

Understanding the Drivers of Demand in Urgent Care for Mid Nottinghamshire

Version 2

Version Control

Version Number	Actions/Amendments
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1. Introduction

Demand for emergency services such as Emergency Department Attendances (ED) and Emergency Admissions (EmA) has grown over time at local, regional and national level. There are fluctuations between years, with some periods seeing larger increases than others, but long term trends show a clear increase.

This paper explores the possible local drivers for the increase in demand for urgent care services in Mid-Nottinghamshire and at Sherwood Forest Hospitals NHS Foundation Trust (SFH).

On June 19th a Clinical Panel was convened to review the first draft of the Mid-Nottinghamshire Demand Drivers Analysis. The panel reviewed the data included within the pack and a number of points of clarity were raised along with the requirement for further information to explore the emerging themes and trends from the analysis spanning April 16 to March 19

Version 2 of the Demand Drivers analysis provides the first cut of the additional information and seeks to set out the next steps and actions required to identify potential causes of the demand trends and identify the areas to focus future or current interventions with the intention of mitigating or stemming the demand.

2. Data Sources

This report brings together analysis carried out on several datasets. The data for both ED attendances and emergency admissions has been supplied by the ICP team at SFH.

Other data has been sourced by the CCG's information team.

Version 2 includes further data and analysis from data provided by EMAS and NHCT enabling more granular analysis of the overall demand picture

3. The National Picture

National data show that emergency admissions (EmA) and emergency attendances (ED) have been increasing over the last few years. Both NHS England and NHS Improvement have acknowledged that the NHS continues to see “high and sustained levels of demand” for hospital services linked to a growing and ageing population¹. Various research Think Tanks, medical bodies (e.g. BMA) and academics have highlighted that demand on emergency services in England has reached record levels.²

NHS Digital official statistics for England³ show that emergency admissions increased nationally by 3.7% from 2016/2017 to 2017/2018 financial years. In 2018/2019, the increase in emergency admissions from the previous year was even higher: 4.8%.

ED national figures show a 1.8% increase in 2017/2018 from the previous year and 4.9% increase in 2018/2019. National ED statistics, however, should be interpreted with caution as it is not always possible to distinguish between real growth and improved coverage (e.g. more Providers submitting data). They also cover all Department types, including minor injuries and walk-in centre, where significant growth has been seen in recent years⁴.

The chart below show the year on year percent change in activity since 2016/17.

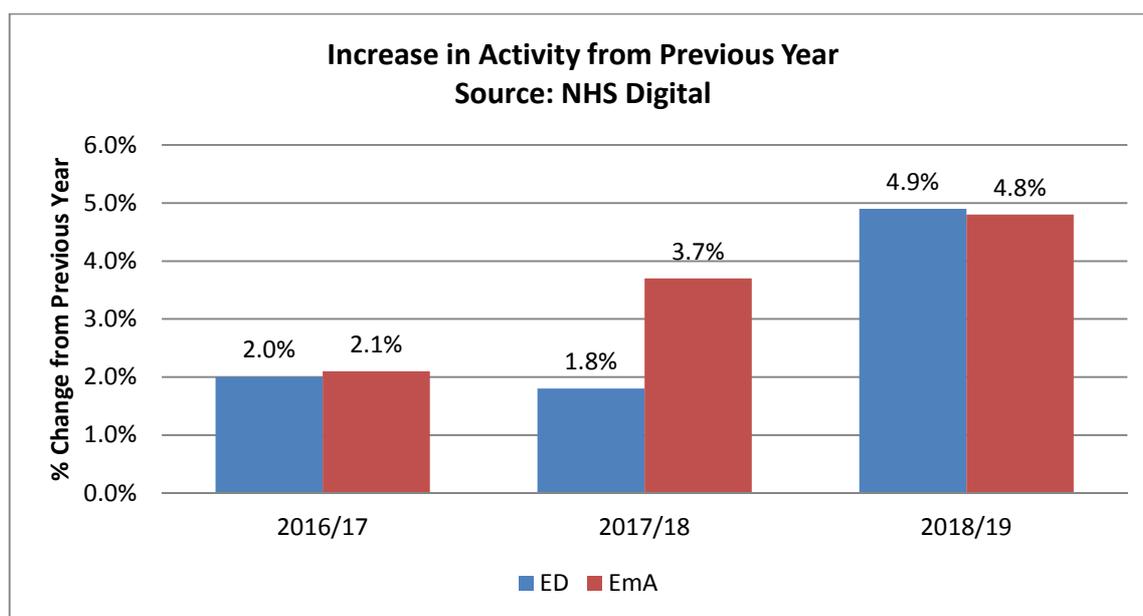


Figure 1

¹ NHS Improvement, Performance of the NHS provider sector for quarter ended 31 December 2018: https://improvement.nhs.uk/documents/4942/Performance_of_the_NHS_provider_sector_for_the_quarter_ended_31_Dec_2018.pdf

² Zosia Kmiotowicz, A&E attendances in England are growing twice as fast as population; BMJ 2018;362:k3921 doi: 10.1136/bmj.k3921 (Published 13 September 2018): <https://www.bmj.com/content/bmj/362/bmj.k3921.full.pdf>

³ NHS Digital Hospital Episode Statistics: <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-episode-statistics-for-admitted-patient-care-outpatient-and-accident-and-emergency-data>

⁴ House of Commons Briefing Paper - NHS Key Statistics: England, May 2019: <https://researchbriefings.files.parliament.uk/documents/CBP-7281/CBP-7281.pdf>

NHS England also publishes national statistics based on returns from Providers (Unify2 / SDCS data collections)⁵. ED data is broken down by department type (1 for Major ED, 2 for single specialty ED such as Eye Casualties and 3 for Urgent Care Centres / Minor Injury Units).

Activity has gone up overall, but the largest increase has been seen in UCCs / MIUs.

