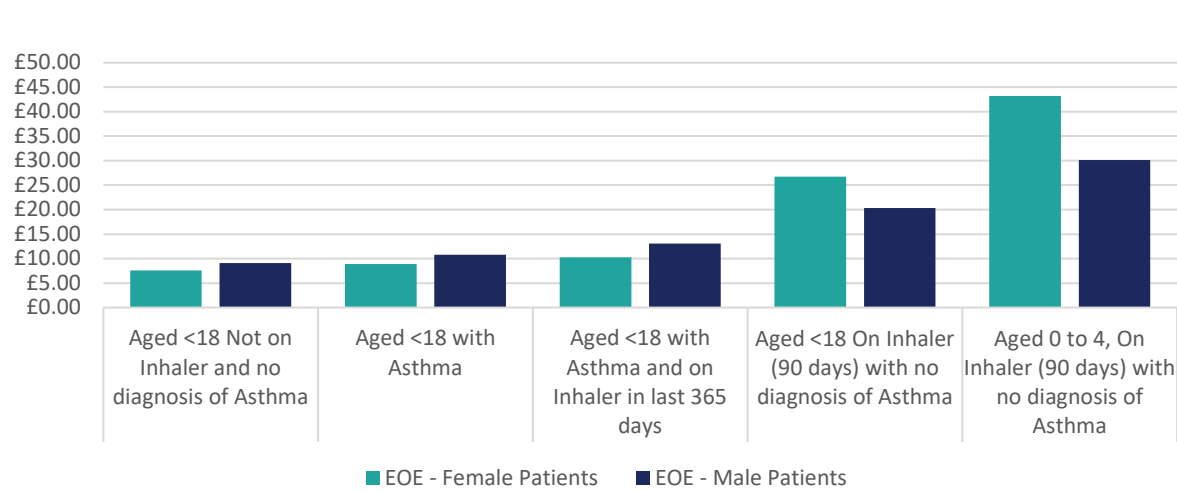
EoE Asthma Cohort Prevalence by Gender (Figure 1)



Relative Admission Activity (Table 1.1)

	Aged <18 Not on Inhaler and no diagnosis of Asthma (Group 1)			Aged <18 with Asthma				Aged <18 with Asthma and on Inhaler in last 365 days				Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0		44,180		£11.9		24,991		£23.1		13,353	
EOE - Female Patients	£7.60	319,124	-9.3%↓	£8.90	+17.1%	18,165	-11.1%↓	£10.30	+35.5%	10,310	-13.6%↓	£26.70	+251.3%	5,800	+15.6%↑
National - Female Patients	£6.50	2,252,690	-7.4%↓	£7.50	+15.4%	111,491	-12.8%↓	£9.20	+41.5%	63,318	-9.3%↓	£19.40	+198.5%	39,514	-3.6%↓
Norfolk & Waveney - Female Patients	£6.70	75,034	-10.2%↓	£8.20	+22.4%	5,207	-3.4%↓	£8.40	+25.4%	3,101	-3.1%↓	£30.10	+349.3%	1,495	+38.8%↑
EOE - Male Patients	£9.10	328,437	+9.1%↑	£10.80	+18.7%	26,054	+7.8%↑	£13.10	+44.0%	14,702	+9.6%↑	£20.30	+123.1%	7,566	-12.0%↓
National - Male Patients	£7.50	2,315,544	+7.3%↑	£9.40	+25.3%	161,125	+9.0%↑	£10.80	+44.0%	91,604	+6.5%↑	£20.60	+174.7%	52,041	+2.8%↑
Norfolk & Waveney - Male Patients	£8.20	77,143	+9.9%↑	£8.70	+6.1%	7,096	+2.6%↑	£8.90	+8.5%	4,133	+2.6%↑	£15.20	+85.4%	1,939	-29.9%↓

EoE - Average Non Elective Admission Cost by Cohort (Figure 1.1)



EoE - Average Non Elective Admission Cost by Gender (Figure 1.2)

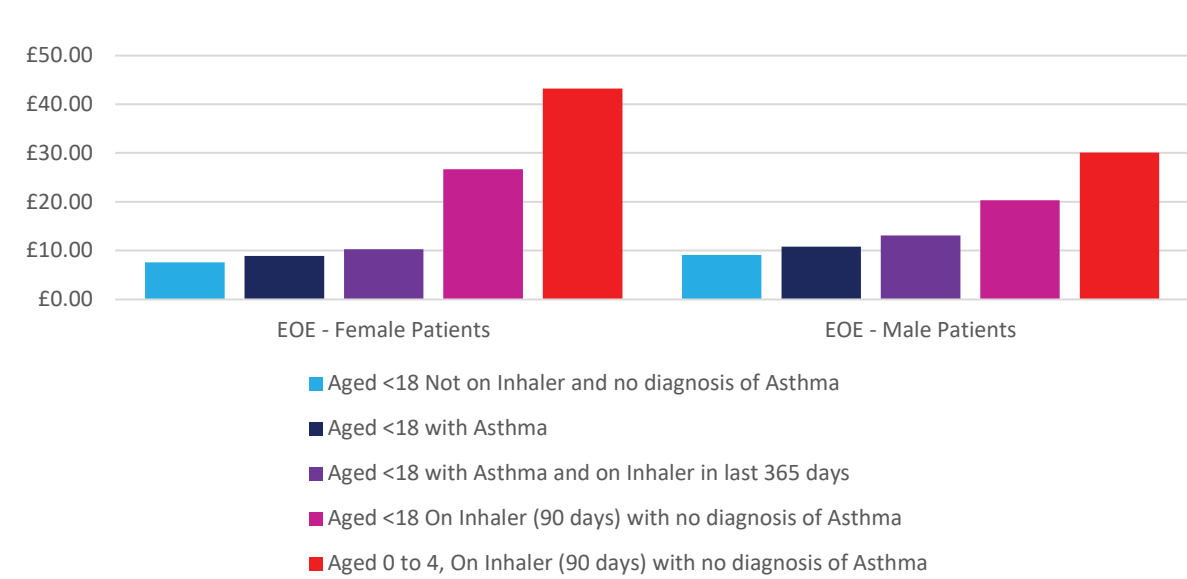


Figure 1.1 and Figure 1.2

Patients that are on inhalers without a formal diagnosis of asthma appear to be associated with significantly higher admission rates. Secondary analysis is being undertaken to evaluate any other conditions causing this differential.

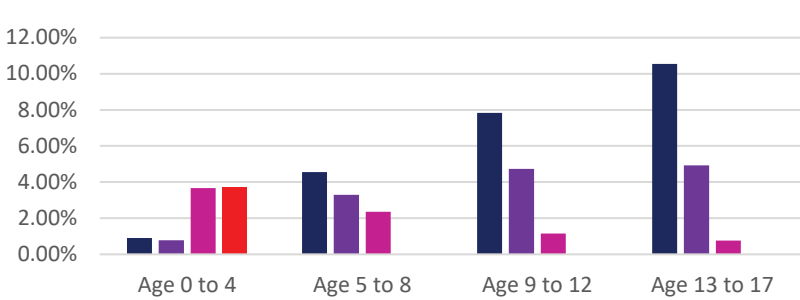
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Age

EoE Prevalence by Age (Table 2)

	Aged <18 Not on Inhaler and no diagnosis of Asthma	Aged <18 with Asthma	Aged <18 with Asthma and on Inhaler in last 365 days	Aged <18 On Inhaler (90 days) with no diagnosis of Asthma	Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma
Age 0 to 4	95.48%	0.91%	0.78%	3.66%	3.70%
Age 5 to 8	93.15%	4.55%	3.30%	2.36%	NA
Age 9 to 12	91.08%	7.83%	4.74%	1.16%	NA
Age 13 to 17	88.76%	10.55%	4.92%	0.76%	NA

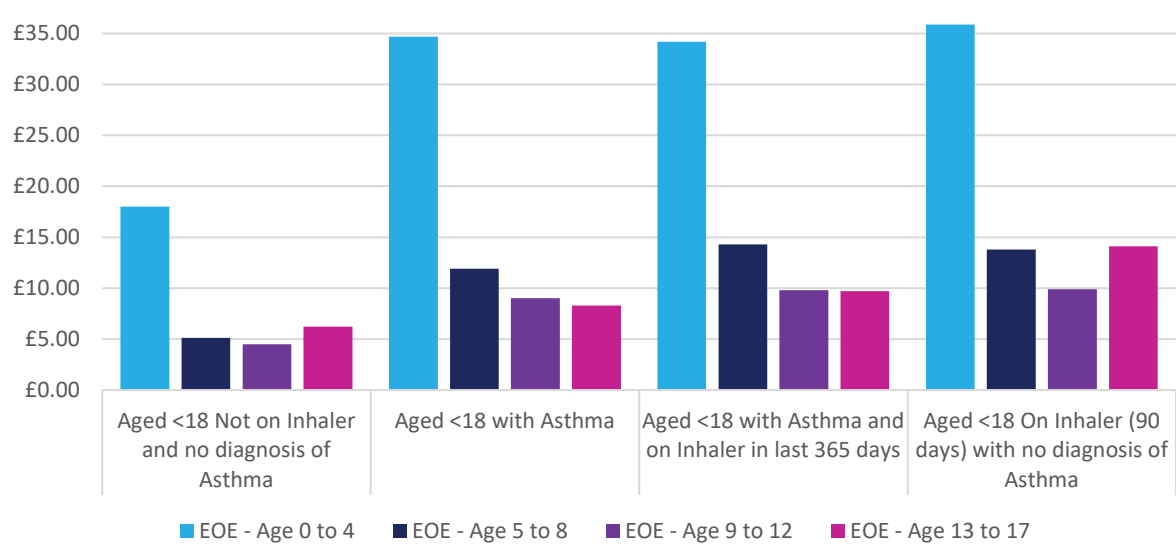
EoE Asthma Cohort Prevalence by Age (Figure 2)



Relative Admission Activity (Table 2.1)

	Aged <18 Not on Inhaler and no diagnosis of Asthma (Group 1)			Aged <18 with Asthma				Aged <18 with Asthma and on Inhaler in last 365 days				Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0		44,180		£11.9		24,991		£23.1		13,353	
EOE - Age 0 to 4	£18.00	154,233	+115.3%↑	£34.70	+92.8%	1,463	+246.0%↑	£34.20	+90.0%	1,263	+186.3%↑	£35.90	+99.4%	5,918	+55.8%↑
National - Age 0 to 4	£14.80	1,073,629	+111.1%↑	£29.30	+98.0%	6,539	+239.2%↑	£30.80	+108.1%	5,631	+203.6%↑	£30.20	+104.1%	37,173	+50.6%↑
Norfolk & Waveney - Age 0 to 4	£15.90	37,000	+113.8%↑	£36.60	+130.2%	596	+330.5%↑	£36.10	+127.0%	527	+317.2%↑	£38.50	+142.1%	1,598	+77.6%↑
EOE - Age 5 to 8	£5.10	153,215	-39.3%↓	£11.90	+133.3%	7,490	+18.3%↑	£14.30	+180.4%	5,423	+20.0%↑	£13.80	+170.6%	3,880	-40.3%↓
National - Age 5 to 8	£4.20	1,080,704	-39.4%↓	£9.80	+133.3%	41,504	+13.1%↑	£11.20	+166.7%	30,841	+10.0%↑	£10.80	+157.1%	27,210	-46.3%↓
Norfolk & Waveney - Age 5 to 8	£4.60	35,230	-38.8%↓	£6.10	+32.6%	2,212	-28.5%↓	£5.90	+28.3%	1,632	-31.8%↓	£4.60	+0.0%	951	-78.8%↓
EOE - Age 9 to 12	£4.50	156,576	-46.7%↓	£9.00	+100.0%	13,459	-10.3%↓	£9.80	+117.8%	8,146	-18.2%↓	£9.90	+120.0%	1,989	-57.3%↓
National - Age 9 to 12	£3.80	1,110,676	-45.0%↓	£8.70	+128.9%	83,035	+0.3%↑	£9.20	+142.1%	51,432	-9.5%↓	£13.70	+260.5%	15,446	-31.8%↓
Norfolk & Waveney - Age 9 to 12	£4.60	36,841	-38.4%↓	£8.10	+76.1%	3,728	-4.4%↓	£6.80	+47.8%	2,328	-21.7%↓	£5.80	+26.1%	492	-73.1%↓
EOE - Age 13 to 17	£6.20	183,559	-26.5%↓	£8.30	+33.9%	21,811	-17.1%↓	£9.70	+56.5%	10,181	-19.1%↓	£14.10	+127.4%	1,579	-38.9%↓
National - Age 13 to 17	£5.30	1,303,790	-24.3%↓	£7.00	+32.1%	141,593	-18.9%↓	£8.20	+54.7%	67,027	-18.9%↓	£14.40	+171.7%	11,727	-28.3%↓
Norfolk & Waveney - Age 13 to 17	£4.90	43,112	-34.1%↓	£6.80	+38.8%	5,770	-20.5%↓	£6.70	+36.7%	2,747	-23.1%↓	£14.40	+193.9%	393	-33.5%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 2.1)



EoE Average Non Elective Admission Cost by Age (Figure 2.2)

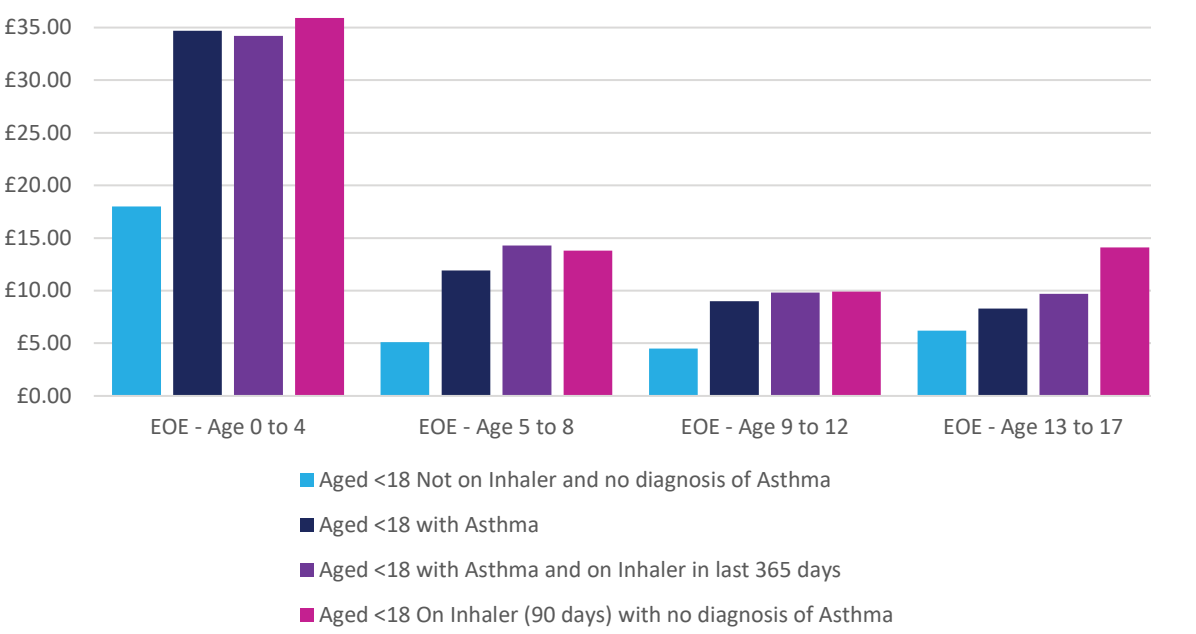


Table 2 and Figure 2

Demonstrates an association of the different prevalences of asthma with increasing childhood age. It also demonstrates an association of decreasing percentage of patients on inhalers as children become older.

Table 2.1

Patients with asthma appear to be associated with a disproportionate increase in admissions for all

age groups. This is most marked for the youngest age groups.

Figure 2.1 and Figure 2.2

Patients that are on inhalers without a formal diagnosis of asthma appear to be associated with significantly higher admission rates. Secondary analysis is being undertaken to evaluate any other conditions causing this differential.

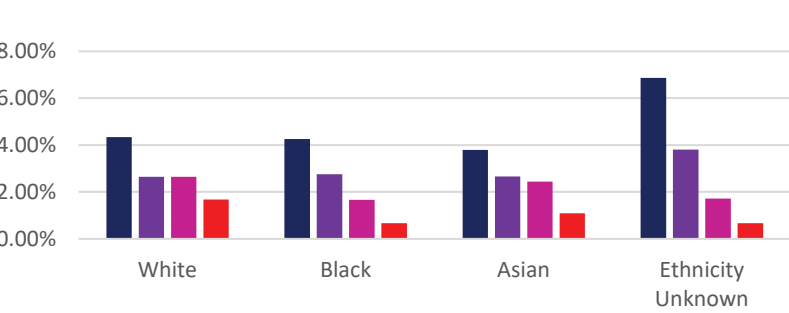
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Ethnicity

EoE Prevalence by Ethnicity (Table 3)

	Aged <18 Not on Inhaler and no diagnosis of Asthma	Aged <18 with Asthma	Aged <18 with Asthma and on Inhaler in last 365 days	Aged <18 On Inhaler (90 days) with no diagnosis of Asthma	Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma
White	93.33%	4.34%	2.65%	2.65%	1.67%
Black	93.45%	4.26%	2.76%	1.66%	0.67%
Asian	93.47%	3.80%	2.66%	2.44%	1.09%
Ethnicity Unknown	91.82%	6.86%	3.81%	1.72%	0.67%

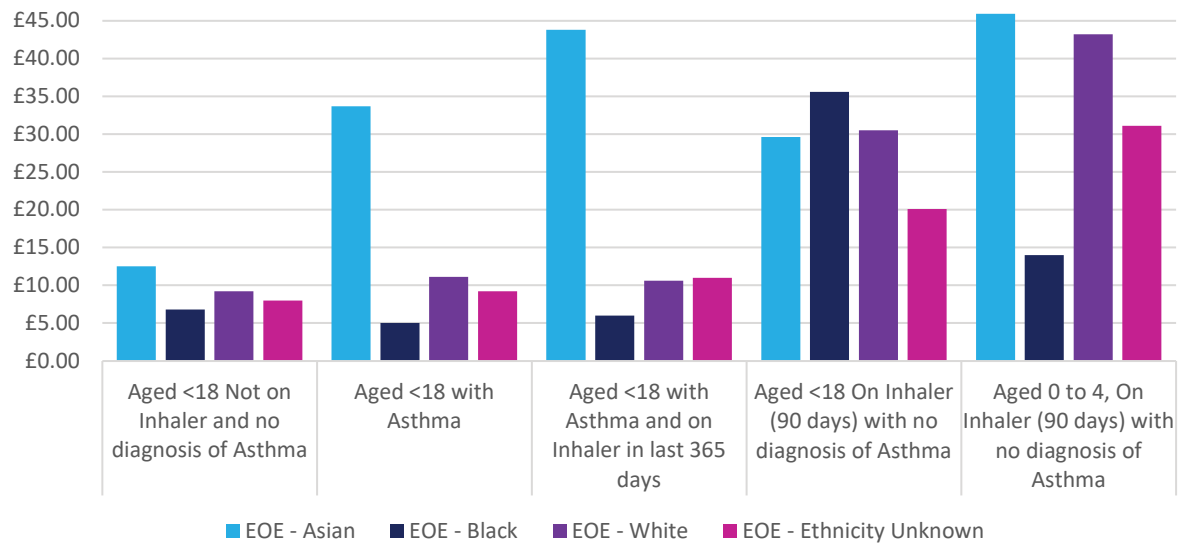
EoE Asthma Cohort Prevalence by Ethnicity (Figure 3)



Relative Admission Activity (Table 3.1)

	Aged <18 Not on Inhaler and no diagnosis of Asthma (Group 1)			Aged <18 with Asthma				Aged <18 with Asthma and on Inhaler in last 365 days				Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0		44,180		£11.9		24,991		£23.1		13,353	
EOE - Asian	£12.50	28,218	+49.2%↑	£33.70	+169.6%	1,146	+235.9%↑	£43.80	+250.4%	802	+266.4%↑	£29.60	+136.8%	737	+28.3%↑
National - Asian	£7.70	260,983	+10.3%↑	£17.20	+123.4%	11,414	+98.9%↑	£20.00	+159.7%	8,261	+97.2%↑	£26.00	+237.7%	6,309	+29.7%↑
Norfolk & Waveney - Asian	£6.20	2,200	-16.8%↓	£0.00	-100.0%	73	-100.0%↓	£0.00	-100.0%	56	-100.0%↓	£5.10	-17.7%	50	-76.4%↓
EOE - Black	£6.80	6,408	-18.3%↓	£5.00	-26.5%	292	-50.4%↓	£6.00	-11.8%	189	-49.4%↓	£35.60	+423.5%	114	+54.4%↑
National - Black	£6.00	59,110	-14.4%↓	£2.90	-51.7%	2,702	-66.9%↓	£3.20	-46.7%	1,873	-68.9%↓	£24.30	+305.0%	1,220	+20.8%↑
Norfolk & Waveney - Black	£3.90	787	-47.8%↓	£7.80	+100.0%	36	-8.0%↓	£4.80	+23.1%	24	-45.1%↓	£0.00	-100.0%	9	-100.0%↓
EOE - White	£9.20	106,924	+9.2%↑	£11.10	+20.7%	4,968	+11.0%↑	£10.60	+15.2%	3,035	-11.1%↓	£30.50	+231.5%	3,034	+32.3%↑
National - White	£7.70	552,989	+10.6%↑	£8.20	+6.5%	25,142	-4.8%↓	£9.50	+23.4%	15,598	-6.8%↓	£21.90	+184.4%	14,581	+8.9%↑
Norfolk & Waveney - White	£8.00	28,774	+7.0%↑	£10.50	+31.3%	1,443	+23.9%↑	£12.30	+53.8%	973	+41.8%↑	£40.40	+405.0%	1,065	+86.2%↑
EOE - Ethnicity Unknown	£8.00	506,424	-4.6%↓	£9.20	+15.0%	37,835	-8.2%↓	£11.00	+37.5%	20,999	-7.8%↓	£20.10	+151.3%	9,493	-13.0%↓
National - Ethnicity Unknown	£6.80	3,698,263	-2.4%↓	£8.40	+23.5%	233,512	-3.2%↓	£9.80	+44.1%	129,268	-3.8%↓	£18.90	+177.9%	69,512	-5.7%↓
Norfolk & Waveney - Ethnicity Unknown	£7.40	120,507	-1.1%↓	£8.30	+12.2%	10,760	-2.5%↓	£8.20	+10.8%	6,185	-5.4%↓	£13.50	+82.4%	2,312	-37.8%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 3.1)



EoE Average Non Elective Admission Cost by Ethnicity (Figure 3.2)

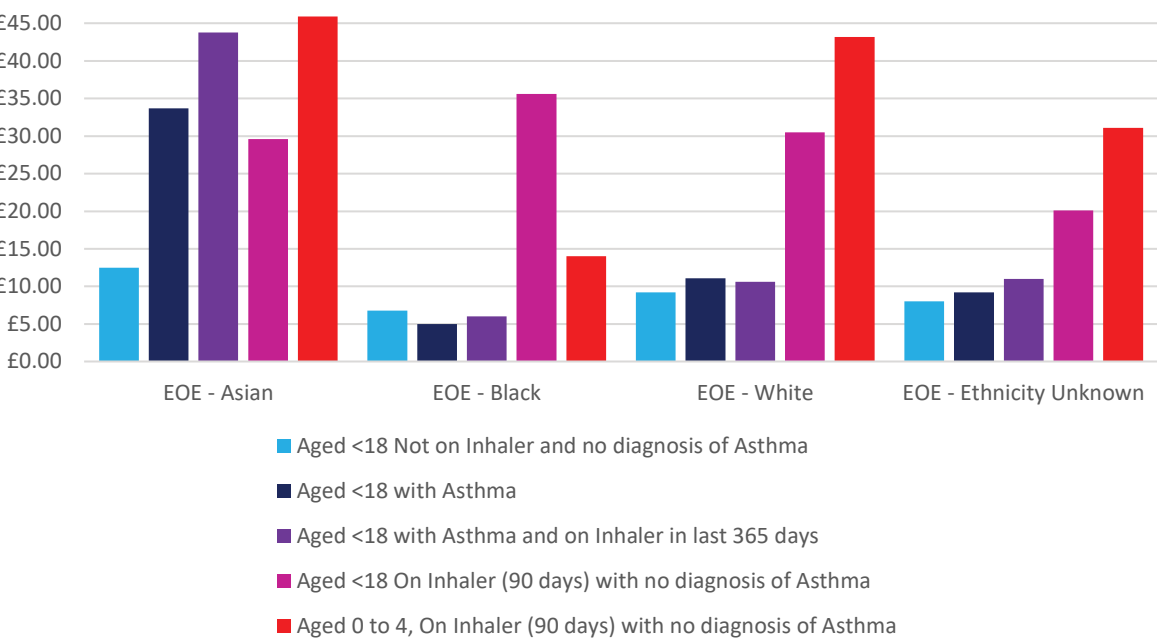


Table 3.1, Figure 3.1 and Figure 3.2

It appears that both nationally and regionally there is a higher admission rate associated with Asian children with asthma. This is particularly marked in the East of England but there is a potential bias in that one of the CCGs with a high Asian population has significantly increased emergency admission activity. Further evaluation can be undertaken on the association between elevated emergency admission activity in Asian children with asthma.

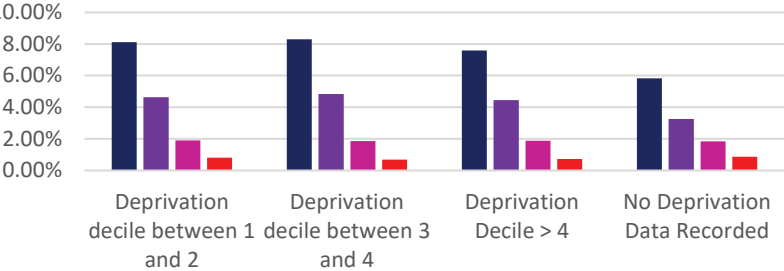
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Deprivation (Deprivation decile 1 = most deprived, 10 = least deprived)

EoE Prevalence by Deprivation (Table 4)

	Aged <18 Not on Inhaler and no diagnosis of Asthma	Aged <18 with Asthma	Aged <18 with Asthma and on Inhaler in last 365 days	Aged <18 On Inhaler (90 days) with no diagnosis of Asthma	Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma
Deprivation decile between 1 and 2	89.97%	8.12%	4.63%	1.91%	0.81%
Deprivation decile between 3 and 4	89.84%	8.30%	4.83%	1.85%	0.69%
Deprivation Decile > 4	90.74%	7.60%	4.46%	1.89%	0.73%
No Deprivation Data Recorded	92.70%	5.83%	3.26%	1.84%	0.87%

EoE Asthma Cohort Prevalence by Deprivation (Figure 4)

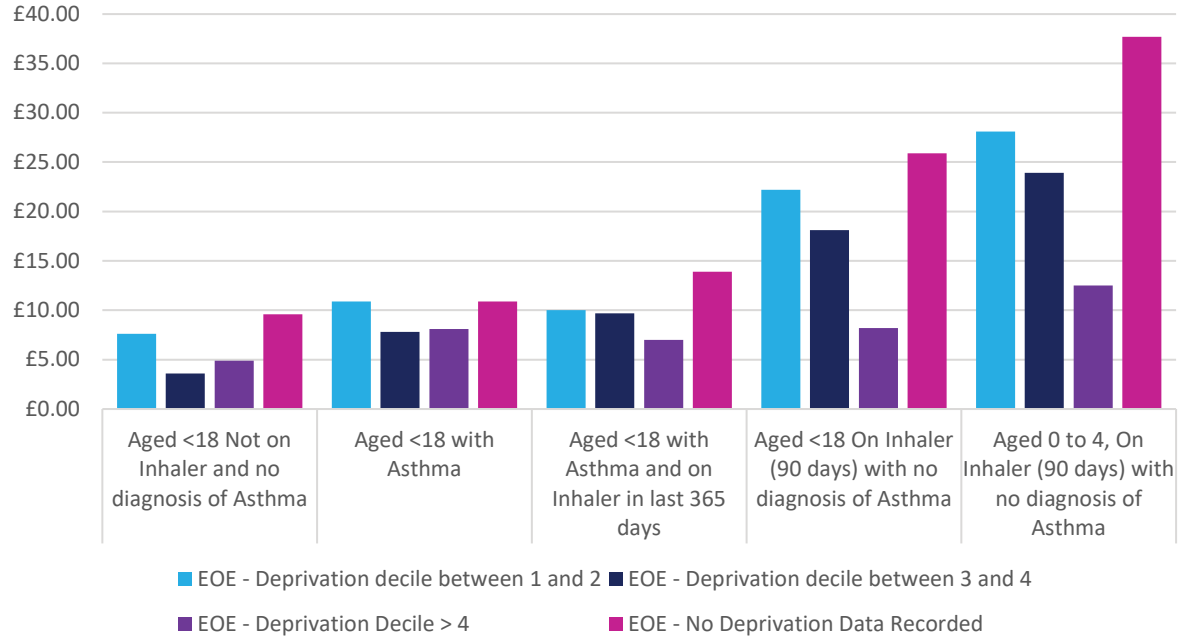


For 'heat map showing the relative prevalence of children aged under 18 with asthma or that are on an inhaler in high levels of deprivation' - See Annex 3

Relative Admission Activity (Table 4.1)

	Aged <18 Not on Inhaler and no diagnosis of Asthma (Group 1)			Aged <18 with Asthma				Aged <18 with Asthma and on Inhaler in last 365 days				Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Relative Impact on Non-Elective Admission Costs Compared to Group 1	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0		44,180		£11.9		24,991		£23.1		13,353	
EOE - Deprivation decile between 1 and 2	£7.60	26,328	-10.2%↓	£10.90	+43.4%	2,376	+7.0%↑	£10.00	+31.6%	1,356	-18.0%↓	£22.20	+192.1%	559	-2.3%↓
National - Deprivation decile between 1 and 2	£6.60	40,671	-6.4%↓	£10.90	+65.2%	3,423	+25.2%↑	£12.20	+84.8%	1,909	+18.8%↑	£18.40	+178.8%	912	-8.2%↓
Norfolk & Waveney - Deprivation decile between 1 and 2	£8.00	23,348	+5.8%↑	£10.50	+31.3%	2,168	+22.1%↑	£9.30	+16.3%	1,249	+6.3%↑	£15.00	+87.5%	518	-3.4%↓
EOE - Deprivation decile between 3 and 4	£3.60	31,002	-57.3%↓	£7.80	+116.7%	2,865	-23.5%↓	£9.70	+169.4%	1,666	-20.1%↓	£18.10	+402.8%	640	-20.2%↓
National - Deprivation decile between 3 and 4	£4.10	41,477	-42.2%↓	£6.80	+65.9%	3,639	-21.9%↓	£8.60	+109.8%	2,067	-15.5%↓	£16.60	+304.9%	888	-16.9%↓
Norfolk & Waveney - Deprivation decile between 3 and 4	£3.00	23,056	-60.3%↓	£8.40	+180.0%	2,179	-2.0%↓	£10.30	+243.3%	1,309	+17.4%↑	£20.30	+576.7%	481	+31.0%↑
EOE - Deprivation Decile > 4	£4.90	90,963	-42.5%↓	£8.10	+65.3%	7,614	-20.7%↓	£7.00	+42.9%	4,466	-42.5%↓	£8.20	+67.3%	1,897	-64.1%↓
National - Deprivation Decile > 4	£4.60	119,643	-35.2%↓	£7.40	+60.9%	9,926	-14.6%↓	£6.60	+43.5%	5,744	-35.5%↓	£7.60	+65.2%	2,370	-62.2%↓
Norfolk & Waveney - Deprivation Decile > 4	£5.00	46,691	-33.5%↓	£6.70	+34.0%	4,383	-21.9%↓	£6.70	+34.0%	2,673	-23.6%↓	£6.20	+24.0%	1,081	-60.2%↓
EOE - No Deprivation Data Recorded	£9.60	499,673	+13.0%↑	£10.90	+13.5%	31,431	+7.4%↑	£13.90	+44.8%	17,554	+14.6%↑	£25.90	+169.8%	9,925	+14.0%↑
National - No Deprivation Data Recorded	£7.40	4,388,719	+3.9%↑	£8.80	+18.9%	257,043	+1.4%↑	£10.60	+43.2%	146,042	+3.5%↑	£21.10	+185.1%	85,590	+5.1%↑
Norfolk & Waveney - No Deprivation Data Recorded	£11.40	59,229	+50.6%↑	£10.00	-12.3%	3,596	+15.7%↑	£10.20	-10.5%	2,017	+16.0%↑	£21.80	+91.2%	1,290	+40.5%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 4.1)



EoE Average Non Elective Admission Cost by Deprivation (Figure 4.2)

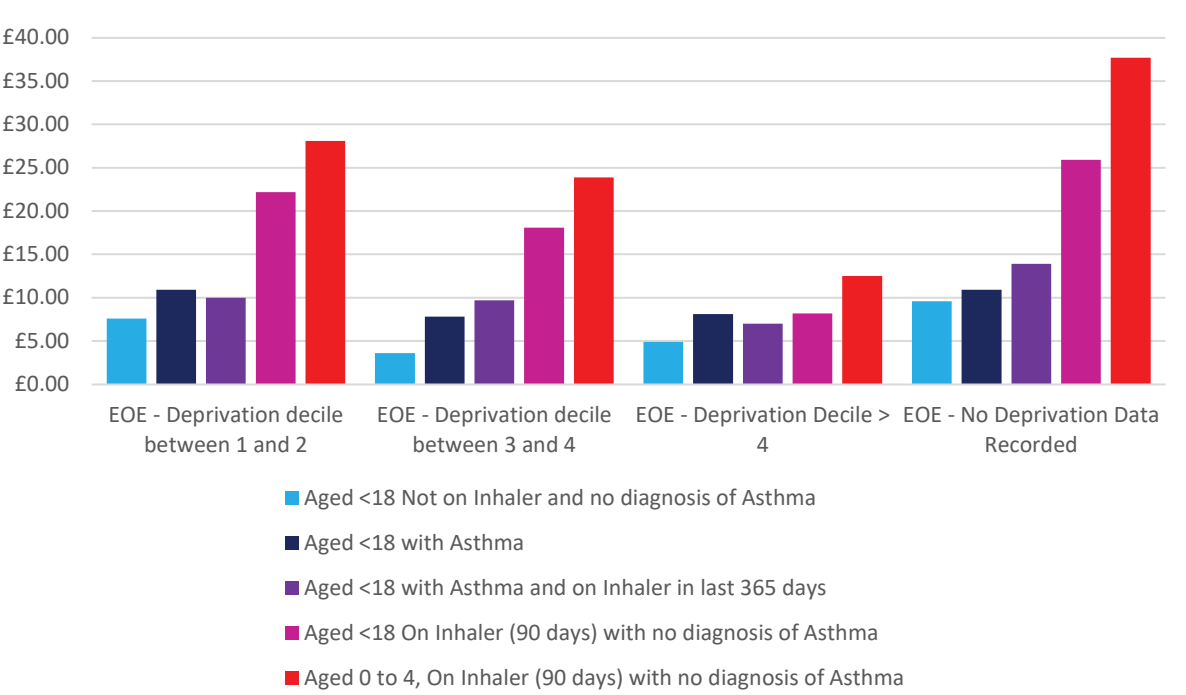


Table 4 and Figure 4

Deprivation is currently based on surgeries that have uploaded their postcodes and regions that have actively uploaded their data. Eclipse has the deprivation data for all patients across the East of England but needs practices to activate this interface centrally.

Table 4.1, Figure 4.1 and Figure 4.2

There appears to be a higher asthma prevalence and admission rate for children from deprivation deciles 1-2. This requires more extensive analysis across the EOE region.

*The relative impact on non-elective admissions for the defined cohort

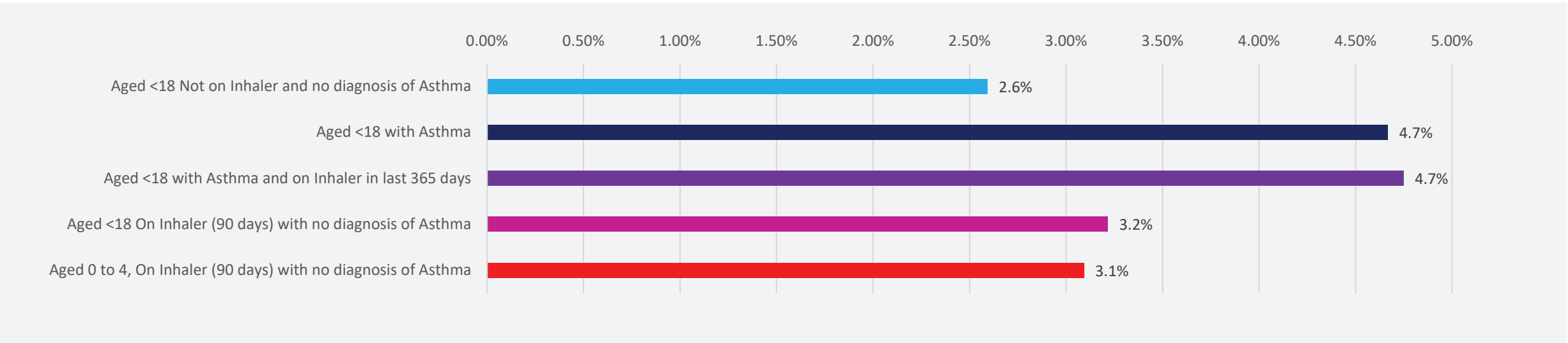


HEALTH OF THE NATION REPORT

Associated Condition Statistics

Population Statistics - Mental Health, Depression or Anxiety Status

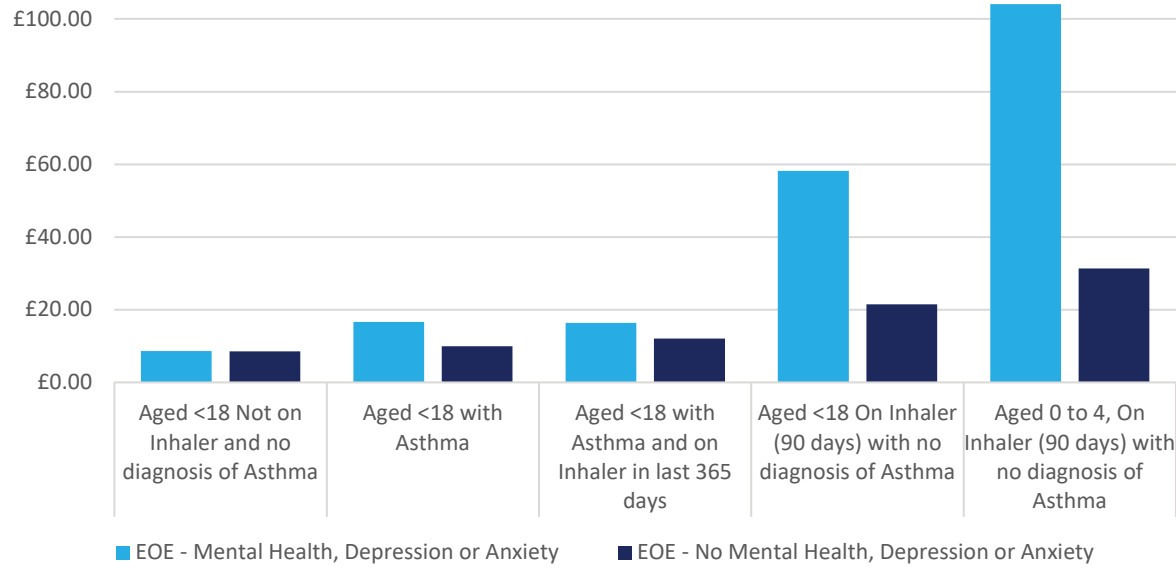
EoE Mental Health, Depression or Anxiety Relative Prevalence (Figure 5)



Relative Admission Activity (Table 5)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Mental Health, Depression or Anxiety	£8.60	16,746	+1.5%↑	£16.60	2,062	+62.6%↑	£16.40	1,186	+34.5%↑	£58.20	418	+156.2%↑	£104.10	182	+210.3%↑
National - Mental Health, Depression or Anxiety	£9.40	77,083	+31.7%↑	£12.30	11,425	+41.6%↑	£12.90	6,140	+26.2%↑	£36.40	1,421	+81.8%↑	£72.40	286	+144.6%↑
Norfolk & Waveney - Mental Health, Depression or Anxiety	£8.00	2,854	+5.2%↑	£15.70	582	+82.8%↑	£19.10	346	+118.1%↑	£0.00	32	-100.0%↓	£0.00	1	-100.0%↓
EOE - No Mental Health, Depression or Anxiety	£8.50	630,432	0.0%↓	£9.90	42,203	-3.2%↓	£12.00	23,844	-1.7%↓	£21.50	12,597	-5.2%↓	£31.30	5,714	-6.8%↓
National - No Mental Health, Depression or Anxiety	£7.10	4,506,043	-0.7%↓	£8.50	262,480	-1.9%↓	£10.10	149,562	-1.1%↓	£19.70	88,273	-1.8%↓	£28.80	36,839	-2.6%↓
Norfolk & Waveney - No Mental Health, Depression or Anxiety	£7.60	149,454	-0.1%↓	£8.30	11,743	-4.2%↓	£8.20	6,902	-5.9%↓	£15.70	3,337	+0.9%↑	£24.30	1,611	+0.1%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 5.1)



EoE Average Non Elective Admission Cost by Mental Health, Depression or Anxiety Status (Figure 5.2)