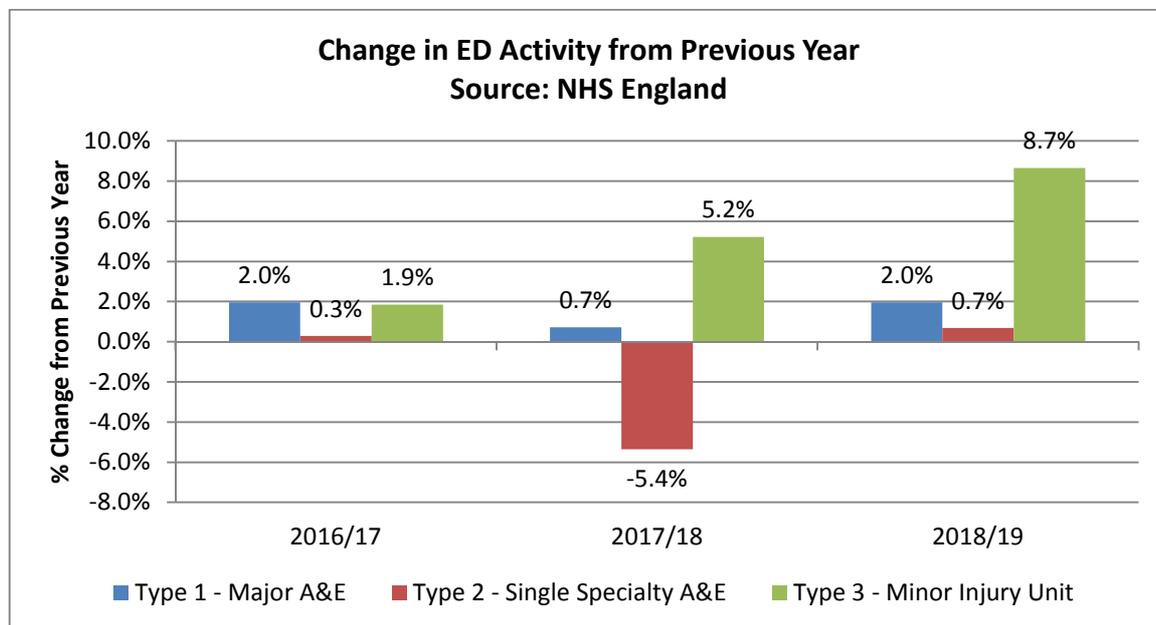


Figure 2

4. Regional Picture

4.1. HED data

Hospital Episodes Statistics (HES) data extracted using HED Benchmarking tool show year on year increases in ED attendances and Emergency Admissions at regional level (all Providers in the Midlands region).

The regional picture is similar to the national one. A larger increase has occurred in both ED (all department types and providers) and EmA activity in 2018/19 from previous years.

⁵ NHS England: <https://www.england.nhs.uk/statistics/statistical-work-areas/ae-waiting-times-and-activity/>

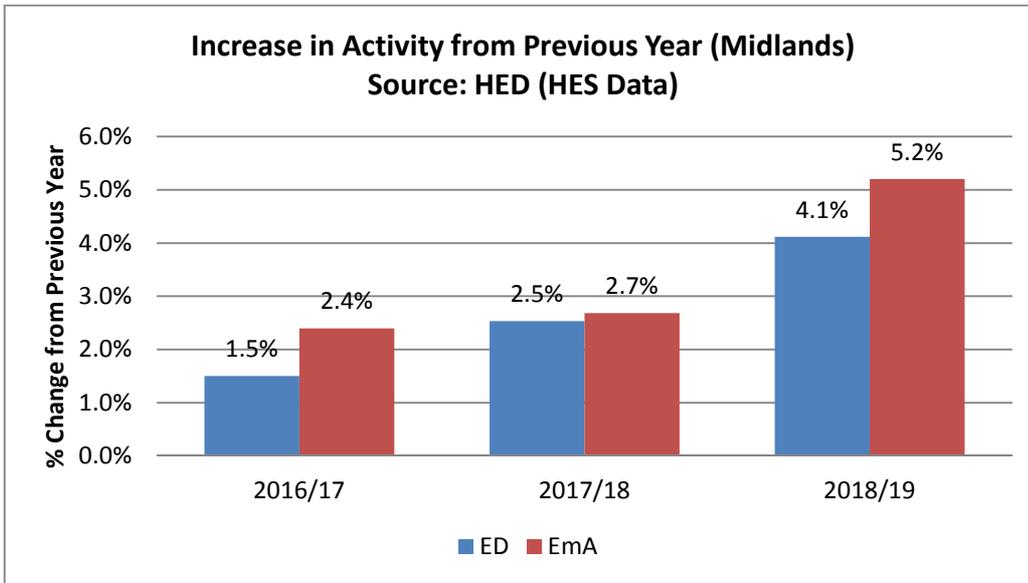


Figure 3

5. Local Picture

5.1. Emergency Department Attendances (ED)

Local Trust level data provided by the SFH Data Teams show an increase in attendances to King’s Mill Hospital (KMH). In 2018/19, attendances increased by 4.4% at KMH (compared to 4.8% nationally and 4.1% regionally).

5.1.1. SFH

Using SFH data, three years of attendances at King’s Mill Hospital (KMH) are plotted in a Statistical Process Chart (SPC) with control limits at 3 sigma (within which the process is under control). For this section of the report these attendances include both KMH ED attendances and primary care attendances (PC24). This allows us to analyse all urgent care attendances arriving at King’s Mill Hospital.

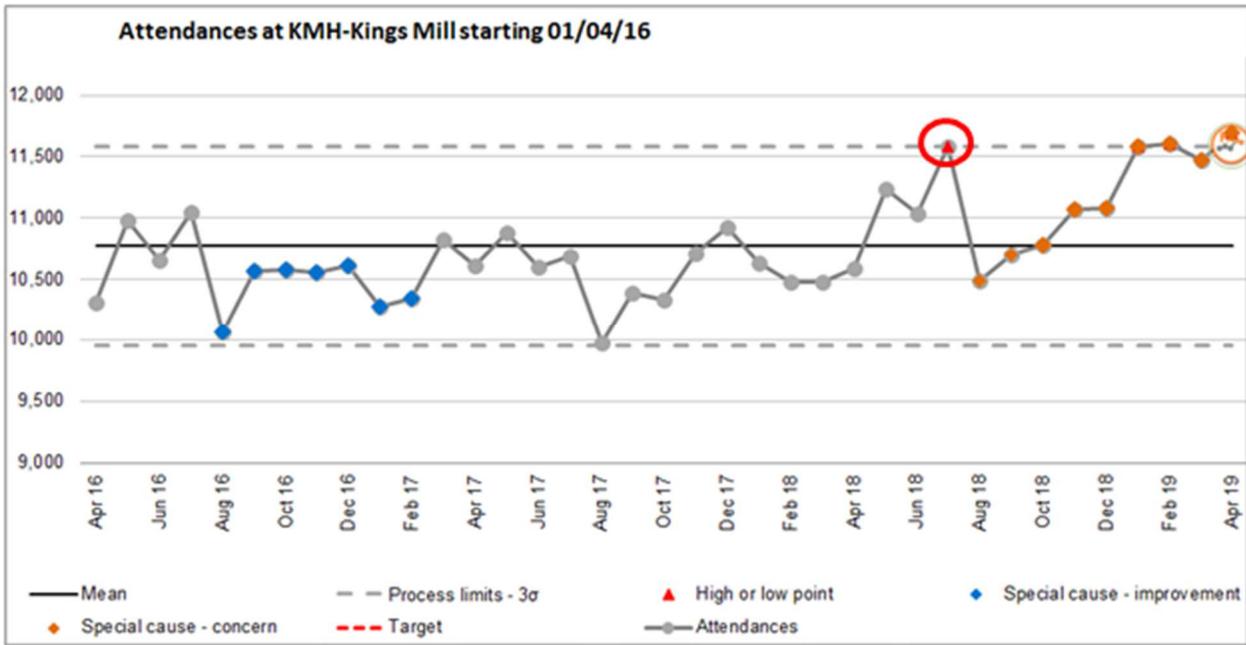


Figure 4

There have been two special cause data points in the last three years, July 2018 and April 2019.