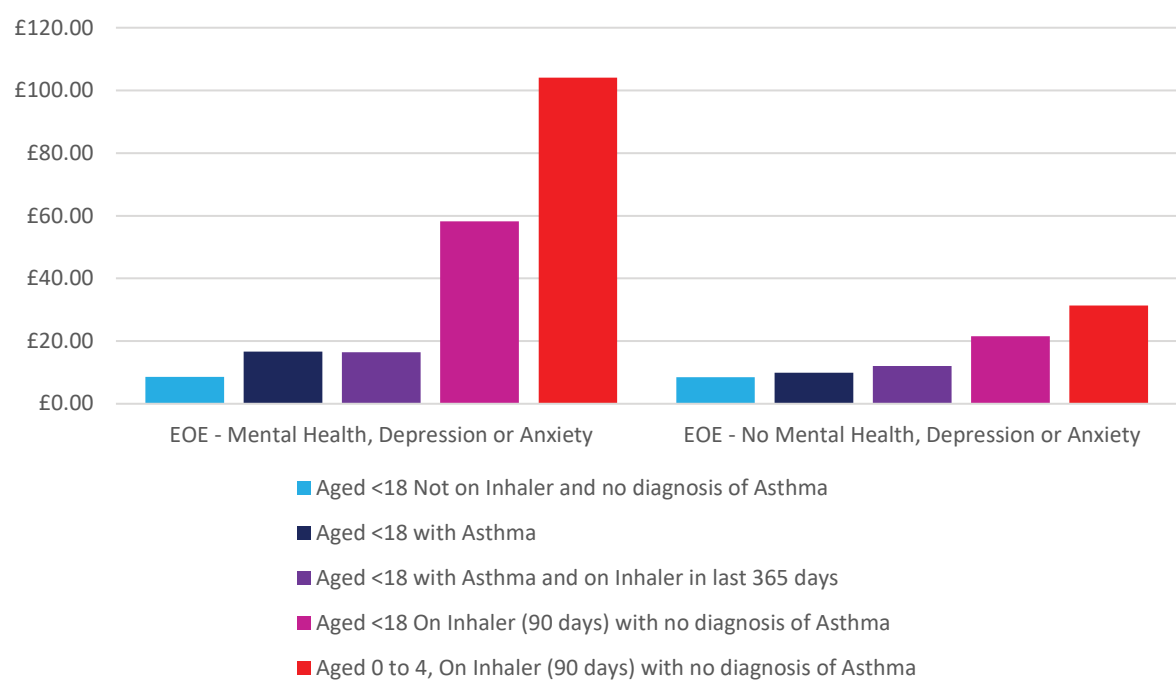


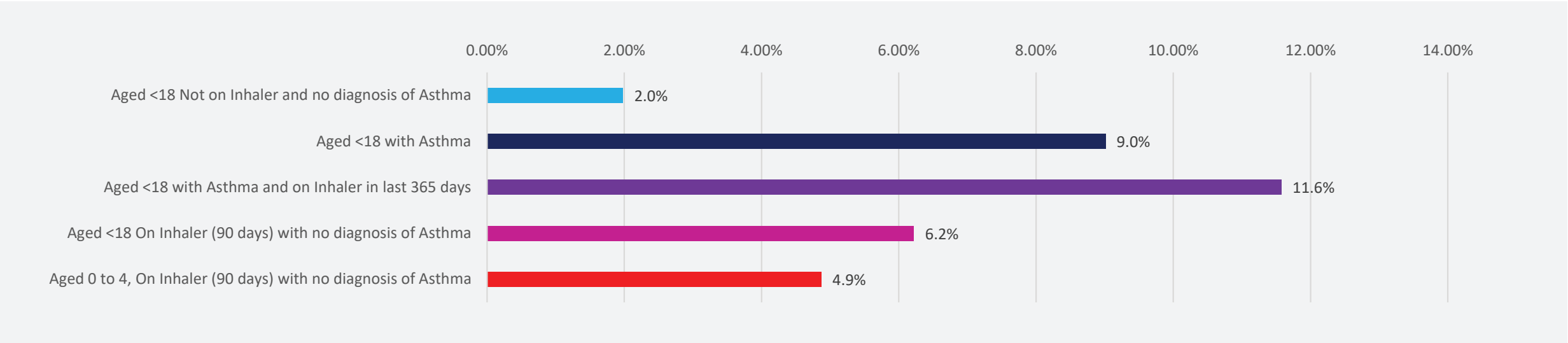
Figure 5
There appears to be a strong association between asthma and mental health issues. There needs to be a formal evaluation to determine whether having asthma encourages GPs/ Nurses to explore underlying mental health issues.

Mental health coded in line with QOF SNOMED mental health codes (such as schizophrenia and bipolar disorder), with the addition of SNOMED codes for depression and anxiety

*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Food Allergy

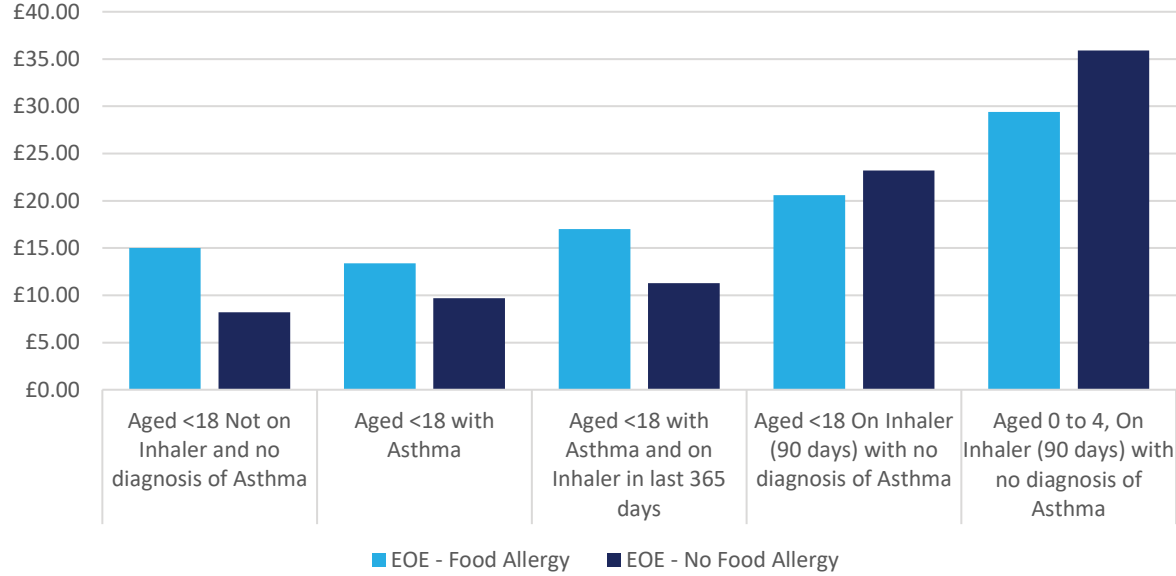
EoE Food Allergy Relative Prevalence (Figure 6)



Relative Admission Activity (Table 6)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Food Allergy	£15.00	12,838	+78.7%↑	£13.40	3,982	+34.0%↑	£17.00	2,893	+42.5%↑	£20.60	831	-10.6%↓	£29.40	291	-17.5%↓
National - Food Allergy	£10.00	80,232	+42.7%↑	£10.30	24,100	+18.8%↑	£12.30	17,734	+21.4%↑	£14.90	5,463	-25.9%↓	£27.30	1,728	-9.2%↓
Norfolk & Waveney - Food Allergy	£11.30	2,818	+52.4%↑	£16.70	1,037	+96.1%↑	£22.00	767	+153.6%↑	£9.50	183	-56.1%↓	£20.20	67	-47.4%↓
EOE - No Food Allergy	£8.20	634,725	-1.7%↓	£9.70	40,238	-3.4%↓	£11.30	22,118	-5.5%↓	£23.20	12,533	+0.7%↑	£35.90	5,691	+0.9%↑
National - No Food Allergy	£6.90	4,488,373	-0.8%↓	£8.50	248,546	-1.7%↓	£9.90	137,176	-2.5%↓	£20.40	86,086	+1.6%↑	£30.20	36,239	+0.5%↑
Norfolk & Waveney - No Food Allergy	£7.40	149,359	-1.0%↓	£7.80	11,266	-8.6%↓	£7.10	6,465	-18.0%↓	£22.30	3,251	+3.1%↑	£39.10	1,584	+2.0%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 6.1)



EoE Average Non Elective Admission Cost by Food Allergy Status (Figure 6.2)

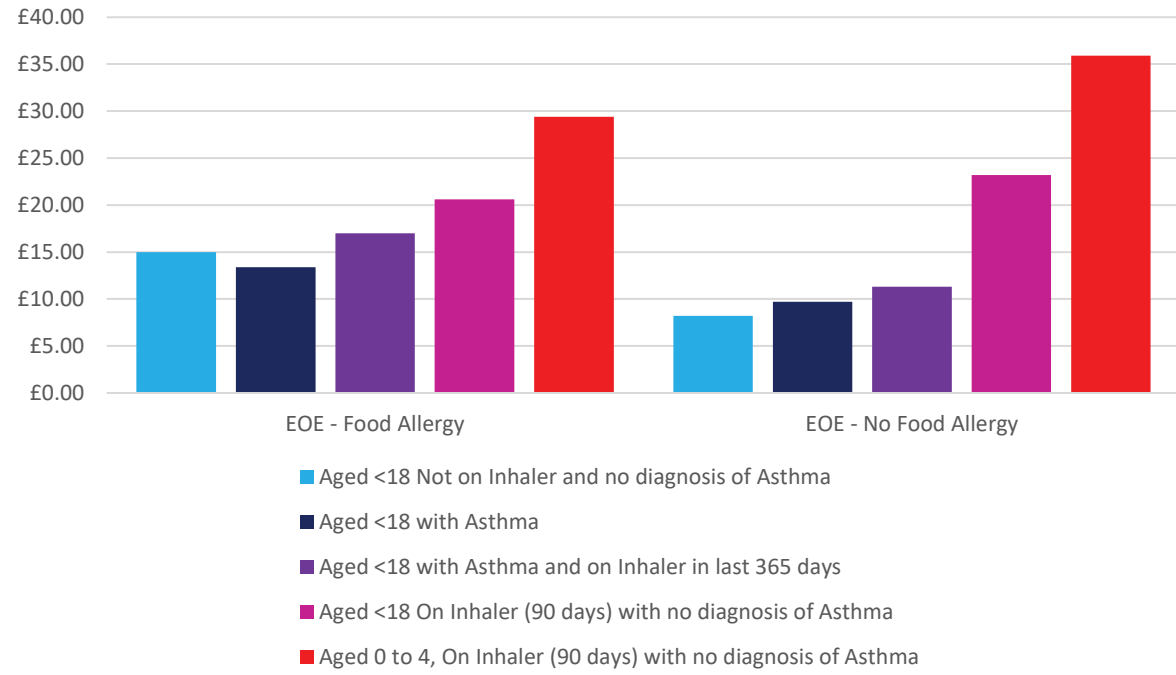
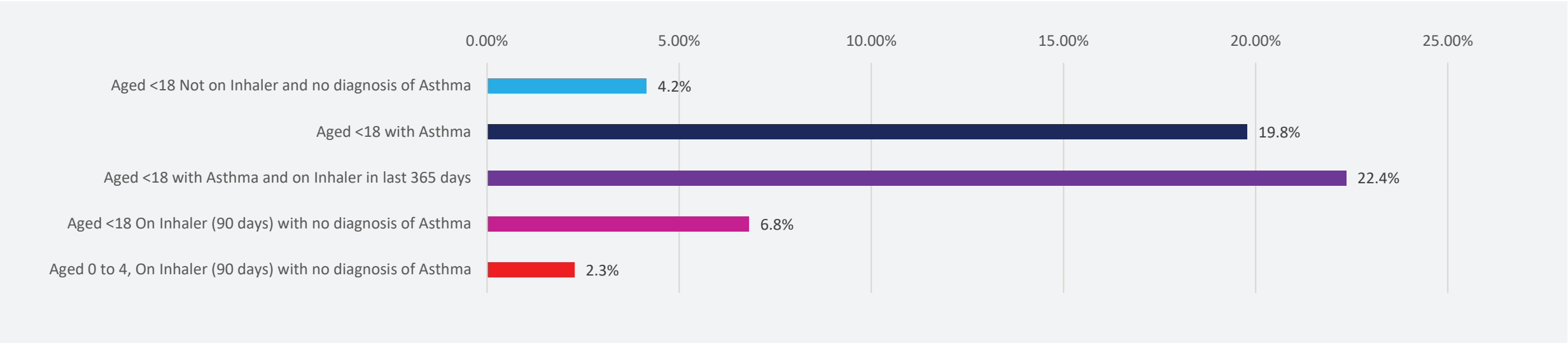


Figure 6
There appears to be an association between children with asthma on inhalers and food allergy.

*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Hay Fever

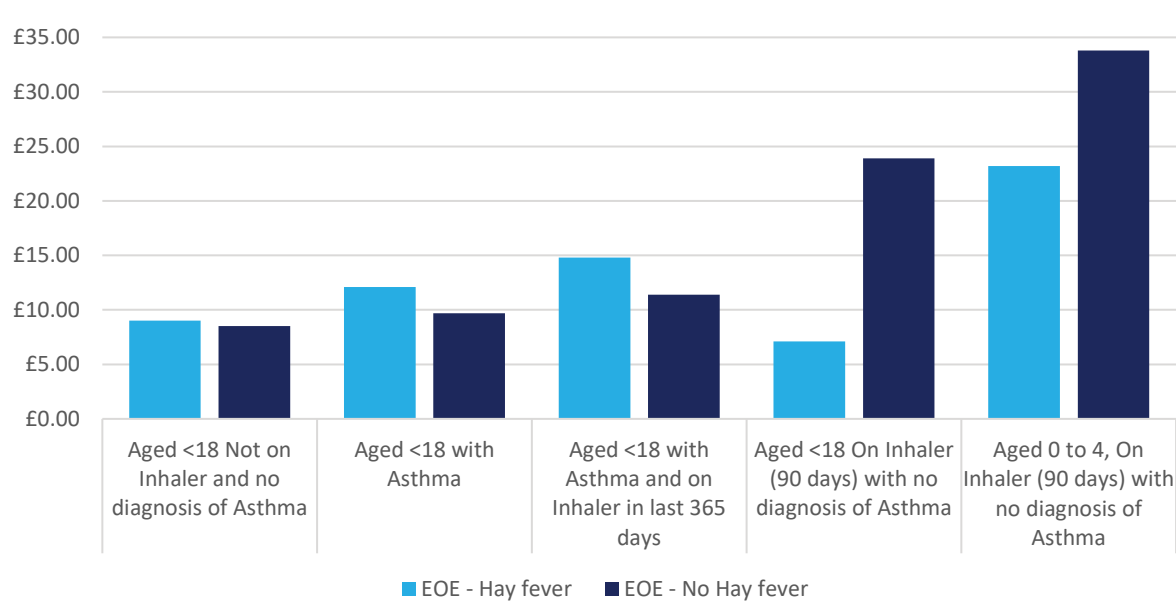
EoE Hay Fever Relative Prevalence (Figure 7)



Relative Admission Activity (Table 7)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Hay fever	£9.00	26,839	+6.1%↑	£12.10	8,738	+18.8%↑	£14.80	5,584	+21.6%↑	£7.10	886	-68.7%↓	£23.20	134	-30.9%↓
National - Hay fever	£6.70	198,983	-6.2%↓	£9.20	56,105	+6.3%↑	£11.60	35,944	+12.9%↑	£8.20	6,884	-59.1%↓	£19.00	818	-35.9%↓
Norfolk & Waveney - Hay fever	£5.90	5,835	-22.1%↓	£8.40	2,538	-2.3%↓	£7.00	1,653	-19.6%↓	£3.40	231	-78.3%↓	£2.60	44	-89.2%↓
EOE - No Hay fever	£8.50	621,130	-0.3%↓	£9.70	35,548	-4.7%↓	£11.40	19,458	-6.2%↓	£23.90	12,135	+5.0%↑	£33.80	5,765	+0.7%↑
National - No Hay fever	£7.10	4,391,530	+0.3%↑	£8.60	217,926	-1.6%↓	£9.80	119,818	-3.9%↓	£20.90	82,876	+4.6%↑	£29.80	36,344	+0.9%↑
Norfolk & Waveney - No Hay fever	£7.60	146,492	+0.9%↑	£8.70	9,788	+0.6%↑	£9.30	5,595	+5.8%↑	£16.40	3,139	+5.8%↑	£24.90	1,569	+2.5%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 7.1)



EoE Average Non Elective Admission Cost by Hay Fever Status (Figure 7.2)

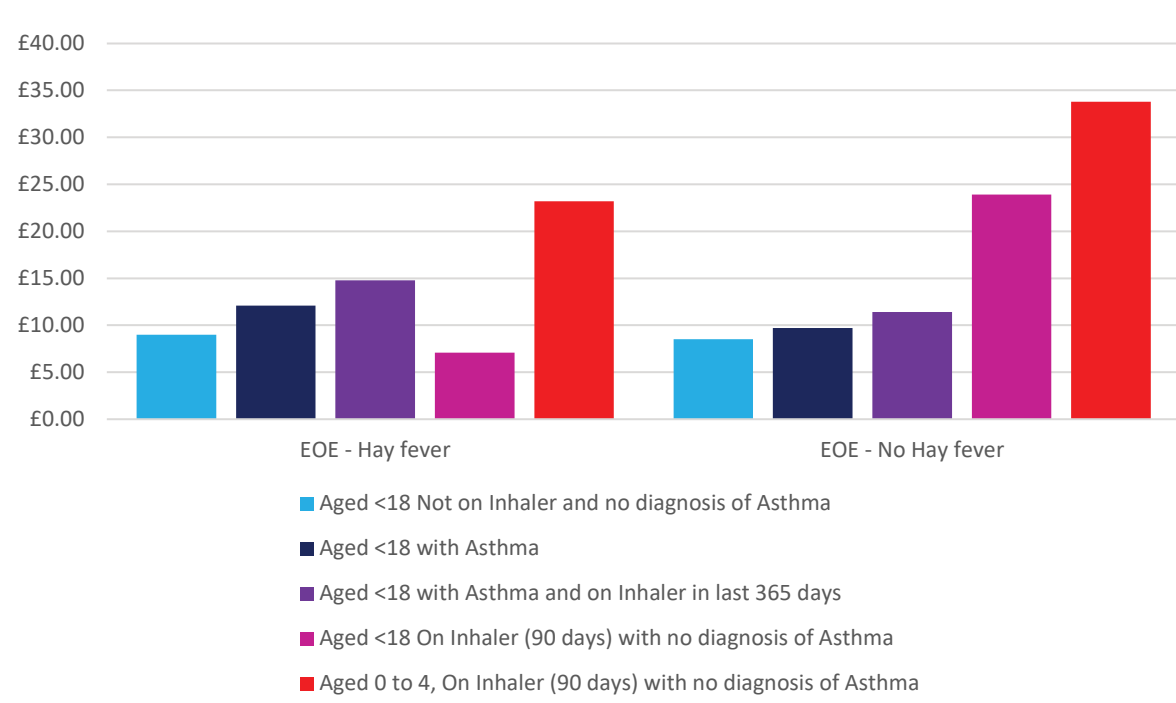
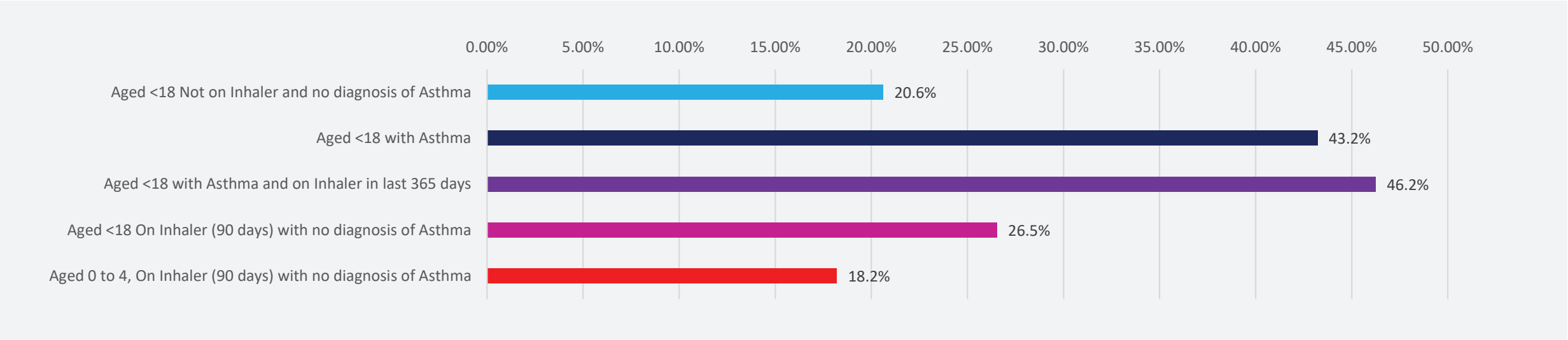


Figure 7
There appears to be an association between children with diagnosed asthma and hay fever.

*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Eczema

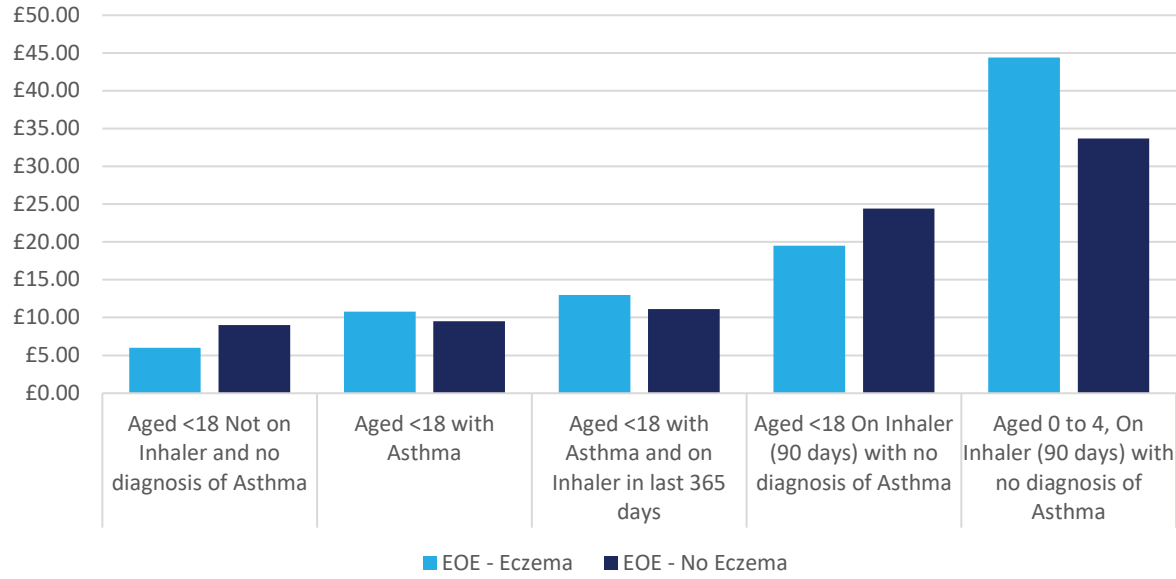
EoE Eczema Relative Prevalence (Figure 8)



Relative Admission Activity (Table 8)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Eczema	£6.00	133,447	-27.9%↓	£10.80	19,098	+7.7%↑	£13.00	11,558	+8.6%↑	£19.50	3,544	-15.4%↓	£44.40	1,088	+24.6%↑
National - Eczema	£5.40	933,454	-23.0%↓	£9.10	119,341	+5.3%↑	£10.90	73,363	+7.5%↑	£15.20	25,971	-24.3%↓	£33.20	7,164	+10.6%↑
Norfolk & Waveney - Eczema	£5.30	31,381	-29.4%↓	£10.10	5,135	+18.7%↑	£9.20	3,197	+5.9%↑	£11.80	918	-45.5%↓	£31.50	298	-17.8%↓
EOE - No Eczema	£9.00	513,924	+7.1%↑	£9.50	25,117	-5.8%↓	£11.10	13,448	-7.2%↓	£24.40	9,816	+5.6%↑	£33.70	4,890	-5.4%↓
National - No Eczema	£7.40	3,633,715	+5.9%↑	£8.30	153,270	-4.1%↓	£9.50	81,527	-6.6%↓	£21.90	65,538	+9.1%↑	£29.30	30,769	-2.5%↓
Norfolk & Waveney - No Eczema	£8.00	120,753	+7.7%↑	£7.40	7,169	-13.2%↓	£8.30	4,035	-4.3%↓	£25.30	2,514	+16.6%↑	£39.80	1,352	+4.0%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 8.1)



EoE Average Non Elective Admission Cost by Eczema Status (Figure 8.2)

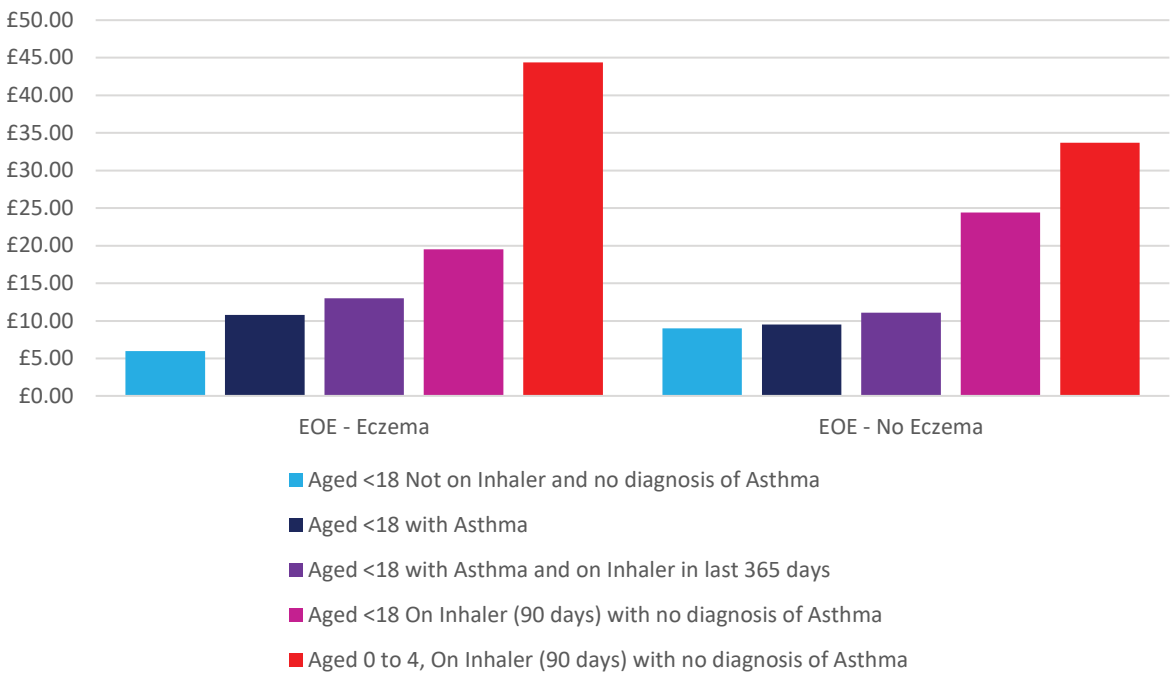


Figure 8
There appears to be an association between children with asthma on inhalers and eczema.

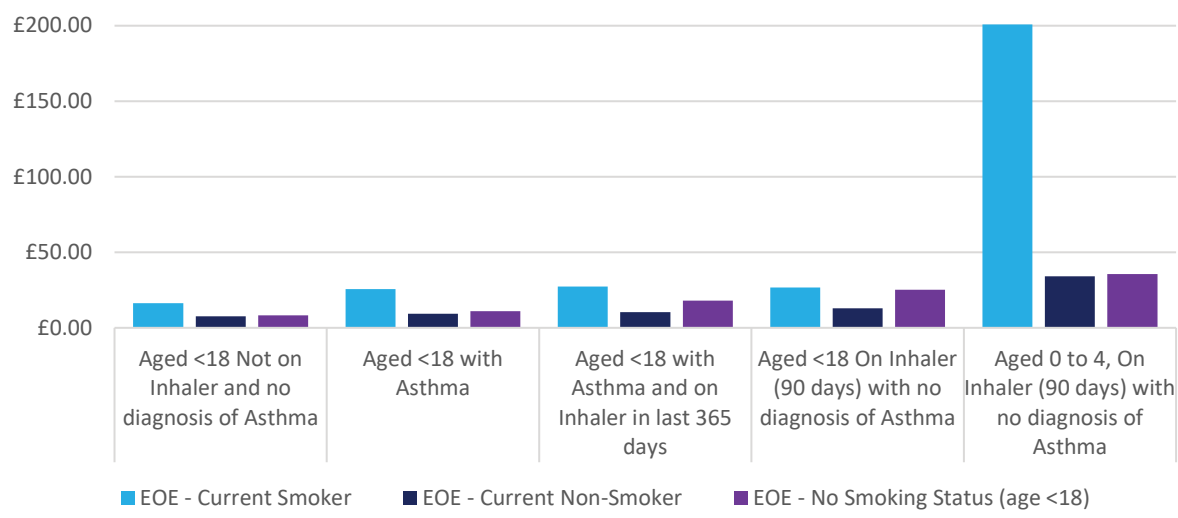
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Smoking Status

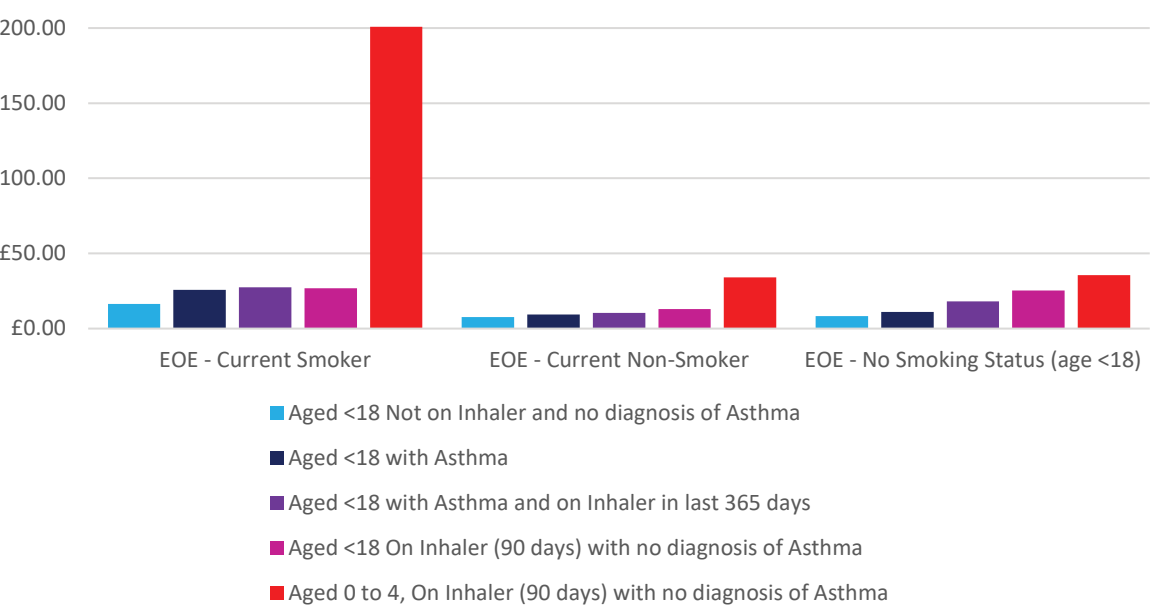
Relative Admission Activity (Table 9)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Current Smoker	£16.40	1,374	+95.6%↑	£25.80	245	+157.1%↑	£27.50	146	+130.1%↑	£26.80	30	+16.0%↑	£200.80	4	+463.8%↑
National - Current Smoker	£12.40	9,485	+77.5%↑	£14.90	1,509	+72.8%↑	£16.40	810	+61.5%↑	£34.80	217	+73.5%↑	£52.60	30	+75.1%↑
Norfolk & Waveney - Current Smoker	£8.30	571	+11.2%↑	£19.30	100	+127.2%↑	£15.60	56	+80.5%↑	£47.20	17	+118.0%↑	£267.70	3	+598.7%↑
EOE - Current Non-Smoker	£7.70	57,032	-7.6%↓	£9.40	29,989	-6.4%↓	£10.40	20,324	-12.6%↓	£13.10	2,464	-43.0%↓	£34.20	493	-3.9%↓
National - Current Non-Smoker	£7.40	377,659	+5.4%↑	£8.30	178,163	-3.7%↓	£9.20	121,580	-9.6%↓	£11.90	14,464	-40.5%↓	£26.30	2,620	-12.4%↓
Norfolk & Waveney - Current Non-Smoker	£7.30	18,589	-2.0%↓	£7.60	8,456	-10.6%↓	£6.20	5,816	-28.1%↓	£16.00	773	-26.1%↓	£36.20	213	-5.4%↓
EOE - No Smoking Status (age <18)	£8.40	588,328	+0.5%↑	£11.10	13,846	+11.0%↑	£18.10	4,451	+51.6%↑	£25.30	10,855	+9.9%↑	£35.60	5,483	+0.0%↑
National - No Smoking Status (age <18)	£6.90	4,177,219	-1.1%↓	£9.10	92,084	+5.8%↑	£14.00	32,027	+37.4%↑	£21.80	76,767	+8.6%↑	£30.40	35,250	+1.1%↑
Norfolk & Waveney - No Smoking Status (age <18)	£7.40	132,810	-0.2%↓	£10.10	3,695	+18.9%↑	£18.50	1,321	+113.4%↑	£23.20	2,638	+7.0%↑	£38.10	1,434	-0.5%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 9)



EoE Average Non Elective Admission Cost by Smoking Status (Figure 9.1)



It may be that the recording of smoking information has a bias in that the questions are asked more frequently for children from lower socioeconomic status. This would go towards explaining the impact on both current smokers and current non-smokers coded having increased admission activity in national non-asthmatic children.

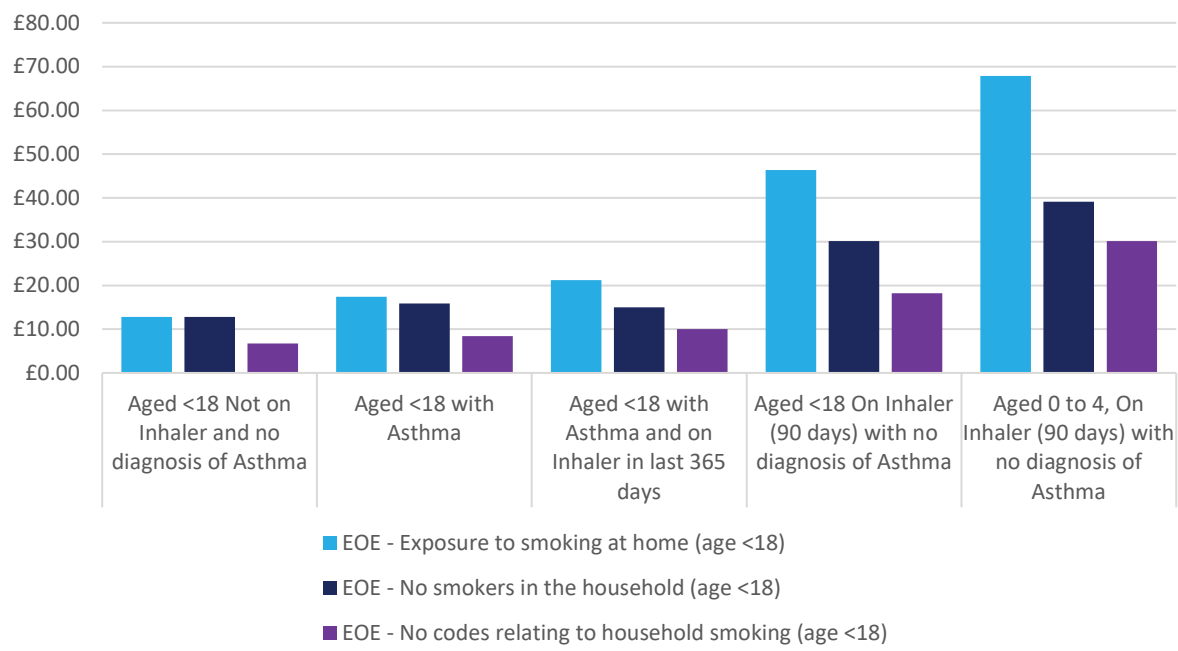
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Household Smoking Status

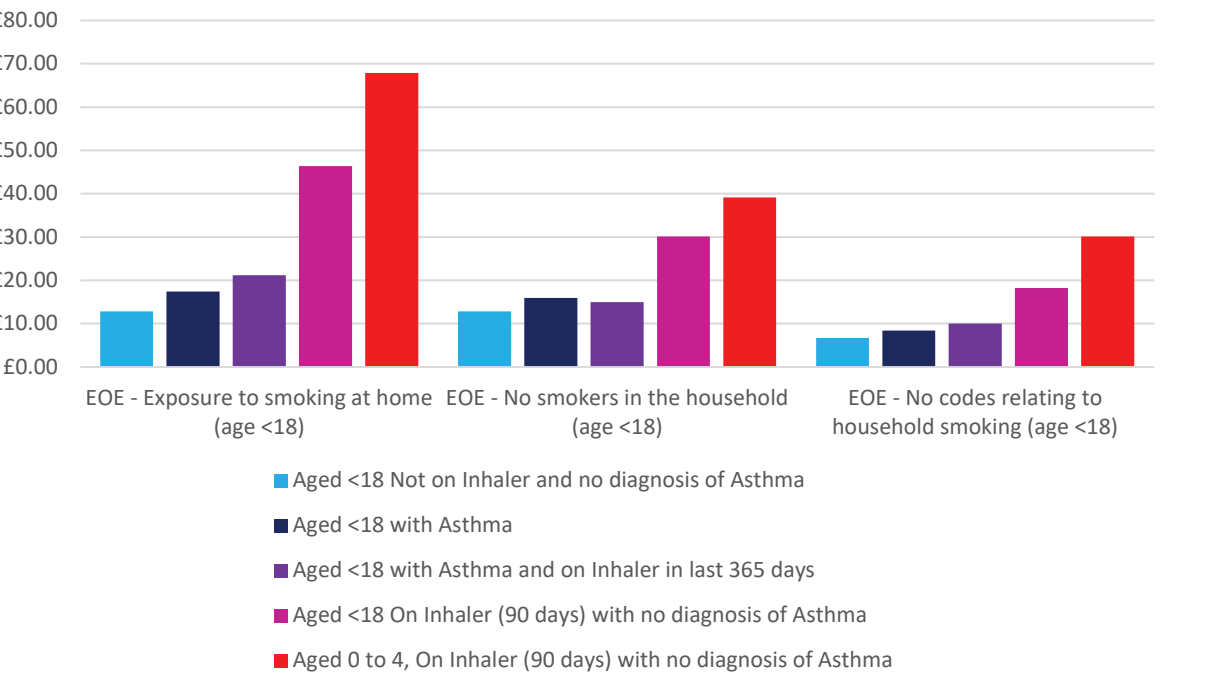
Relative Admission Activity (Table 9)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Exposure to smoking at home (age <18)	£12.80	38,695	+52.9%↑	£17.40	3,168	+73.9%↑	£21.20	2,403	+77.9%↑	£46.40	1,376	+101.2%↑	£67.90	849	+90.6%↑
National - Exposure to smoking at home (age <18)	£11.90	109,148	+70.0%↑	£13.50	11,585	+55.9%↑	£15.60	9,214	+53.8%↑	£31.20	4,376	+55.3%↑	£43.40	2,713	+44.4%↑
Norfolk & Waveney - Exposure to smoking at home (age <18)	£8.10	11,865	+9.0%↑	£13.70	1,133	+60.6%↑	£15.30	886	+77.1%↑	£80.60	452	+271.9%↑	£128.70	278	+236.1%↑
EOE - No smokers in the household (age <18)	£12.80	142,796	+52.5%↑	£15.90	5,780	+58.2%↑	£15.00	4,420	+25.8%↑	£30.10	4,898	+30.7%↑	£39.10	3,392	+9.8%↑
National - No smokers in the household (age <18)	£10.80	444,795	+55.1%↑	£12.40	26,758	+43.9%↑	£12.30	21,223	+20.9%↑	£26.50	15,065	+32.0%↑	£33.00	10,519	+9.9%↑
Norfolk & Waveney - No smokers in the household (age <18)	£8.80	40,683	+17.8%↑	£13.10	1,893	+53.9%↑	£12.40	1,476	+43.3%↑	£29.60	1,494	+36.8%↑	£44.70	963	+16.6%↑
EOE - No codes relating to household smoking (age <18)	£6.70	479,474	-19.8%↓	£8.40	35,805	-16.0%↓	£10.00	18,614	-16.2%↓	£18.20	7,597	-21.0%↓	£30.10	2,091	-15.6%↓
National - No codes relating to household smoking (age <18)	£5.90	4,043,395	-16.0%↓	£7.90	235,729	-9.0%↓	£9.30	125,627	-8.5%↓	£17.20	73,259	-14.4%↓	£26.90	25,498	-10.4%↓
Norfolk & Waveney - No codes relating to household smoking (age <18)	£6.90	103,541	-7.7%↓	£7.10	9,508	-17.0%↓	£6.40	5,049	-25.6%↓	£12.70	1,638	-41.2%↓	£22.50	501	-41.4%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 9)



EoE Average Non Elective Admission Cost by Household Smoking Status (Figure 9.1)



The possible bias discussed on the previous page regarding smoking status - being asked more frequently for children from lower socioeconomic status - may well apply to this data also, as both current smokers and current non-smokers have increased admission activity. Only 20% of asthmatic children appear to have their household smoking status coded.