July 2018 can be explained by the exceptionally hot weather where the temperature across the UK was 2 degrees Celsius higher than any previous July in the last three years. The average UK temperatures are shown in figure 5 for reference.

Monthly average daily temperatures in the United K (in degrees Celsius)

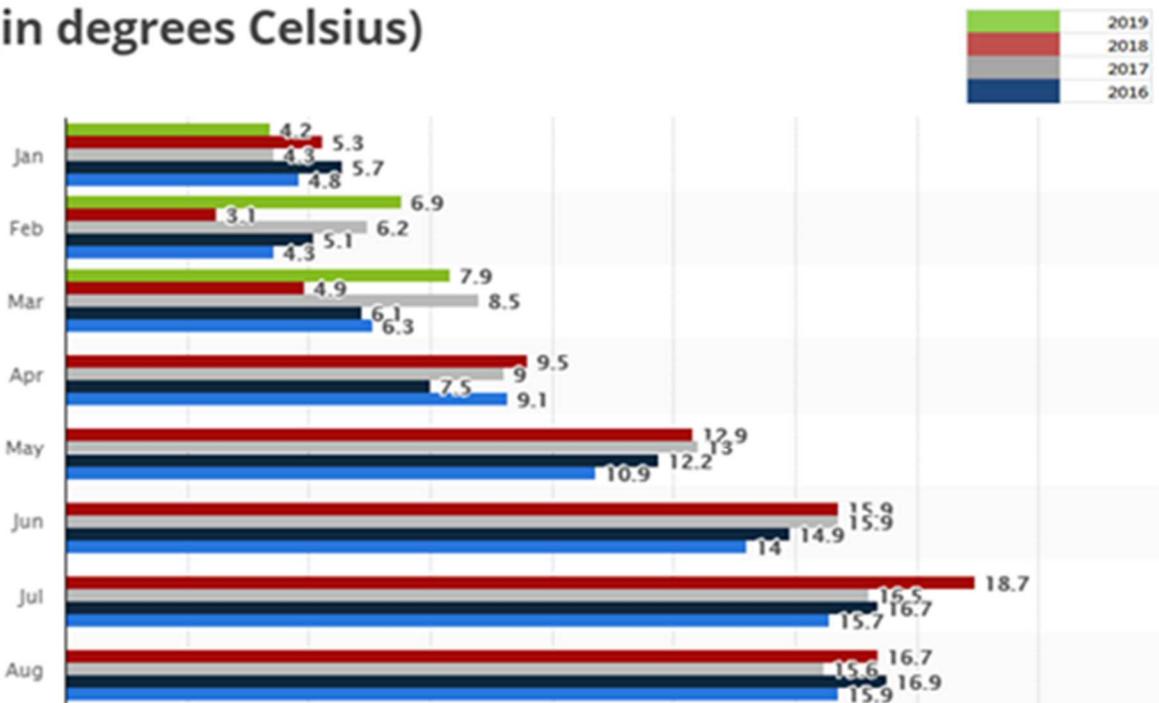


Figure 5

The April 2019 special cause data point is a build-up of factors that have been happening August 2018. These are summarised below.

Main Driver	Time Period Compared	% increase	Increase in monthly ED attendances
An increase in non Mid-Nottinghamshire patients attending KMH	Aug-18 to Dec-18 compared to Aug-17 to Dec-17	5%	125 extra per month
An increase in EMAS conveyances / handovers at KMH	Jan-19 to Apr-19 compared to Jan-18 to Apr-18	8%	234 extra per month
An increase in walk-in patients at KMH	Jan-19 to Apr-19 compared to Jan-18 to Apr-18	11%	792 extra per month

The sum of these increases results in an additional 1,151 patients attending per month (approx. 37 per day or over 10% more patients) compared to 12 months ago.

These three areas have been chosen as they are mutually exclusive of each other.

5.1.1.1. Non Mid-Nottinghamshire patients attending KMH

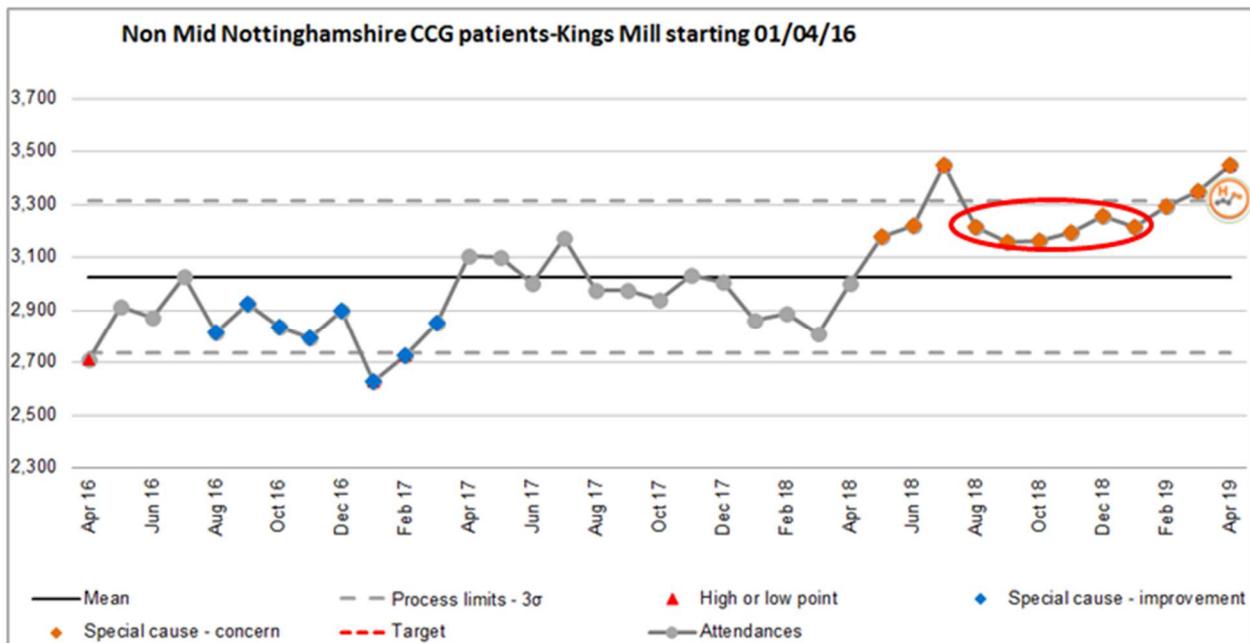


Figure 6

The first area of concern was the time period from August 18 to December 18 which is included in a run of data where 12 data points fell above the mean average.