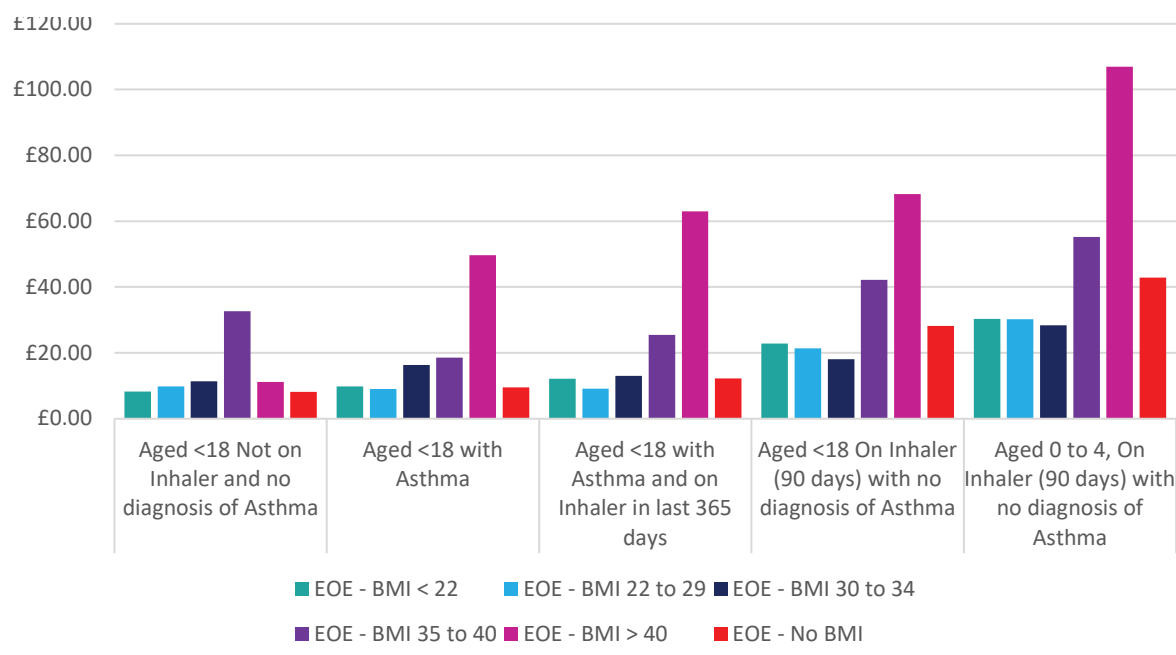
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - BMI

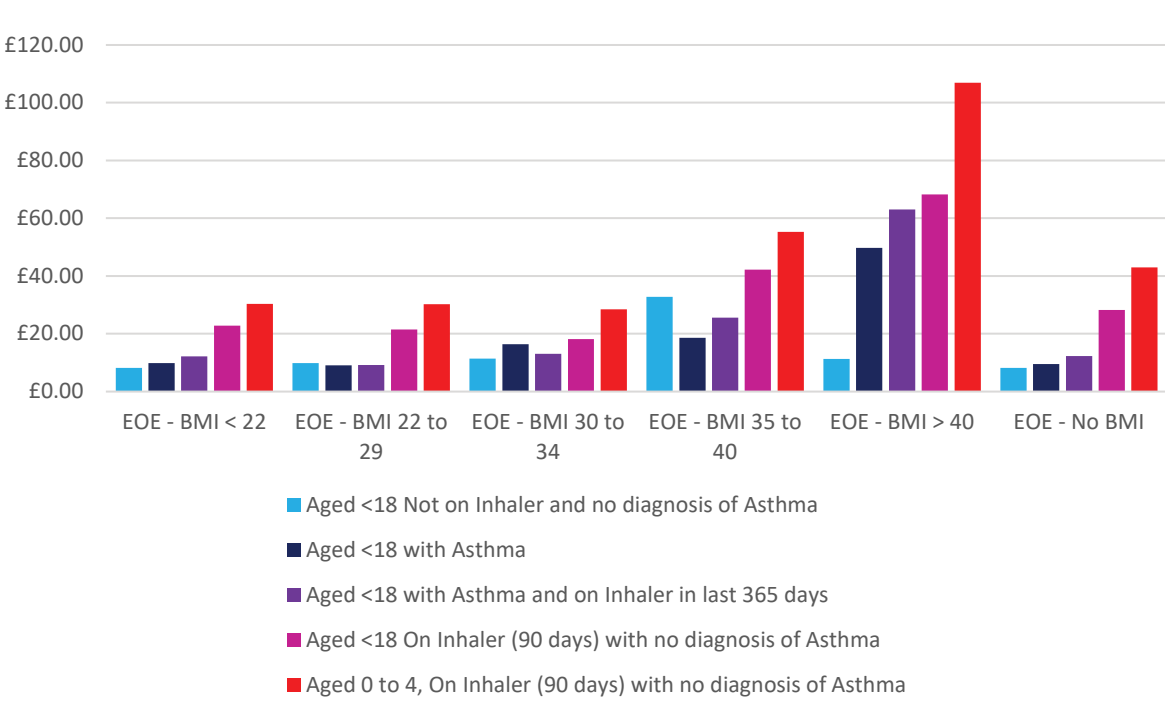
Relative Admission Activity (Table 10)

	Aged <18 Not on Inhaler and no diagnosis of Asthma			Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month	Number of patients	Relative Impact on Non-Elective Admission Costs in Last	Avg. Non Elective Admission Cost in Last Month	Number of patients	Relative Impact on Non-Elective Admission Costs in Last Month	Avg. Non Elective Admission Cost in Last Month	Number of patients	Relative Impact on Non-Elective Admission Costs in Last Month	Avg. Non Elective Admission Cost in Last Month	Number of patients	Relative Impact on Non-Elective Admission Costs in Last Month	Avg. Non Elective Admission Cost in Last Month	Number of patients	Relative Impact on Non-Elective Admission Costs in Last Month
All East of England Patients	£8.4	647,200		£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - BMI < 22	£8.20	277,298	-3.1%↓	£9.80	24,826	-3.6%↓	£12.10	15,337	-1.0%↓	£22.80	6,531	-12.8%↓	£30.30	2,613	-21.6%↓
National - BMI < 22	£7.60	1,049,264	+6.5%↑	£9.20	127,910	+6.3%↑	£10.70	82,935	+3.8%↑	£20.60	29,648	-3.4%↓	£27.30	11,522	-12.9%↓
Norfolk & Waveney - BMI < 22	£7.60	68,020	-0.6%↓	£7.30	7,002	-15.9%↓	£6.90	4,552	-21.2%↓	£19.30	1,740	-29.0%↓	£23.80	701	-44.3%↓
EOE - BMI 22 to 29	£9.80	40,765	+14.9%↑	£9.00	6,634	-11.8%↓	£9.10	4,057	-25.8%↓	£21.40	1,049	-18.1%↓	£30.20	399	-21.7%↓
National - BMI 22 to 29	£9.30	164,939	+29.8%↑	£7.80	35,567	-9.7%↓	£8.80	22,635	-14.4%↓	£30.50	4,882	+42.9%↑	£56.80	1,294	+81.1%↑
Norfolk & Waveney - BMI 22 to 29	£5.80	11,829	-23.9%↓	£10.00	2,039	+15.3%↑	£10.80	1,278	+23.2%↑	£16.40	333	-39.5%↓	£17.70	134	-58.7%↓
EOE - BMI 30 to 34	£11.40	6,430	+33.4%↑	£16.30	921	+59.8%↑	£13.00	566	+6.0%↑	£18.10	227	-30.8%↓	£28.40	131	-26.4%↓
National - BMI 30 to 34	£10.50	28,200	+47.3%↑	£11.10	5,202	+28.1%↑	£11.10	3,306	+7.8%↑	£12.20	999	-42.9%↓	£19.20	434	-38.7%↓
Norfolk & Waveney - BMI 30 to 34	£9.00	1,911	+18.2%↑	£17.40	328	+101.7%↑	£19.30	194	+120.2%↑	£32.80	59	+21.0%↑	£53.80	36	+25.8%↑
EOE - BMI 35 to 40	£32.70	3,280	+284.2%↑	£18.60	387	+82.8%↑	£25.50	246	+108.3%↑	£42.20	146	+61.4%↑	£55.20	97	+43.0%↑
National - BMI 35 to 40	£19.70	15,721	+176.1%↑	£25.20	2,241	+190.2%↑	£21.00	1,445	+103.4%↑	£29.50	686	+38.2%↑	£44.40	357	+41.5%↑
Norfolk & Waveney - BMI 35 to 40	£27.20	987	+258.2%↑	£10.40	152	+20.7%↑	£16.40	96	+87.2%↑	£40.40	48	+48.8%↑	£32.40	35	-24.2%↓
EOE - BMI > 40	£11.20	7,972	+32.2%↑	£49.70	376	+388.4%↑	£63.00	234	+415.3%↑	£68.20	363	+161.3%↑	£106.90	222	+177.0%↑
National - BMI > 40	£10.90	46,952	+52.5%↑	£28.40	2,969	+227.0%↑	£34.40	1,931	+233.7%↑	£35.50	1,890	+66.4%↑	£56.80	829	+81.0%↑
Norfolk & Waveney - BMI > 40	£7.90	1,505	+3.7%↑	£84.90	123	+882.9%↑	£93.40	78	+965.9%↑	£16.20	92	-40.4%↓	£23.30	64	-45.6%↓
EOE - No BMI recorded	£8.10	309,404	-4.7%↓	£9.50	10,666	-6.8%↓	£12.20	4,301	-0.2%↓	£28.20	4,454	+8.0%↑	£42.90	2,324	+11.3%↑
National - No BMI recorded	£6.40	3,279,174	-10.6%↓	£6.90	97,907	-20.1%↓	£8.90	42,164	-14.1%↓	£19.60	49,261	-8.0%↓	£30.30	21,921	-3.3%↓
Norfolk & Waveney - No BMI recorded	£7.60	67,067	-0.1%↓	£6.00	2,518	-29.9%↓	£5.30	953	-39.4%↓	£44.20	1,004	+63.0%↑	£72.80	593	+70.2%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 10)



EoE Average Non Elective Admission Cost by BMI (Figure 10.1)





HEALTH OF THE NATION REPORT

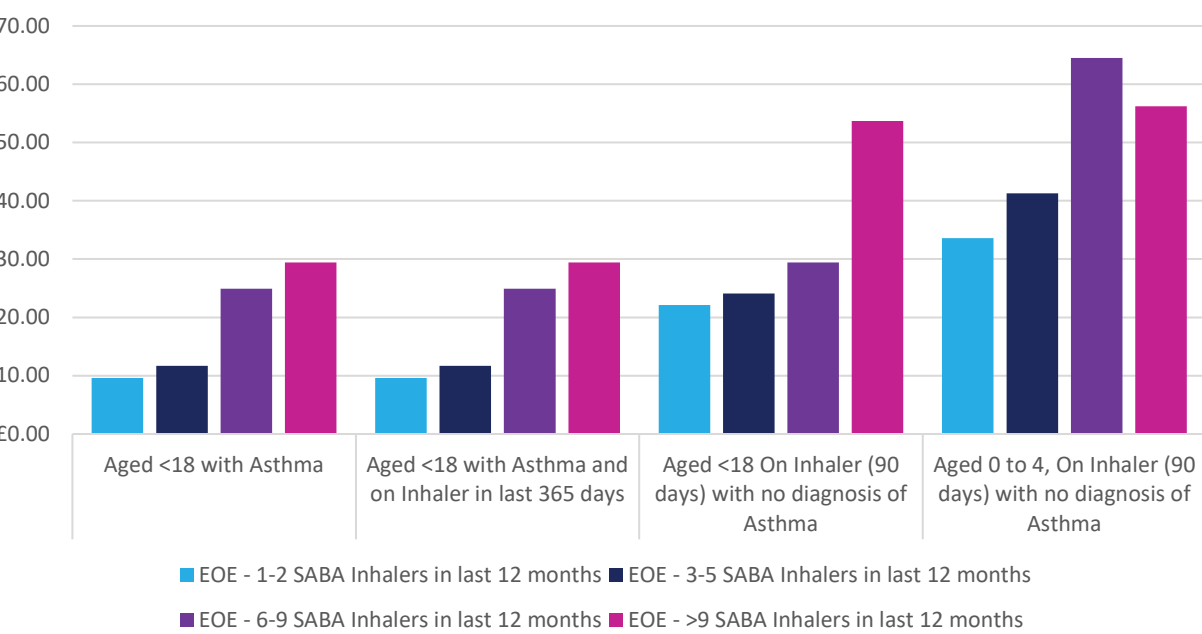
Asthma Related Statistics

Population Statistics - Number of SABA Inhalers in last 12 months

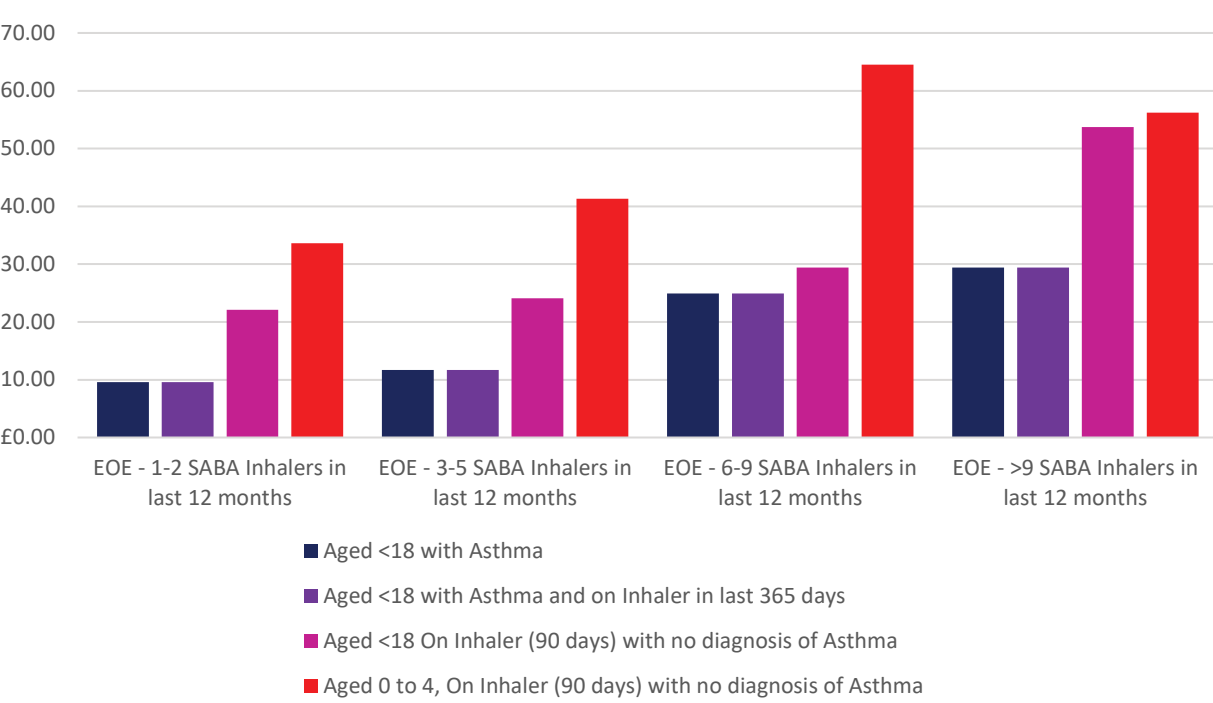
Relative Admission Activity (Table 11)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - 1-2 SABA Inhalers in last 12 months	£9.60	14,209	-4.6%↓	£9.60	14,208	-19.8%↓	£22.10	9,129	-4.0%↓	£33.60	4,165	-5.7%↓
National - 1-2 SABA Inhalers in last 12 months	£7.70	87,699	-11.0%↓	£7.70	87,688	-24.3%↓	£18.70	60,258	-7.1%↓	£27.30	25,816	-9.2%↓
Norfolk & Waveney - 1-2 SABA Inhalers in last 12 months	£7.20	3,923	-15.6%↓	£7.20	3,923	-17.1%↓	£24.80	2,222	+14.2%↑	£44.60	1,068	+16.4%↑
EOE - 3-5 SABA Inhalers in last 12 months	£11.70	6,651	+17.1%↑	£11.70	6,651	-1.6%↓	£24.10	2,811	+4.3%↑	£41.30	1,115	+16.1%↑
National - 3-5 SABA Inhalers in last 12 months	£10.50	41,120	+21.4%↑	£10.50	41,120	+3.3%↑	£20.90	20,699	+4.0%↑	£33.80	7,459	+12.4%↑
Norfolk & Waveney - 3-5 SABA Inhalers in last 12 months	£7.40	2,027	-12.6%↓	£7.40	2,027	-14.0%↓	£8.70	802	-59.6%↓	£14.50	344	-62.1%↓
EOE - 6-9 SABA Inhalers in last 12 months	£24.90	1,857	+148.3%↑	£24.90	1,857	+108.6%↑	£29.40	592	+27.6%↑	£64.50	209	+81.2%↑
National - 6-9 SABA Inhalers in last 12 months	£18.70	12,580	+116.6%↑	£18.70	12,580	+84.2%↑	£27.20	4,788	+35.7%↑	£46.30	1,411	+54.2%↑
Norfolk & Waveney - 6-9 SABA Inhalers in last 12 months	£7.50	591	-11.4%↓	£7.50	591	-12.9%↓	£33.80	184	+55.8%↑	£80.90	73	+111.1%↑
EOE - >9 SABA Inhalers in last 12 months	£29.40	591	+193.4%↑	£29.40	591	+146.5%↑	£53.70	154	+132.9%↑	£56.20	36	+57.9%↑
National - >9 SABA Inhalers in last 12 months	£24.30	4,140	+181.0%↑	£24.30	4,140	+138.9%↑	£45.20	1,336	+125.2%↑	£144.90	263	+382.5%↑
Norfolk & Waveney - >9 SABA Inhalers in last 12 months	£34.70	206	+307.3%↑	£34.70	206	+300.4%↑	£45.00	51	+107.8%↑	£6.10	13	-84.1%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 11)



EoE Average Non Elective Admission Cost by Number of SABA Inhalers in last 12 months (Figure 11.1)



The number of SABAs ordered by a child appears to be linked to their risk of a non-elective admission. This provides the basis for risk stratification to predict which children would benefit from advanced asthma reviews.

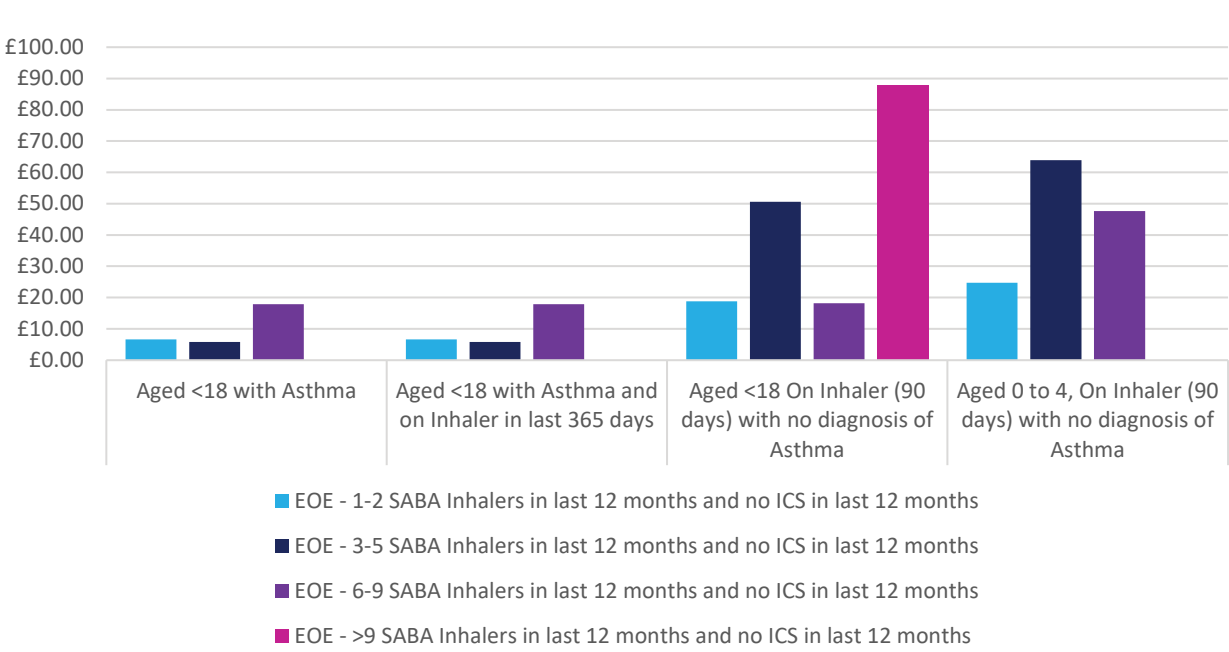
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Number of SABA inhalers in last 12 months and no ICS

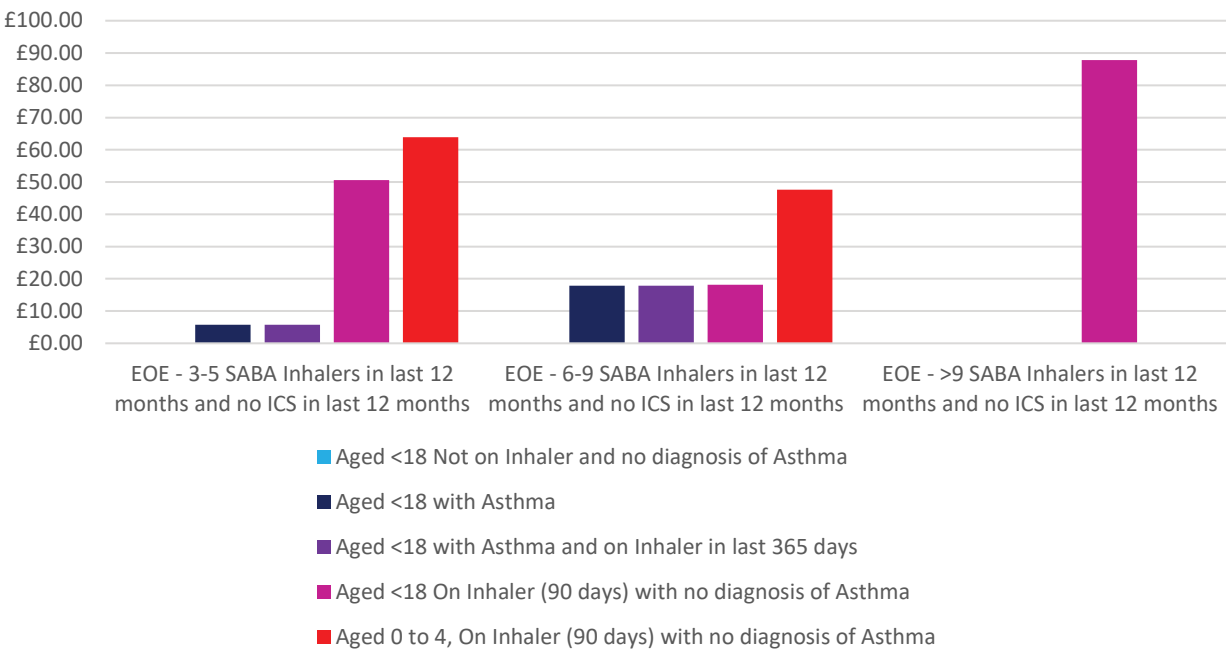
Relative Admission Activity (Table 12)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - 1-2 SABA Inhalers in last 12 months and no ICS in last 12 months	£6.60	3,287	-35.0%↓	£6.60	3,283	-45.5%↓	£18.80	5,606	-17.3%↓	£24.70	3,017	-26.3%↓
National - 1-2 SABA Inhalers in last 12 months and no ICS in last 12 months	£6.30	22,988	-27.8%↓	£6.30	22,926	-38.6%↓	£18.20	38,701	-8.9%↓	£22.50	19,438	-23.9%↓
Norfolk & Waveney - 1-2 SABA Inhalers in last 12 months and no ICS in last 12 months	£4.00	892	-53.1%↓	£4.00	892	-53.9%↓	£11.00	1,297	-29.0%↓	£14.70	742	-39.4%↓
EOE - 3-5 SABA Inhalers in last 12 months and no ICS in last 12 months	£5.80	509	-43.1%↓	£5.80	509	-52.3%↓	£50.60	818	+122.7%↑	£63.90	401	+90.3%↑
National - 3-5 SABA Inhalers in last 12 months and no ICS in last 12 months	£7.90	4,090	-9.4%↓	£7.90	4,088	-23.0%↓	£28.30	7,051	+41.1%↑	£41.60	3,029	+40.6%↑
Norfolk & Waveney - 3-5 SABA Inhalers in last 12 months and no ICS in last 12 months	£0.80	136	-90.3%↓	£0.80	136	-90.4%↓	£9.00	193	-41.8%↓	£15.30	99	-36.9%↓
EOE - 6-9 SABA Inhalers in last 12 months and no ICS in last 12 months	£17.90	82	+75.6%↑	£17.90	82	+47.0%↑	£18.20	132	-19.9%↓	£47.60	45	+41.8%↑
National - 6-9 SABA Inhalers in last 12 months and no ICS in last 12 months	£9.60	809	+10.1%↑	£9.60	809	-6.4%↓	£21.10	1,307	+5.4%↑	£28.50	395	-3.8%↓
Norfolk & Waveney - 6-9 SABA Inhalers in last 12 months and no ICS in last 12 months	£3.80	21	-56.3%↓	£3.80	21	-57.0%↓	£26.50	37	+71.0%↑	£61.40	16	+153.1%↑
EOE - >9 SABA Inhalers in last 12 months and no ICS in last 12 months	£0.00	27	-100.0%↓	£0.00	27	-100.0%↓	£87.80	36	+286.5%↑	£0.00	8	-100.0%↓
National - >9 SABA Inhalers in last 12 months and no ICS in last 12 months	£3.40	241	-60.4%↓	£3.40	241	-66.3%↓	£23.20	325	+16.0%↑	£0.00	60	-100.0%↓
Norfolk & Waveney - >9 SABA Inhalers in last 12 months and no ICS in last 12 months	£0.00	9	-100.0%↓	£0.00	9	-100%↓	£0.00	12	-100%↓	£0.00	4	-100.0%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 12)



EoE Average Non Elective Admission Cost by Number of SABA inhalers in last 12 months and no ICS (Figure 12.1)



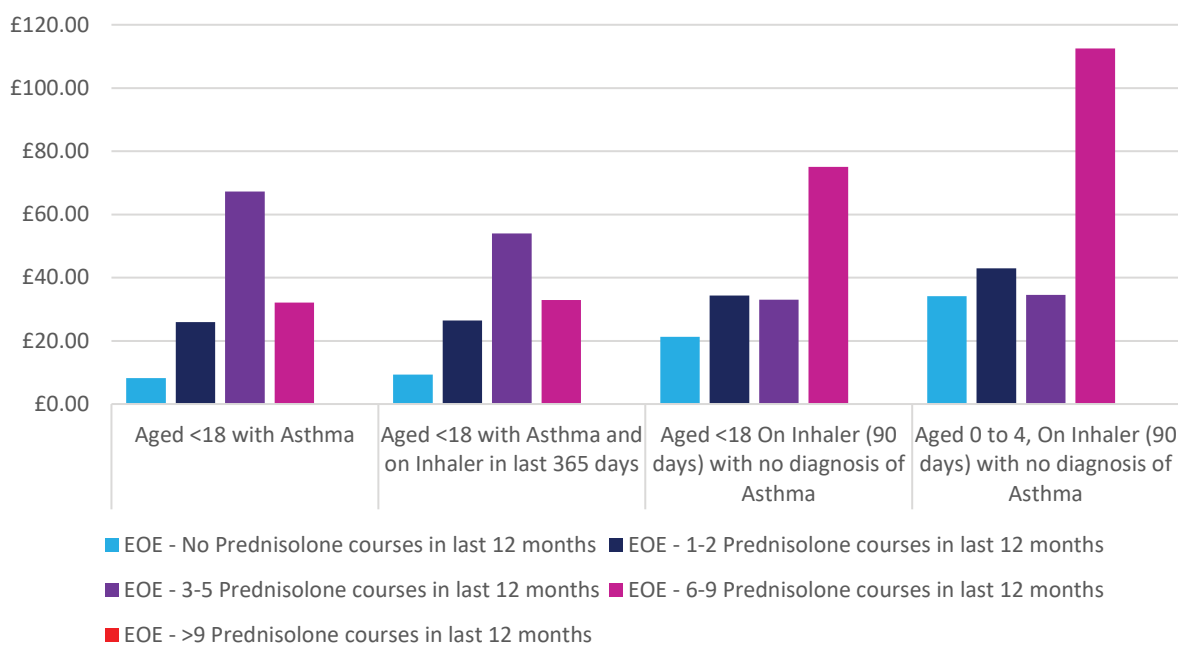
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Number of Prednisolone Courses in last 12 Months

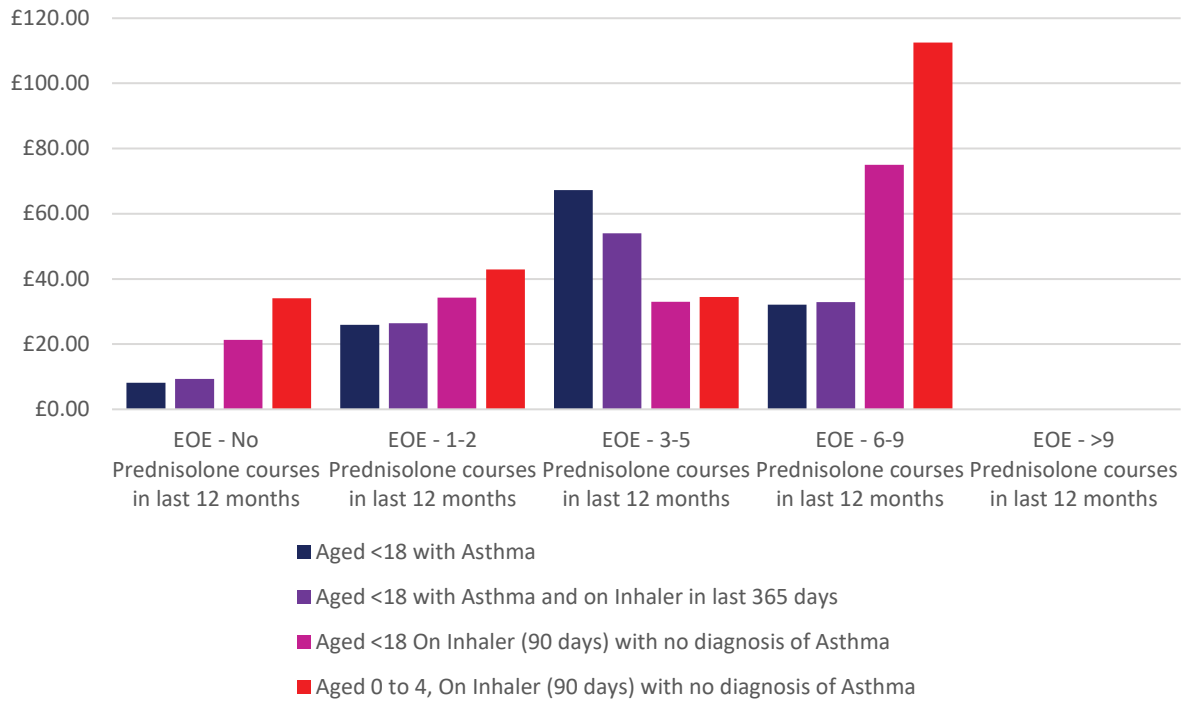
Relative Admission Activity (Table 13)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - No Prednisolone courses in last 12 months	£8.20	40,909	-18.1%↓	£9.30	21,825	-22.0%↓	£21.30	11,542	-7.8%↓	£34.10	4,911	-4.4%↓
National - No Prednisolone courses in last 12 months	£7.30	254,355	-15.3%↓	£8.20	137,248	-19.4%↓	£18.80	81,100	-6.2%↓	£27.90	32,359	-7.2%↓
Norfolk & Waveney - No Prednisolone courses in last 12 months	£7.20	11,255	-15.7%↓	£7.10	6,226	-17.7%↓	£20.80	2,942	-3.9%↓	£39.10	1,329	+2.0%↑
EOE - 1-2 Prednisolone courses in last 12 months	£25.90	2,876	+158.4%↑	£26.40	2,759	+120.7%↑	£34.30	1,640	+48.6%↑	£42.90	957	+20.6%↑
National - 1-2 Prednisolone courses in last 12 months	£20.70	16,231	+139.2%↑	£21.00	15,640	+106.4%↑	£27.30	9,534	+36.1%↑	£40.00	5,033	+33.3%↑
Norfolk & Waveney - 1-2 Prednisolone courses in last 12 months	£12.40	897	+45.3%↑	£13.00	856	+49.7%↑	£25.40	437	+17.3%↑	£33.40	280	-12.8%↓
EOE - 3-5 Prednisolone courses in last 12 months	£67.20	388	+569.4%↑	£54.00	381	+352.3%↑	£33.00	165	+43.2%↑	£34.50	101	-3.2%↓
National - 3-5 Prednisolone courses in last 12 months	£51.70	1,847	+498.9%↑	£45.00	1,820	+342.8%↑	£36.60	833	+82.1%↑	£46.30	488	+54.4%↑
Norfolk & Waveney - 3-5 Prednisolone courses in last 12 months	£90.60	140	+964.2%↑	£52.60	138	+508.1%↑	£41.60	49	+92.1%↑	£52.10	37	+35.9%↑
EOE - 6-9 Prednisolone courses in last 12 months	£32.10	41	+220.0%↑	£32.90	39	+175.9%↑	£75.00	15	+225.1%↑	£112.50	10	+215.9%↑
National - 6-9 Prednisolone courses in last 12 months	£25.30	193	+193.3%↑	£27.00	185	+165.5%↑	£59.40	69	+195.9%↑	£93.80	37	+212.4%↑
Norfolk & Waveney - 6-9 Prednisolone courses in last 12 months	£0.00	11	-100.0%↓	£0.00	11	-100.0%↓	£0.00	4	-100.0%↓	£0.00	3	-100.0%↓
EOE - >9 Prednisolone courses in last 12 months	£0.00	9	-100.0%↓	£0.00	9	-100.0%↓	£0.00	4	-100.0%↓	£0.00	2	-100.0%↓
National - >9 Prednisolone courses in last 12 months	£40.30	47	+367.0%↑	£46.10	40	+353.9%↑	£203.80	20	+915.2%↑	£382.30	3	+1173.3%↑
Norfolk & Waveney - >9 Prednisolone courses in last 12 months	£0.00	3	-100.0%↓	£0.00	3	-100.0%↓	£0.00	2	-100.0%↓	£0.00	1	-100.0%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 13)



EoE Average Non Elective Admission Cost by Number of Prednisolone Courses in last 12 Months (Figure 13.1)



Combining the number of SABAs consumed by a child and the number of oral prednisolone courses further enhances risk stratification.

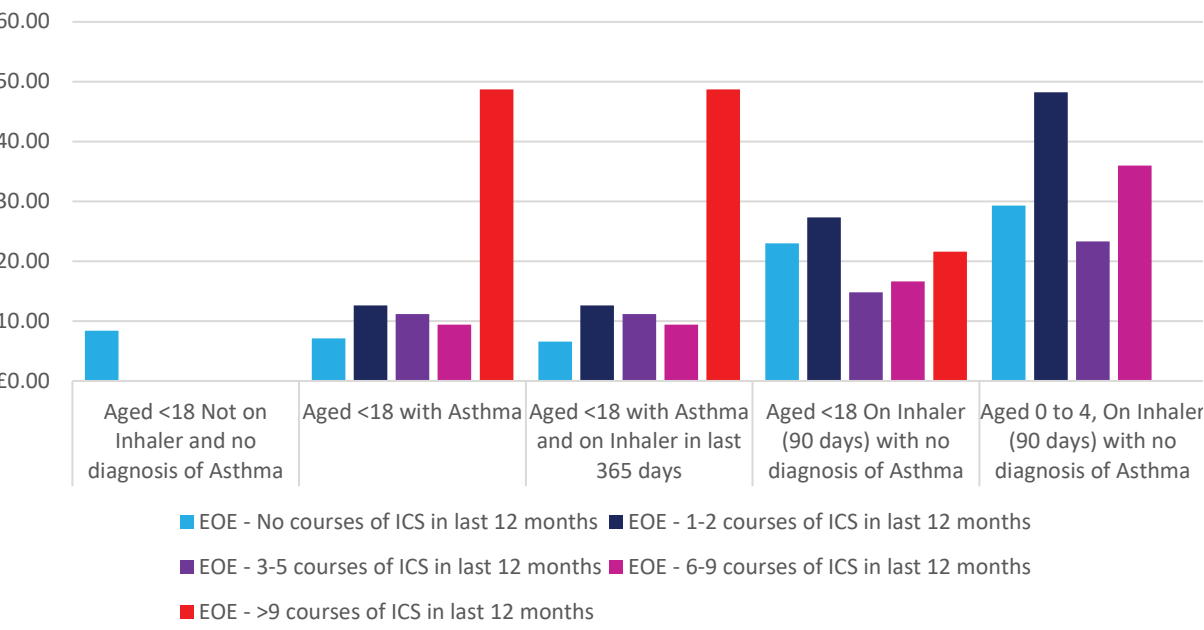
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Number of courses of ICS in last 12 months

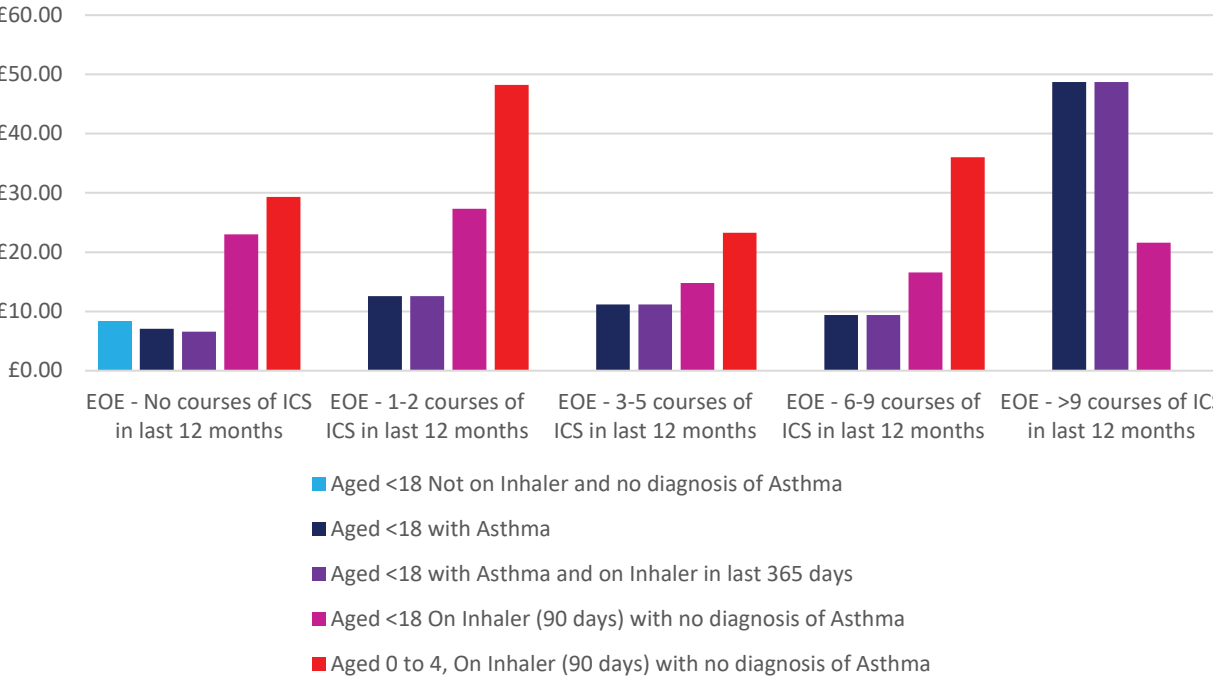
Relative Admission Activity (Table 14)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - No courses of ICS in last 12 months	£7.10	23,176	-30.3%↓	£6.60	3,985	-45.8%↓	£23.00	6,653	+1.3%↑	£29.30	3,525	-12.7%↓
National - No courses of ICS in last 12 months	£6.40	146,418	-26.2%↓	£6.50	28,484	-36.7%↓	£19.90	47,880	-0.8%↑	£25.10	23,354	-15.2%↓
Norfolk & Waveney - No courses of ICS in last 12 months	£7.50	6,144	-12.7%↓	£3.50	1,073	-59.6%↓	£11.00	1,548	-28.9%↑	£15.50	870	-36.1%↓
EOE - 1-2 courses of ICS in last 12 months	£12.60	10,733	+23.4%↑	£12.60	10,710	+3.5%↑	£27.30	3,705	+20.2%↑	£48.20	1,523	+43.6%↑
National - 1-2 courses of ICS in last 12 months	£9.50	67,323	+9.5%↑	£9.50	67,148	-6.9%↓	£22.70	24,611	+13.1%↑	£39.50	9,027	+33.6%↑
Norfolk & Waveney - 1-2 courses of ICS in last 12 months	£10.70	2,870	+24.8%↑	£10.80	2,867	+22.9%↑	£25.50	974	+64.6%↑	£45.40	427	+87.3%↑
EOE - 3-5 courses of ICS in last 12 months	£11.20	6,680	+9.6%↑	£11.20	6,679	-8.2%↓	£14.80	1,903	-34.7%↓	£23.30	665	-30.5%↓
National - 3-5 courses of ICS in last 12 months	£9.70	40,175	+11.5%↑	£9.70	40,153	-5.3%↓	£14.20	12,534	-29.4%↓	£23.00	3,769	-22.4%↓
Norfolk & Waveney - 3-5 courses of ICS in last 12 months	£7.80	2,046	-9.1%↓	£7.80	2,045	-10.6%↓	£6.80	588	-56.1%↓	£13.10	246	-46.1%↓
EOE - 6-9 courses of ICS in last 12 months	£9.40	2,761	-8.2%↓	£9.40	2,760	-23.1%↓	£16.60	607	-26.8%↓	£36.00	151	+7.1%↑
National - 6-9 courses of ICS in last 12 months	£13.20	15,231	+52.3%↑	£13.20	15,227	+29.4%↑	£18.50	3,771	-7.9%↓	£41.30	824	+39.7%↑
Norfolk & Waveney - 6-9 courses of ICS in last 12 months	£4.80	941	-44.5%↓	£4.80	941	-45.4%↓	£17.90	210	+15.5%↑	£50.30	59	+107.5%↑
EOE - >9 courses of ICS in last 12 months	£48.70	866	+377.6%↑	£48.70	866	+300.0%↑	£21.60	126	-4.9%↓	£0.00	19	-100.0%↓
National - >9 courses of ICS in last 12 months	£30.90	4,599	+255.8%↑	£30.90	4,597	+202.2%↑	£51.80	820	+158.4%↑	£309.60	112	+946.0%↑
Norfolk & Waveney - >9 courses of ICS in last 12 months	£25.90	321	+200.6%↑	£25.90	321	+195.8%↑	£55.30	45	+256.4%↑	£0.00	8	-100.0%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 14)



EoE Average Non Elective Admission Cost by Number of courses of ICS in last 12 months (Figure 14.1)



This is difficult data to utilise without a personalised questionnaire. Both children with very mild asthma and children who poorly comply with their ICS regime have low utilisation of ICS inhalers.