The same special cause did not take place for ED attendances for Mid-Nottinghamshire patients (figure 7).

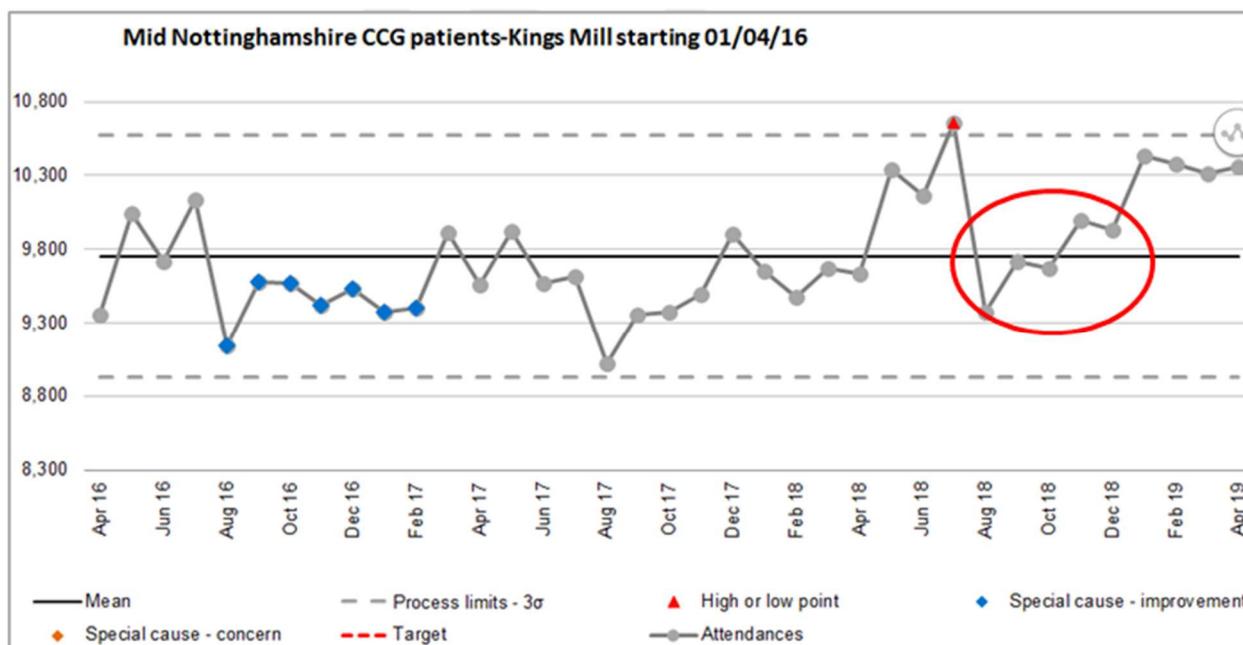


Figure 7

CCG	Aug17 - Dec 17	Aug18 - Dec 18	% Diff	Diff
Bassetlaw	182	183	1%	1
Harwick	4,672	4,735	1%	63
Nottm City	485	493	2%	8
Nottm North & East	2,093	2,356	13%	263
Nottm West	331	335	1%	4
Rushcliffe	108	132	22%	24
South Derbys	2,102	2,223	6%	121
Oveeseas Visitors	783	1,006	28%	223
Other	2,017	1,935	-4%	-82
Grand Total	12,773	13,398	5%	625

Figure 8

The table in figure 8 details those CCG areas in which KMH have seen an increase in attendances between the months of August and December. The large increases were from Nottingham North and East and from overseas visitors.

The increase in mainly in the over 55 age group and for arrival times between 7am and 11am. The days of the week that the largest increases were observed are on a Monday and a Thursday.

The comparably good ED 4-hour wait performance target may be one reason why non Mid-Nottinghamshire patients have started to choose King’s Mill Hospital at these times and not their local hospital.

Age Group	Aug17 - Dec 17	Aug18 - Dec 18	% Diff	Diff
0-4	1,255	1,254	0%	-1
5-9	545	502	-8%	-43
10-14	625	575	-8%	-50
15-19	772	802	4%	30
20-24	1,131	1,253	11%	122
25-29	1,177	1,232	5%	55
30-34	886	921	4%	35
35-39	767	731	-5%	-36
40-44	606	673	11%	67
45-49	767	737	-4%	-30
50-54	772	748	-3%	-24
55-59	602	687	14%	85
60-64	444	516	16%	72
65-69	466	520	12%	54
70-74	481	594	23%	113
75-79	440	503	14%	63
80-84	419	453	8%	34
85+	618	697	13%	79
Grand Total	12,773	13,398	5%	625

Figure 9

The increases in non Mid-Nottinghamshire patients attending KMH are shown below by the day of the week and by arrival hour.

Day of the Week	Aug17 - Dec 17	Aug18 - Dec 18	% Diff	Diff
Monday	1,800	2,126	18%	326
Tuesday	1,876	1,723	-8%	-153
Wednesday	1,826	1,904	4%	78
Thursday	1,731	1,919	11%	188
Friday	1,684	1,736	3%	52
Saturday	1,915	1,961	2%	46
Sunday	1,941	2,029	5%	88
Grand Total	12,773	13,398	5%	625

Figure 10

Arrival Hour	Aug17 - Dec 17	Aug18 - Dec 18	% Diff	Diff
0	271	310	14%	39
1	201	202	0%	1
2	188	170	-10%	-18
3	142	159	12%	17
4	157	154	-2%	-3
5	156	157	1%	1
6	167	175	5%	8
7	207	253	22%	46
8	354	401	13%	47
9	628	726	16%	98
10	860	881	2%	21
11	869	975	12%	106
12	832	885	6%	53
13	819	877	7%	58
14	768	794	3%	26
15	830	791	-5%	-39
16	779	799	3%	20
17	829	879	6%	50
18	856	877	2%	21
19	778	791	2%	13
20	713	721	1%	8
21	567	562	-1%	-5
22	458	465	2%	7
23	344	394	15%	50
Grand Total	12,773	13,398	5%	625

Figure 11

Clinical Panel Review – Commentary

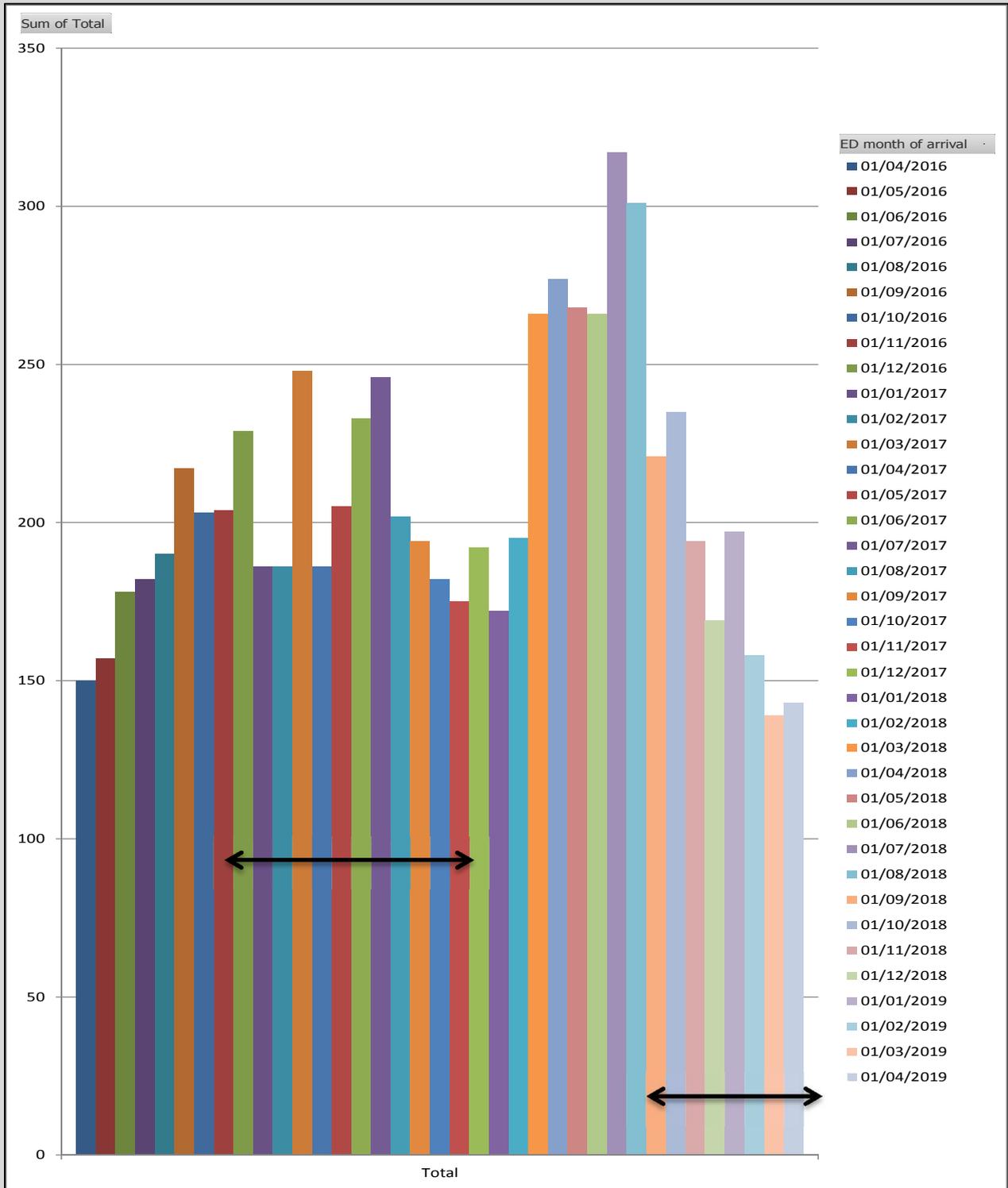
The three year trend analysis provides a clear indication that demand has been on the increase since mid-2018, and whilst the spike in the summer of 2018 can be attributed to the hot weather, the rise in demand has continued through 2018 and into 2019.

The trend analysis demonstrates that during 2016/17 and 2017/18 that demand was consistently below the mean against a backdrop of growth which could have a correlation to the various interventions delivered across Mid-Nottinghamshire and as part of the Vanguard Programme.

Mid-Nottinghamshire implemented a number of interventions such as targeting Care Homes, Ambulance Conveyance rates, High Volume Service Users and Care Closer to Home through Community based services that delivered a positive impact to demand.

The impact to demand was evidence based, and, if delivery was sustained may have had a mitigating impact to the increasing growth during 18/19. This will require some further detailed analysis and is included in the future action plan.

The attached graph demonstrates the impact of the interventions on HVSU, with demand increasing when the intervention was not being actively supported. February, March and April 19 clearly demonstrate the impact the HVSU service is delivering.

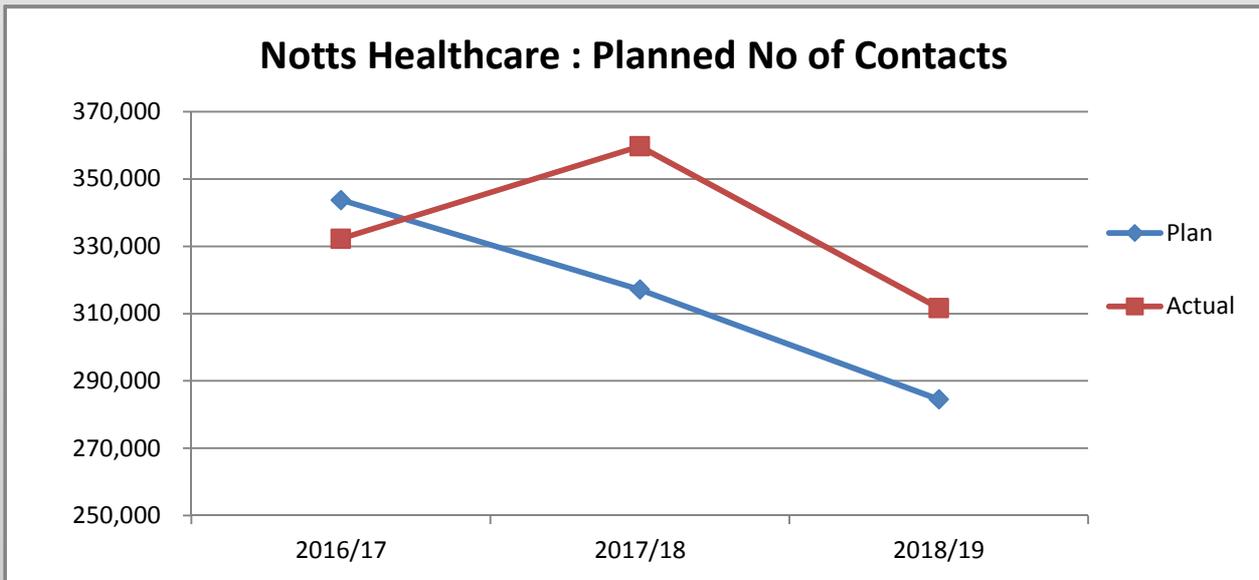


Two cohort patients have been managed over the two periods with 26 patients appearing on both cohorts