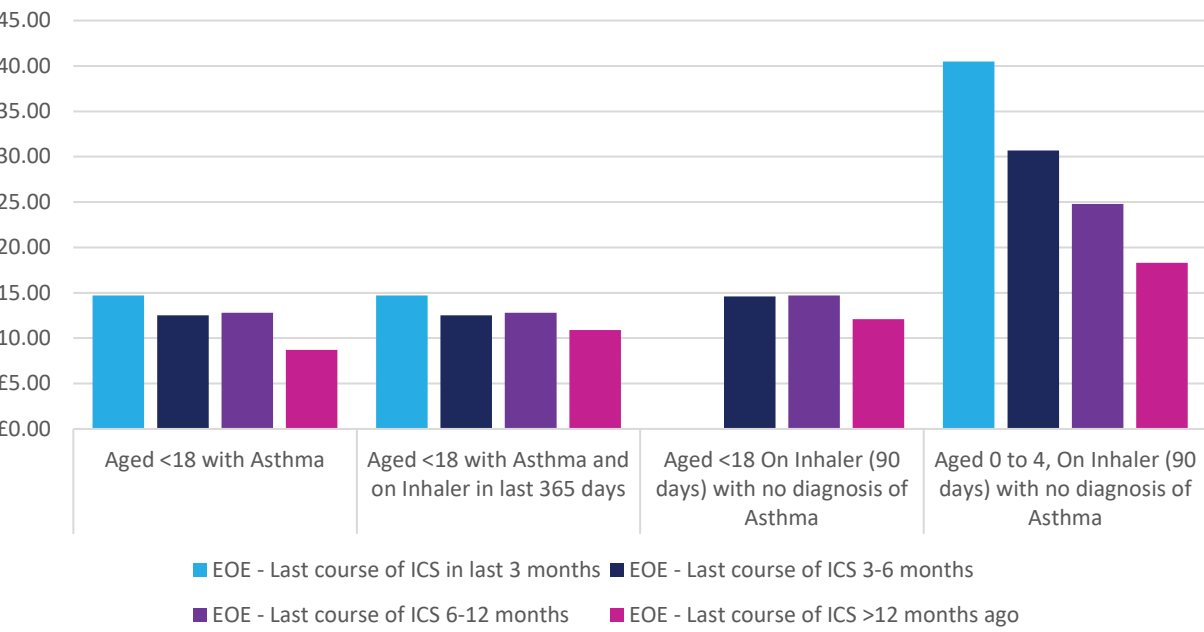
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Last Course of ICS

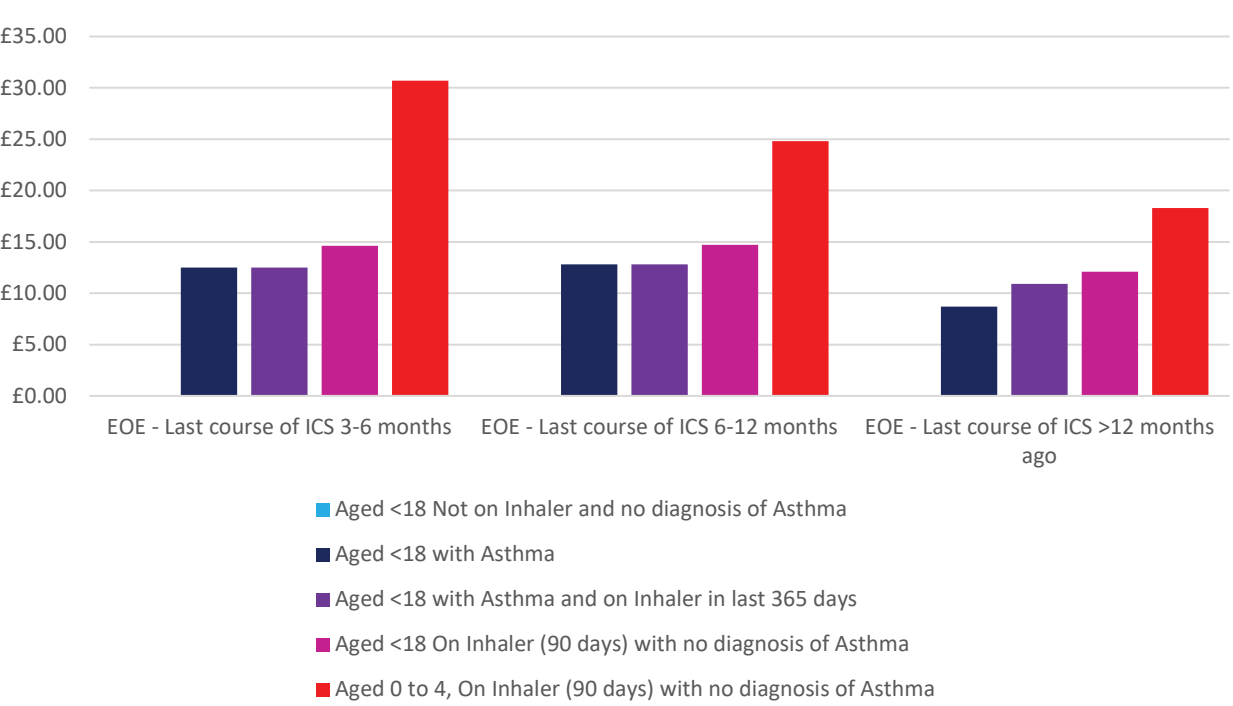
Relative Admission Activity (Table 15)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days			Aged <18 On Inhaler (90 days) with no diagnosis of Asthma			Aged 0 to 4, On Inhaler (90 days) with no diagnosis of Asthma		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991		£23.1	13,353		£35.6	5,973	
EOE - Last course of ICS in last 3 months	£14.70	10,810	+44.3%↑	£14.70	10,799	+21.0%↑	£23.40	5,662	+2.9%↑	£40.50	2,121	+20.6%↑
National - Last course of ICS in last 3 months	£11.70	64,847	+34.9%↑	£11.70	64,752	+14.6%↑	£20.30	37,002	+1.4%↑	£37.70	12,292	+27.3%↑
Norfolk & Waveney - Last course of ICS in last 3 months	£10.70	3,514	+24.7%↑	£10.70	3,512	+22.7%↑	£20.60	1,647	+32.5%↑	£36.40	680	+50.1%↑
EOE - Last course of ICS 3-6 months	£12.50	6,908	+22.8%↑	£12.50	6,904	+2.9%↑	£14.60	958	-35.7%↓	£30.70	371	-8.4%↓
National - Last course of ICS 3-6 months	£12.10	39,483	+39.4%↑	£12.10	39,452	+18.5%↑	£19.40	5,003	-3.1%↓	£32.70	1,702	+10.5%↑
Norfolk & Waveney - Last course of ICS 3-6 months	£11.10	2,357	+29.4%↑	£11.10	2,357	+27.3%↑	£7.30	434	-53.2%↓	£13.00	178	-46.4%↓
EOE - Last course of ICS 6-12 months	£12.80	6,686	+25.1%↑	£12.80	6,676	+4.8%↑	£14.70	684	-35.4%↓	£24.80	208	-26.2%↓
National - Last course of ICS 6-12 months	£9.20	37,634	+5.9%↑	£9.20	37,558	-10.0%↓	£17.60	3,888	-12.1%↓	£23.30	1,082	-21.4%↓
Norfolk & Waveney - Last course of ICS 6-12 months	£12.10	2,044	+40.4%↑	£12.10	2,042	+38.3%↑	£9.00	253	-41.9%↓	£15.70	82	-35.1%↓
EOE - Last course of ICS >12 months ago	£8.70	24,829	-15.0%↓	£10.90	13,798	-10.6%↓	£12.10	1,759	-46.9%↓	£18.30	204	-45.5%↓
National - Last course of ICS >12 months ago	£8.60	150,255	-1.0%↓	£10.40	84,862	+1.9%↑	£13.20	12,350	-34.0%↓	£25.10	1,133	-15.3%↓
Norfolk & Waveney - Last course of ICS >12 months ago	£7.10	7,020	-17.9%↓	£6.30	4,199	-27.8%↓	£8.30	534	-46.5%↓	£15.50	79	-36.0%↓

EoE Average Non Elective Admission Cost by Cohort (Figure 15)



EoE Average Non Elective Admission Cost by Last Course of ICS (Figure 15.1)



This is difficult data to utilise without a personalised questionnaire. Both children with very mild asthma and children who poorly comply with their ICS regime have low utilisation of ICS inhalers.

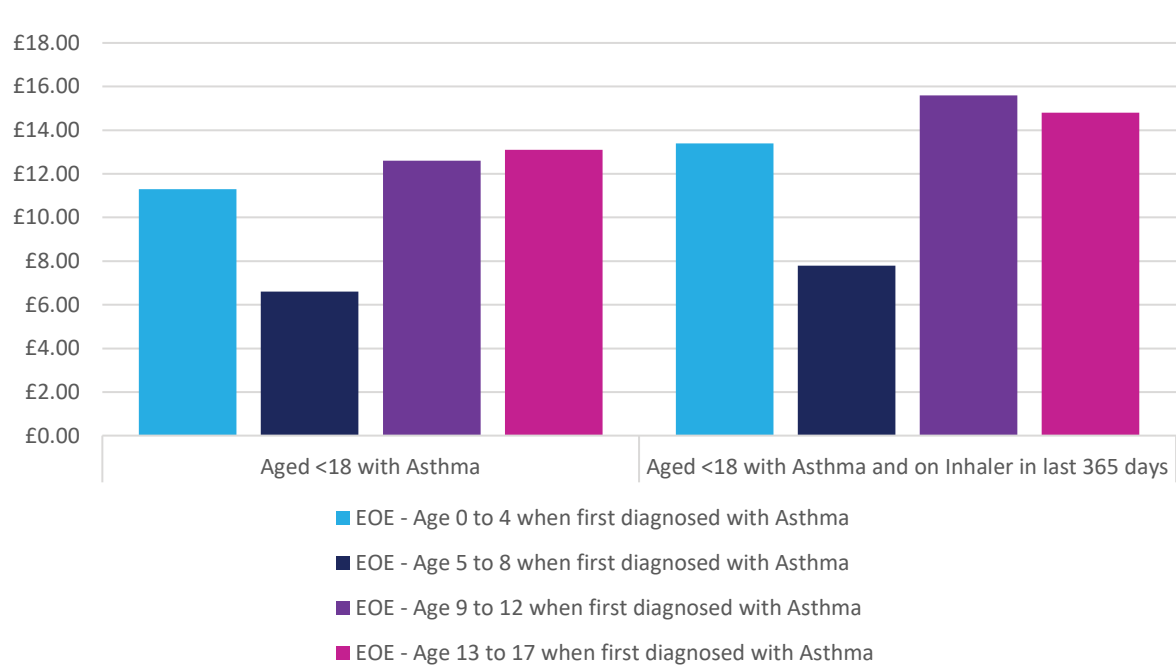
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - First Diagnosed with Asthma

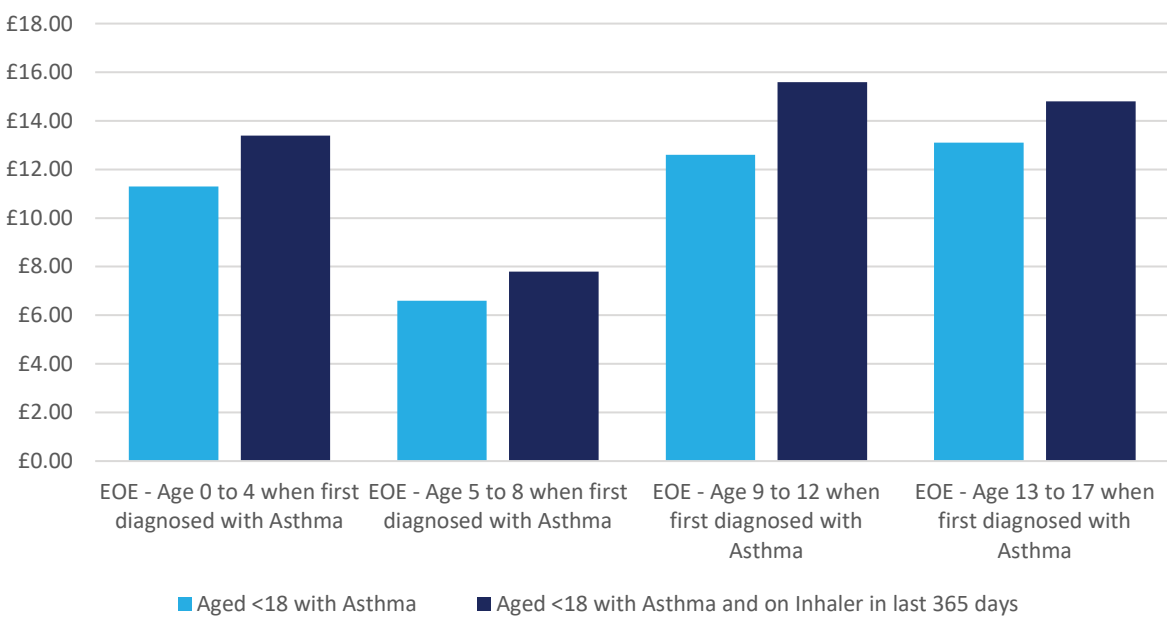
Relative Admission Activity (Table 16)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991	
EOE - Age 0 to 4 when first diagnosed with Asthma	£11.30	23,800	+12.2%↑	£13.40	12,673	+12.6%↑
National - Age 0 to 4 when first diagnosed with Asthma	£9.90	135,146	+14.3%↑	£11.70	70,843	+15.7%↑
Norfolk & Waveney - Age 0 to 4 when first diagnosed with Asthma	£9.30	7,151	+9.6%↑	£9.30	4,058	+7.0%↑
EOE - Age 5 to 8 when first diagnosed with Asthma	£6.60	13,092	-34.3%↓	£7.80	7,841	-34.8%↓
National - Age 5 to 8 when first diagnosed with Asthma	£6.30	86,728	-27.6%↓	£7.50	53,070	-25.8%↓
Norfolk & Waveney - Age 5 to 8 when first diagnosed with Asthma	£4.90	3,272	-42.2%↓	£5.80	2,022	-32.9%↓
EOE - Age 9 to 12 when first diagnosed with Asthma	£12.60	5,620	+25.8%↑	£15.60	3,378	+31.0%↑
National - Age 9 to 12 when first diagnosed with Asthma	£9.00	39,729	+4.2%↑	£10.30	23,847	+1.4%↑
Norfolk & Waveney - Age 9 to 12 when first diagnosed with Asthma	£13.70	1,401	+60.7%↑	£13.00	858	+49.7%↑
EOE - Age 13 to 17 when first diagnosed with Asthma	£13.10	1,353	+30.8%↑	£14.80	961	+24.2%↑
National - Age 13 to 17 when first diagnosed with Asthma	£9.40	9,586	+8.3%↑	£10.00	6,651	-1.9%↓
Norfolk & Waveney - Age 13 to 17 when first diagnosed with Asthma	£6.40	350	-25.2%↓	£8.90	243	+2.9%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 16)



EoE Average Non Elective Admission Cost by First Diagnosed with Asthma (Figure 161)



It does not appear that the date of diagnosis of asthma has a strong impact on admissions.

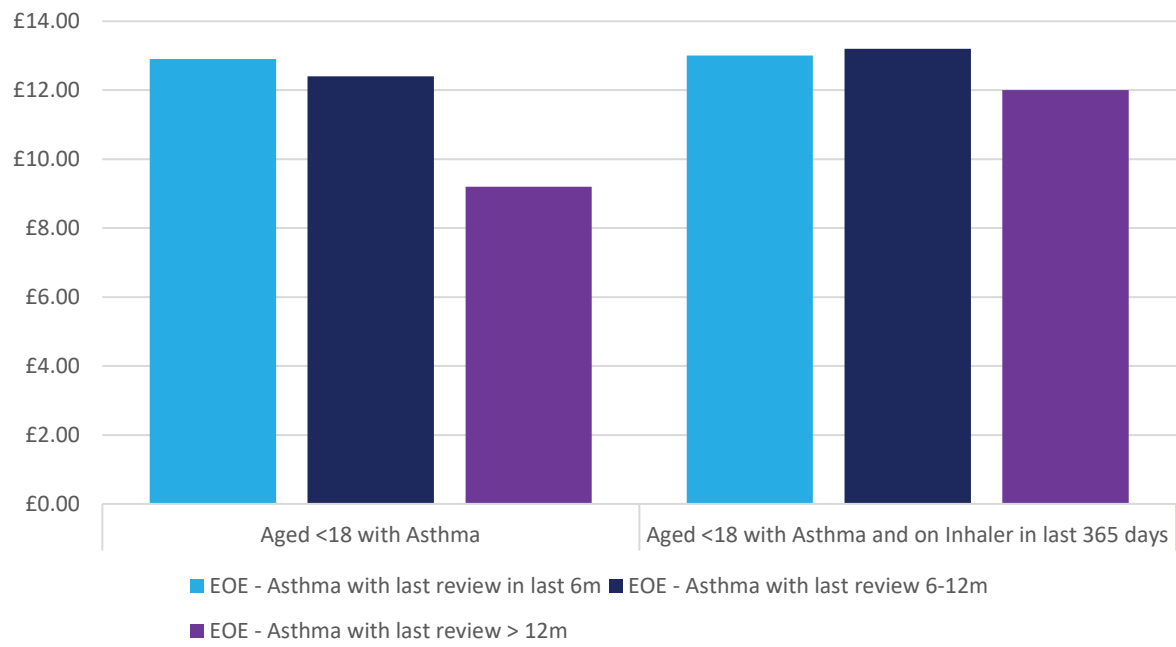
*The relative impact on non-elective admissions for the defined cohort

Population Statistics - Asthma with last review

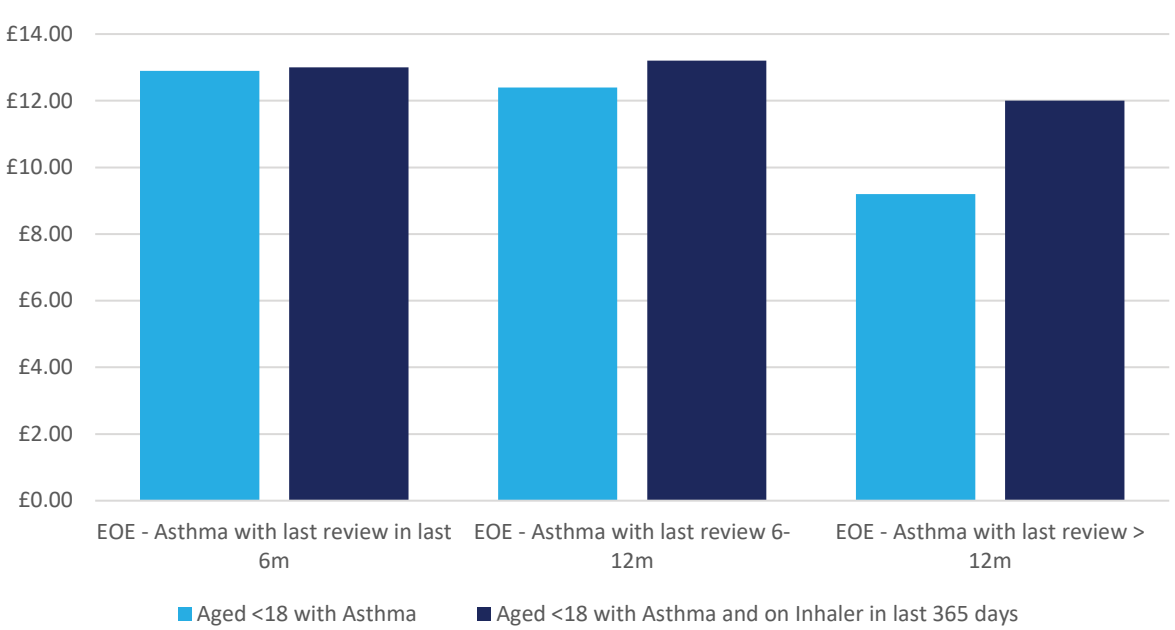
Relative Admission Activity (Table 17)

	Aged <18 with Asthma			Aged <18 with Asthma and on Inhaler in last 365 days		
	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*	Avg. Non Elective Admission Cost in Last Month Per Patient	Number of patients	PRISM Weighting for Cohort*
All East of England Patients	£10.0	44,180		£11.9	24,991	
EOE - Asthma with last review in last 6m	£12.90	8,716	+28.2%↑	£13.00	8,363	+8.5%↑
National - Asthma with last review in last 6m	£9.70	50,288	+12.2%↑	£9.70	48,408	-4.3%↓
Norfolk & Waveney - Asthma with last review in last 6m	£8.40	2,504	-1.2%↓	£8.70	2,411	+0.3%↑
EOE - Asthma with last review 6-12m	£12.40	7,459	+23.2%↑	£13.20	6,893	+10.3%↑
National - Asthma with last review 6-12m	£10.00	43,128	+16.1%↑	£10.50	40,043	+3.0%↑
Norfolk & Waveney - Asthma with last review 6-12m	£3.30	1,910	-61.3%↓	£3.40	1,783	-60.5%↓
EOE - Asthma with last review > 12m	£9.20	29,302	-8.6%↓	£12.00	10,973	+0.3%↑
National - Asthma with last review > 12m	£8.20	185,173	-5.1%↓	£10.70	72,270	+5.2%↑
Norfolk & Waveney - Asthma with last review > 12m	£9.60	8,225	+12.5%↑	£10.90	3,366	+26.0%↑
EOE - Age 13 to 17 when first diagnosed with Asthma	£13.10	1,353	+30.8%↑	£14.80	961	+24.2%↑
National - Age 13 to 17 when first diagnosed with Asthma	£9.40	9,586	+8.3%↑	£10.00	6,651	-1.9%↓
Norfolk & Waveney - Age 13 to 17 when first diagnosed with Asthma	£6.40	350	-25.2%↓	£8.90	243	+2.9%↑

EoE Average Non Elective Admission Cost by Cohort (Figure 17)



EoE Average Non Elective Admission Cost by Last Asthma Review (Figure 17.1)



In this we can see that for children not on inhalers with asthma there is a negative association between asthma reviews and admissions. It is likely that children for whom asthma has resolved are less likely to attend for reviews.