Clinical Panel Review – Commentary

For the first presentation of the Demand Driver information, a missing element was the activity and demand through the community services. Since the first review NHCT have provided three years of contract performance data that will require analysis for inclusion into the Demand Driver work, and to understand where changes in the community service offering have had an impact or contributing factor to the demand profile.

For version 2 of the demand driver work the following graph shows the difference between the planned capacity of NHCT and the actual capacity delivered to meet demand.



(Source – NHCT Contract and Performance Report)

Whilst further work is required with NHCT, what can be seen from the graph is that against an increase in demand at the front door the planned capacity within community services has been reduced with demand exceeding the plan for the last two years.

This does support the need to understand as a system how the restructuring and contractual changes in community services have impacted the demand, including looking forward at any changes in 19/20 to determine where the impact may be experienced

5.1.1.2. EMAS conveyances / handovers at KMH

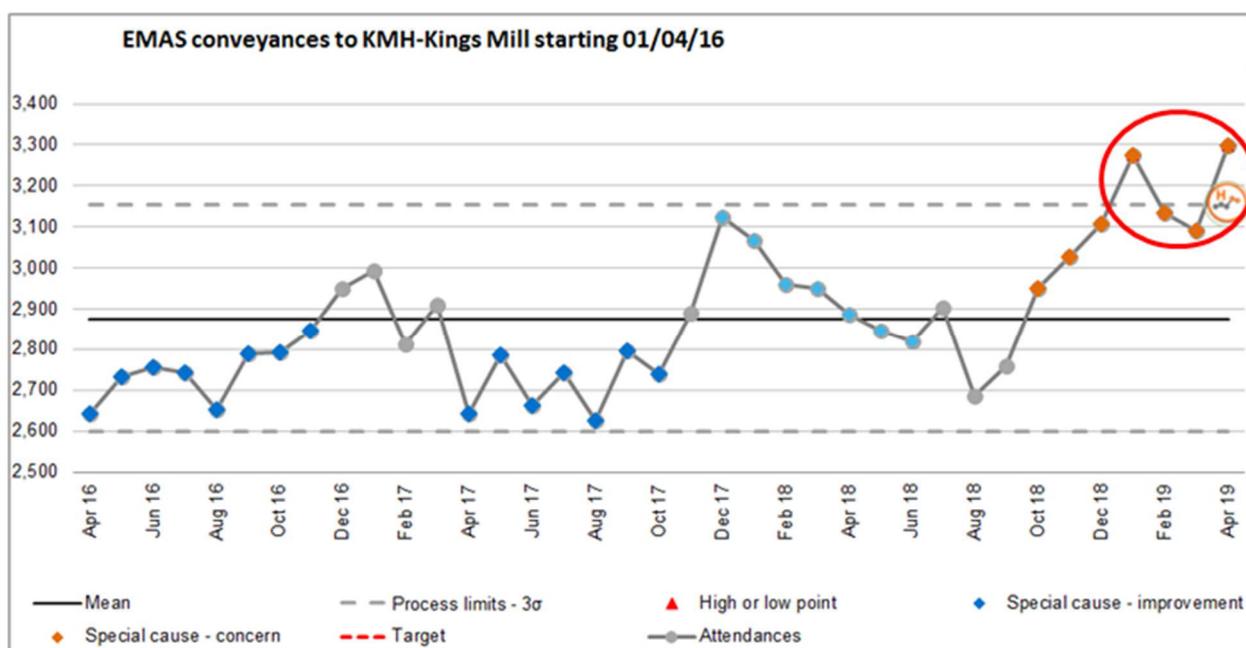


Figure 12

The second special cause concern to be investigated is the seven data points above the mean average from Oct 18 leading to two special cause data points in Jan 2019 and April 2019.

In order to distinguish from the analysis carried out in the previous section this analysis focuses on the January 2019 to April 2019 period and is for only for patients arriving by ambulance.

CCG	Jan18 - Apr18	Jan19 - Apr19	% Diff	Diff
Mansfield & Ashfield	6,369	6,589	3%	220
Newark & Sherwood	2,965	3,317	12%	352
Bassetlaw	29	51	76%	22
Hardwick	965	1,088	13%	123
Nottm City	57	71	25%	14
Nottm North & East	341	420	23%	79
Nottm West	75	100	33%	25
South Derbys	499	527	6%	28
Oveeseas Visitors	87	103	18%	16
Other	246	303	23%	57
Grand Total	11,633	12,569	8%	936

Figure 13

The above table shows the increases in EMAS conveyances by CCG. They have increased across the patch but the major concerns are:

- a 12% increase for Newark and Sherwood
- a 13% increase from Hardwick
- approx. 25% increase from the Nottingham CCGs

A map of ambulance pick up postcodes for conveyances to King's Mill Hospital is shown below.