*The relative impact on non-elective admissions for the defined cohort

This report has allowed for a high level analysis for asthma care in children to be assessed across the East of England. Consenting CCGs may also have an individualised report undertaken highlighting their relative performance within the East of England and assess their regional reversible risk in relation to asthma outcomes. We will also undertake further high level analysis of any further data evaluations requested from NHS Improvement / NHS England.

Annex

Annex 1 :

NHD Digital SNOWMED Asthma diagnosis codes

Cluster ID - AST_COD (999009611000230103)

SNOMED concept ID	Code description
1064811000000103	Moderate acute exacerbation of asthma (disorder)
1064821000000109	Life threatening acute exacerbation of asthma (disorder)
10674711000119105	Acute severe exacerbation of asthma co-occurrent with allergic rhinitis (disorder)
10674991000119104	Intermittent allergic asthma (disorder)
10675391000119101	Severe controlled persistent asthma (disorder)
10675431000119106	Severe persistent allergic asthma (disorder)
10675471000119109	Acute severe exacerbation of severe persistent allergic asthma (disorder)
10675551000119104	Acute severe exacerbation of severe persistent asthma co-occurrent with allergic rhinitis (disorder)
10675591000119109	Severe persistent allergic asthma controlled (finding)
10675631000119109	Severe persistent asthma controlled co-occurrent with allergic rhinitis (disorder)
10675671000119107	Severe persistent allergic asthma uncontrolled (finding)
10675711000119106	Severe persistent asthma uncontrolled co-occurrent with allergic rhinitis (disorder)
10675751000119107	Severe uncontrolled persistent asthma (disorder)
10675871000119106	Mild persistent allergic asthma (disorder)
10675911000119109	Acute severe exacerbation of mild persistent allergic asthma (disorder)
10675991000119100	Acute severe exacerbation of mild persistent allergic asthma co-occurrent with allergic rhinitis (disorder)
10676031000119106	Mild persistent allergic asthma controlled (finding)
10676071000119109	Mild persistent asthma controlled (finding)
10676111000119102	Mild persistent asthma controlled co-occurrent with allergic rhinitis (disorder)
10676151000119101	Mild persistent allergic asthma uncontrolled (finding)
10676191000119106	Mild persistent asthma uncontrolled (finding)
10676231000119102	Mild persistent asthma uncontrolled co-occurrent with allergic rhinitis (disorder)
10676351000119103	Moderate persistent asthma controlled (finding)
10676391000119108	Moderate persistent allergic asthma (disorder)
10676431000119103	Acute severe exacerbation of moderate persistent allergic asthma (disorder)
10676511000119109	Acute severe exacerbation of moderate persistent asthma co-occurrent with allergic rhinitis (disorder)

SNOMED concept ID	Code description
10676551000119105	Moderate persistent allergic asthma controlled (finding)
10676591000119100	Moderate persistent controlled asthma co-occurrent with allergic rhinitis (disorder)
10676631000119100	Moderate persistent allergic asthma uncontrolled (finding)
10676671000119102	Moderate persistent asthma uncontrolled co-occurrent with allergic rhinitis (disorder)
10676711000119103	Moderate persistent asthma uncontrolled (finding)
10692681000119108	Aspirin exacerbated respiratory disease (disorder)
10692721000119102	Chronic obstructive asthma co-occurrent with acute exacerbation of asthma (disorder)
10692761000119107	Asthma-chronic obstructive pulmonary disease overlap syndrome (disorder)
10742121000119104	Asthma in mother complicating childbirth (disorder)
1086701000000102	Life threatening acute exacerbation of allergic asthma (disorder)
1086711000000100	Life threatening acute exacerbation of intrinsic asthma (disorder)
1103911000000103	Severe asthma with fungal sensitisation (disorder)
11641008	Millers' asthma (disorder)
11944003	Feather-pickers' disease (disorder)
12428000	Intrinsic asthma without status asthmaticus (disorder)
124991000119109	Severe persistent asthma co-occurrent with allergic rhinitis (disorder)
125001000119103	Moderate persistent asthma co-occurrent with allergic rhinitis (disorder)
125011000119100	Mild persistent asthma co-occurrent with allergic rhinitis (disorder)
125021000119107	Intermittent asthma co-occurrent with allergic rhinitis (disorder)
13151001	Flax-dressers' disease (disorder)
135171000119106	Acute exacerbation of moderate persistent asthma (disorder)
135181000119109	Acute exacerbation of mild persistent asthma (disorder)
16584951000119101	Oral steroid-dependent asthma (disorder)
1741000119102	Intermittent asthma uncontrolled (disorder)
1751000119100	Acute exacerbation of chronic obstructive airways disease with asthma (disorder)
18041002	Printers' asthma (disorder)
195949008	Chronic asthmatic bronchitis (disorder)
195967001	Asthma (disorder)

SNOMED concept ID	Code description
195977004	Mixed asthma (disorder)
19849005	Meat-wrappers' asthma (disorder)
225057002	Brittle asthma (disorder)
233672007	Byssinosis grade 3 (disorder)
233678006	Childhood asthma (disorder)
233679003	Late onset asthma (disorder)
233683003	Hay fever with asthma (disorder)
233687002	Colophony asthma (disorder)
233688007	Sulfite-induced asthma (disorder)
233691007	Asthmatic pulmonary eosinophilia (disorder)
2360001000004109	Steroid dependent asthma (disorder)
266361008	Non-allergic asthma (disorder)
281239006	Exacerbation of asthma (disorder)
30352005	Allergic-infective asthma (disorder)
304527002	Acute asthma (disorder)
312453004	Asthma - currently active (finding)
31387002	Exercise-induced asthma (disorder)
34015007	Bakers' asthma (disorder)
370218001	Mild asthma (disorder)
370219009	Moderate asthma (disorder)
370220003	Occasional asthma (disorder)
370221004	Severe asthma (disorder)
389145006	Allergic asthma (disorder)
395022009	Asthma night-time symptoms (finding)
401000119107	Asthma with irreversible airway obstruction (disorder)
401193004	Asthma confirmed (situation)
404804003	Platinum asthma (disorder)
404806001	Cheese-makers' asthma (disorder)
404808000	Isocyanate induced asthma (disorder)

SNOMED concept ID	Code description
405944004	Asthmatic bronchitis (disorder)
407674008	Aspirin-induced asthma (disorder)
409663006	Cough variant asthma (disorder)
41553006	Detergent asthma (disorder)
418395004	Tea-makers' asthma (disorder)
423889005	Non-immunoglobulin E mediated allergic asthma (disorder)
424199006	Substance induced asthma (disorder)
424643009	Immunoglobulin E-mediated allergic asthma (disorder)
425969006	Exacerbation of intermittent asthma (disorder)
426656000	Severe persistent asthma (disorder)
426979002	Mild persistent asthma (disorder)
427295004	Moderate persistent asthma (disorder)
427603009	Intermittent asthma (disorder)
427679007	Mild intermittent asthma (disorder)
442025000	Acute exacerbation of chronic asthmatic bronchitis (disorder)
445427006	Seasonal asthma (disorder)
55570000	Asthma without status asthmaticus (disorder)
56968009	Asthma caused by wood dust (disorder)
57607007	Occupational asthma (disorder)
59786004	Weavers' cough (disorder)
63088003	Allergic asthma without status asthmaticus (disorder)
641000119106	Intermittent asthma well controlled (finding)
703953004	Allergic asthma caused by Dermatophagoides pteronyssinus (disorder)
703954005	Allergic asthma caused by Dermatophagoides farinae (disorder)
707444001	Uncomplicated asthma (disorder)
707445000	Exacerbation of mild persistent asthma (disorder)
707446004	Exacerbation of moderate persistent asthma (disorder)
707447008	Exacerbation of severe persistent asthma (disorder)
707511009	Uncomplicated mild persistent asthma (disorder)

SNOMED concept ID	Code description
707512002	Uncomplicated moderate persistent asthma (disorder)
707513007	Uncomplicated severe persistent asthma (disorder)
707979007	Acute severe exacerbation of severe persistent asthma (disorder)
707980005	Acute severe exacerbation of moderate persistent asthma (disorder)
707981009	Acute severe exacerbation of mild persistent asthma (disorder)
708038006	Acute exacerbation of asthma (disorder)
708090002	Acute severe exacerbation of asthma (disorder)
708093000	Acute exacerbation of immunoglobulin E-mediated allergic asthma (disorder)
708094006	Acute exacerbation of intrinsic asthma (disorder)
708095007	Acute severe exacerbation of immunoglobulin E-mediated allergic asthma (disorder)
708096008	Acute severe exacerbation of intrinsic asthma (disorder)
72301000119103	Asthma in pregnancy (disorder)
733858005	Acute severe refractory exacerbation of asthma (disorder)
734904007	Life threatening acute exacerbation of asthma (disorder)
734905008	Moderate acute exacerbation of asthma (disorder)
735587000	Acute severe exacerbation of asthma co-occurrent and due to allergic asthma (disorder)
735588005	Uncomplicated allergic asthma (disorder)
735589002	Uncomplicated non-allergic asthma (disorder)
762521001	Exacerbation of allergic asthma (disorder)
782513000	Acute severe exacerbation of allergic asthma (disorder)
782520007	Exacerbation of allergic asthma due to infection (disorder)
786836003	Near fatal asthma (disorder)
829976001	Thunderstorm asthma (disorder)
85761009	Byssinosis (disorder)
866881000000101	Chronic asthma with fixed airflow obstruction (disorder)
89099002	Chronic allergic bronchitis (disorder)
92807009	Chemical-induced asthma (disorder)
93432008	Drug-induced asthma (disorder)
99031000119107	Acute exacerbation of asthma co-occurrent with allergic rhinitis (disorder)

Annex 2 :

Risk stratification opportunity (PRISM)

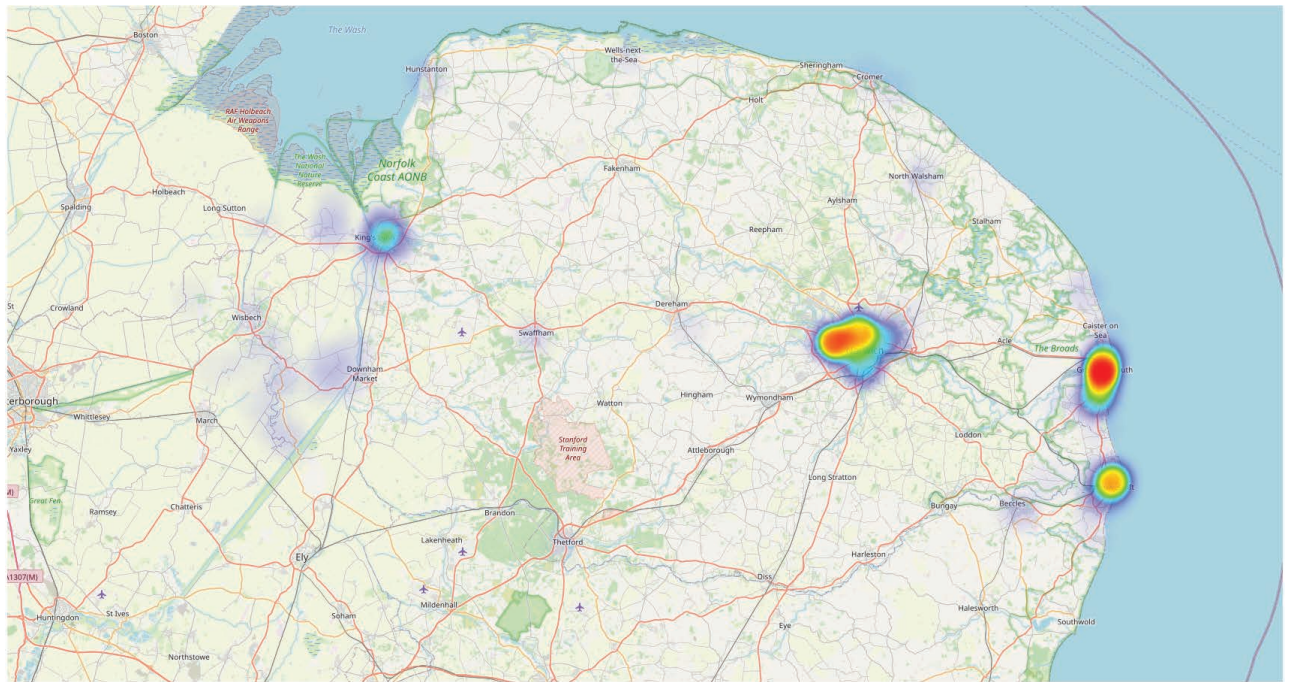
PRISM Scores	Total EOE Patients with Childhood Asthma	Percentage of all total cohort (children with asthma)	Relative impact on emergency admissions	
>30	310	0.7%	1041.7%	
20-30	553	1.3%	475.7%	
10-<20	2526	5.7%	86.0%	
<10	40644	92.3%	-21.1%	

PRISM Scores	Total EOE Patients with Childhood Asthma	Percentage of all total cohort (children with asthma)	Relative impact on emergency admissions	
>=90	0	0%	0.0%	
80-89	0	0%	0.0%	
70-79	1	0.002%	0.0%	
60-69	11	0.03%	1051.9%	
50-59	21	0.05%	0.0%	
40-49	101	0.2%	672.1%	
30-39	152	0.3%	1501.3%	
20-29	505	1.2%	430.9%	
10-19	2439	5.6%	76.8%	
<10	40644	92.6%	-21.1%	

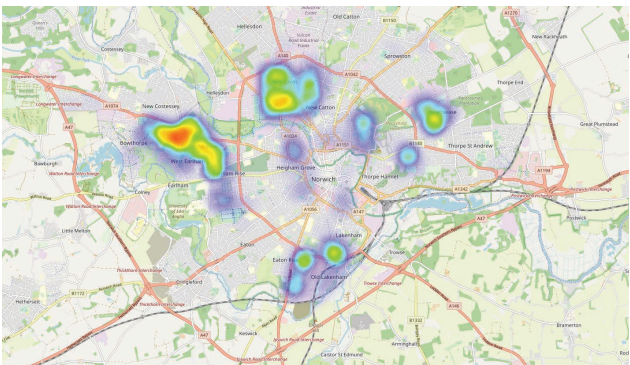
Parameter	Weighting (EoE)	Weighting (National)
Age 0 to 4	169.5	233
Age 5 to 8	25.4	7.4
Age 9 to 12	-37	-18.2
Age 13 to 17	2.9	-4.5
Age 0 to 4 when first diagnosed with Asthma	9	18.1
Age 5 to 8 when first diagnosed with Asthma	-12.4	-22.3
Age 9 to 12 when first diagnosed with Asthma	-11.9	-23.5
Age 13 to 17 when first diagnosed with Asthma	31	12.9
Female Patients	0.6	13
Male Patients	-0.4	-9
Mental Health, Depression or Anxiety	36.6	139.4
Eczema	11.2	13.2
Food Allergy	-14.4	17.1
Hay fever	-9.8	-36.4
1-2 SABA Inhalers in last 12 months	-17.6	-4.4
3-5 SABA Inhalers in last 12 months	20.6	30.8
6-9 SABA Inhalers in last 12 months	101.8	97
>9 SABA Inhalers in last 12 months	789.4	361.6
1-2 Prednisolone courses in last 12 months	218.6	142.2
3-5 Prednisolone courses in last 12 months	588.2	576.7
>=6 Prednisolone courses in last 12 months	63.2	823
Aged <18 and no Prednisolone courses in last 12 months	-7.6	-16.8
Current Smokers	289.8	201.1
Current Non-Smoker	-0.4	-1.3
Aged <18 and no Smoking Status	-4.1	-3.2
Exposure to smoking at home (age <18)	89.7	64
No codes relating to household smoking/no smokers (age <18)	-6.7	-5.9
Montelukast 4 mg	41.8	124
Montelukast 10 mg	39.8	44.2
Montelukast 5 mg	112.8	24.3
Asian	359.5	139.9
Black	-11.4	-21.3
White	2.4	-1.1

Annex 3: Deprivation Deciles 1 & 2 Heat Map

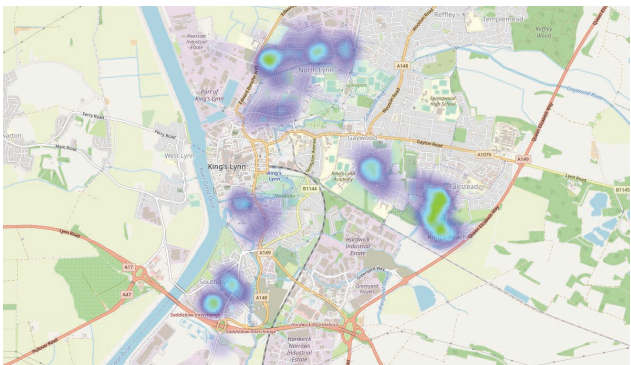
Relative prevalence of children aged under 18 with asthma or that are on an inhaler in high levels of deprivation (deprivation deciles 1 and 2) in Norfolk & Waveney.



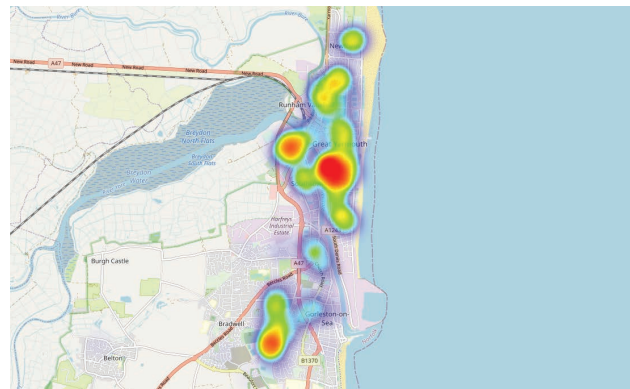
Norwich



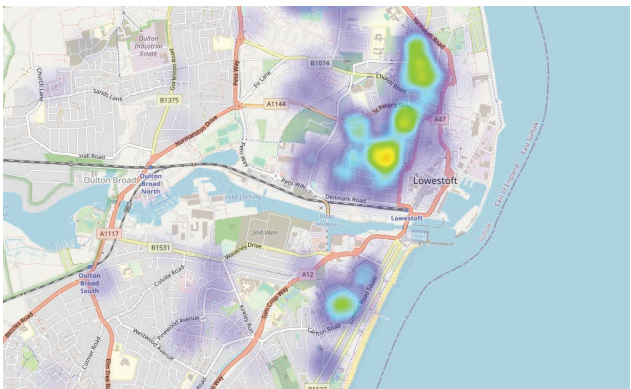
King's Lynn



Great Yarmouth



Lowestoft



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