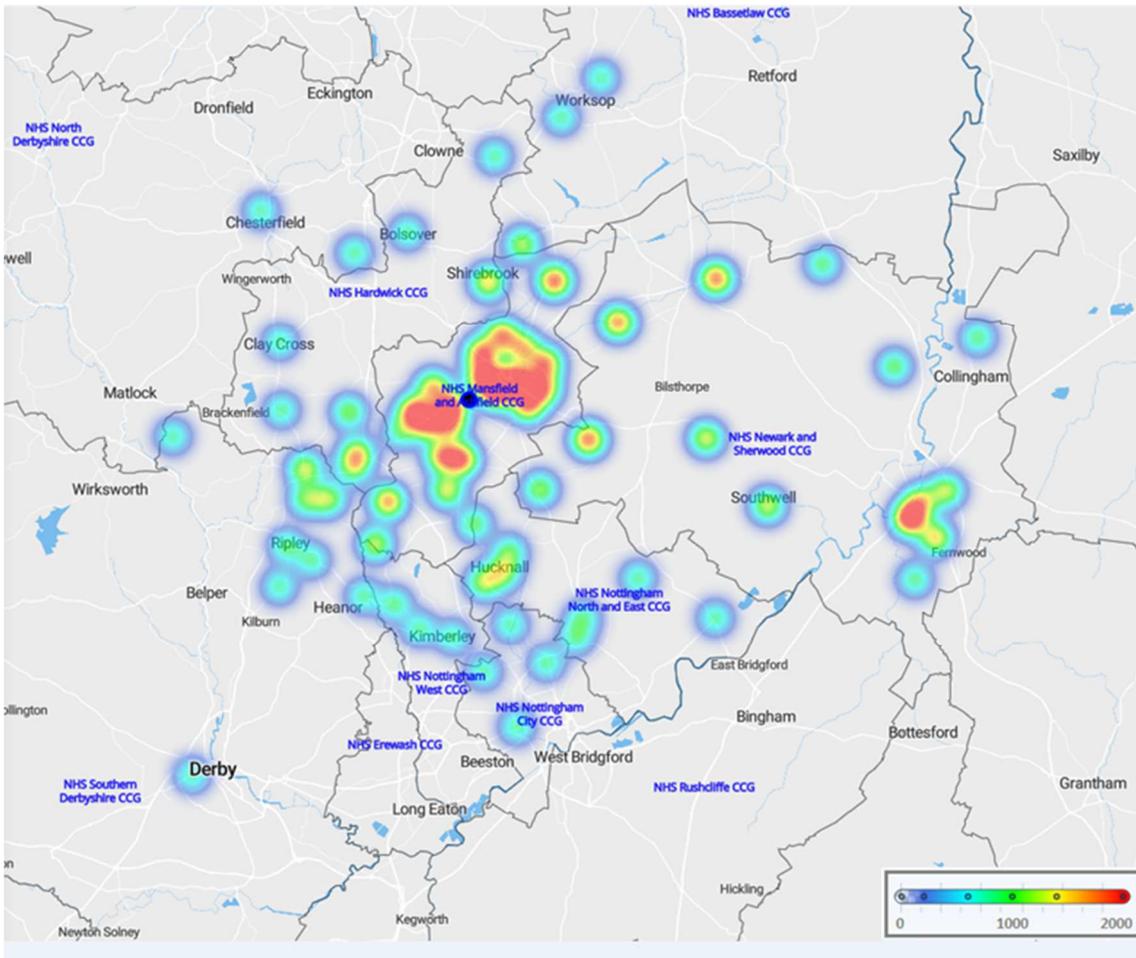


Figure 14

Mild hotspots of ambulance pick up postcodes outside of Mid-Nottinghamshire include Chesterfield, Worksop and Derby. Hucknall is in the higher amber region which may be a large driver of the Nottm East increase.

Also of note are the Newark and the Collingham hotspots. Ambulance conveyances to United Lincolnshire Hospitals have decreased by 12% for Newark and Sherwood patients over this same time period suggesting a change in process.

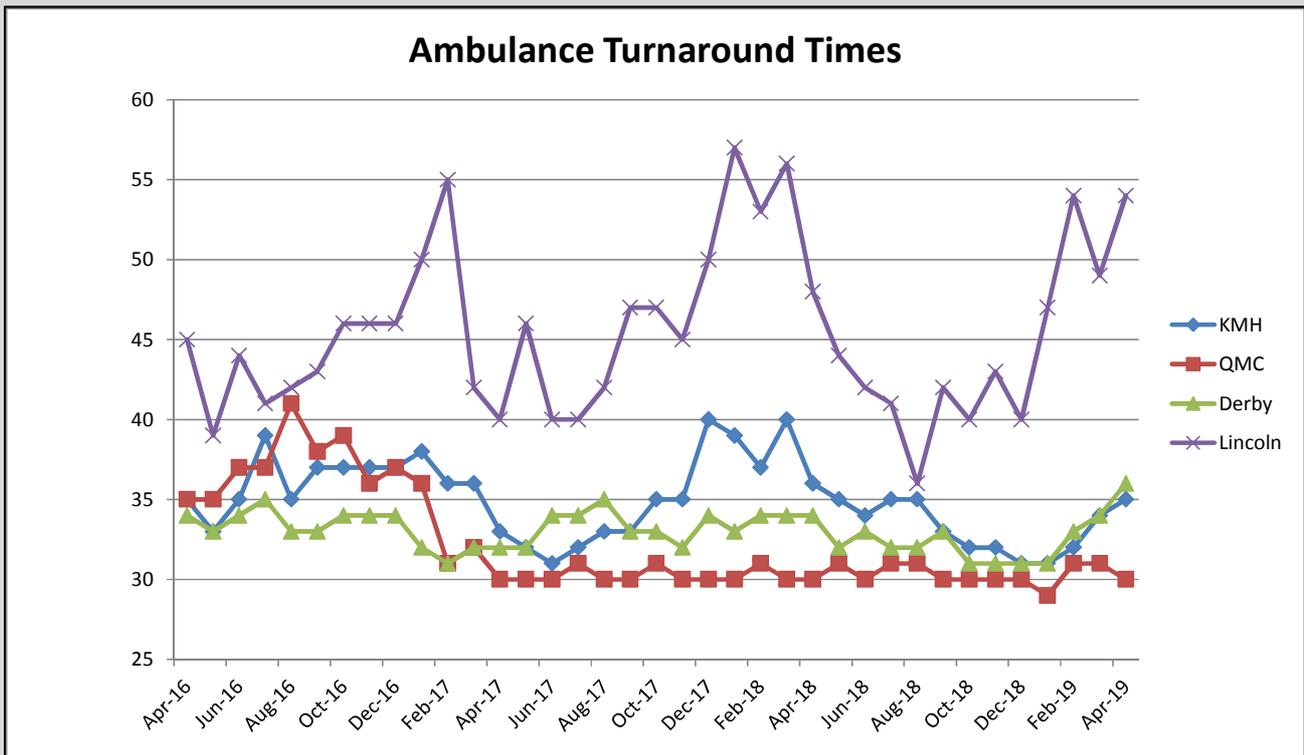
Clinical Panel Review – Commentary

Discussions with EMAS colleagues has identified that patient choice is often a determining factor of where ambulances convey a patient to. This can be anything from location of the ED to the patient home, and where a patient may already be receiving care.

EMAS have commented that it can also relate to the base of the particular ambulance crew.

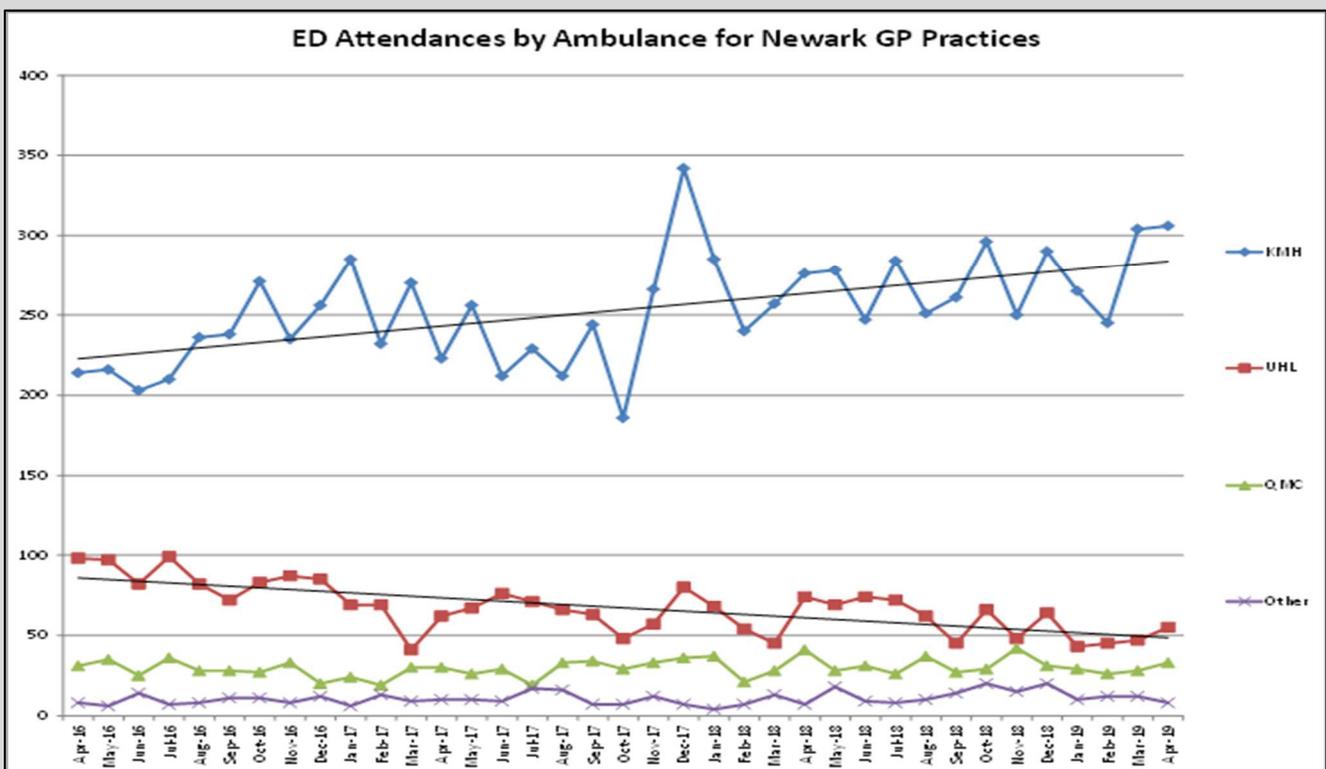
The panel also discussed that ambulance turnaround times may have an impact on the flow of patients to KMH and Newark, with crews choosing to take a patient to the hospital with the shortest turnaround time.

The graph below sets out the analysis of the current performance for ambulance turnaround times with peer Trusts within the patch



Lincoln can clearly be seen as outliers in terms of turnaround times so further analysis was undertaken to determine if this was having any significant impact to conveyance rates from the Newark area.

The graph below explores whether there has been any increase in conveyance from the Newark registered practices, the impact of which could include the extended turnaround times at Lincoln



The graph does demonstrate a spike in December 18 when Lincoln's turnaround time was at its worst, with conveyances creeping up in April 19 again to meet the potential spike at Lincoln. However between those two point conveyance rates fluctuate month on month

The chief complaint recorded by EMAS is now compared over the last three financial years.



Figure 15

The chief complaint that has seen the largest increase over time is for NHS Pathways and for Traumatic Injuries. A chief complaint of falls has decreased over the last few years.

The increase for NHS Pathways could be due to an increase in the use of the service but would require further analysis of data.

Clinical Panel Review – Commentary

EMAS are to provide more analysis behind conveyances related to Chief Complaint

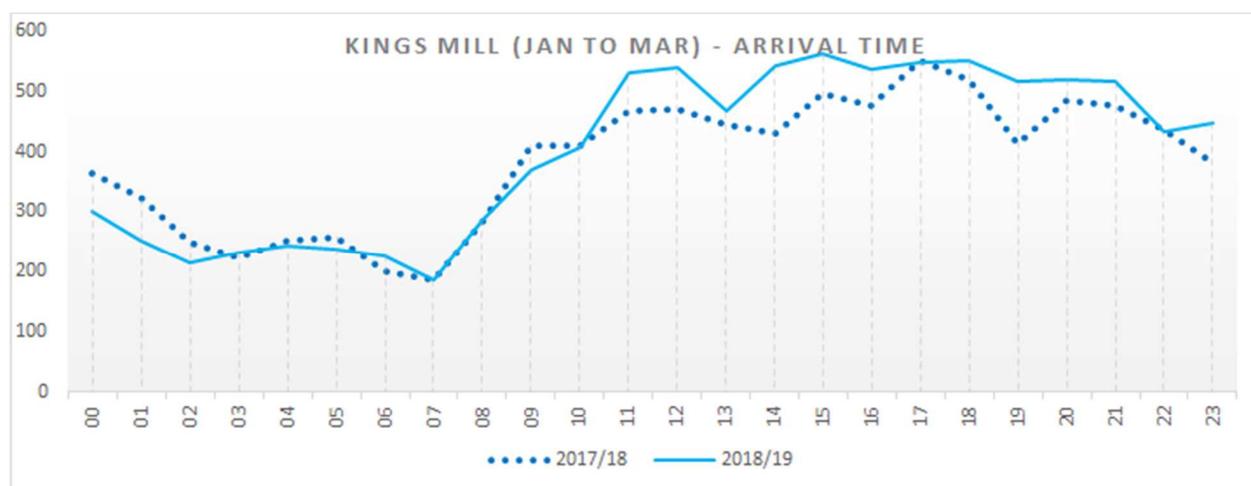


Figure 16

For arrival times the increase in KMH arrivals has been between the hours of 11.00 and 21.00. This size of the increase is consistent across this period.

Monthly reports shared by EMAS detail the Hear and Treat and See and Treat activity taking place on Mid-Nottinghamshire patients.

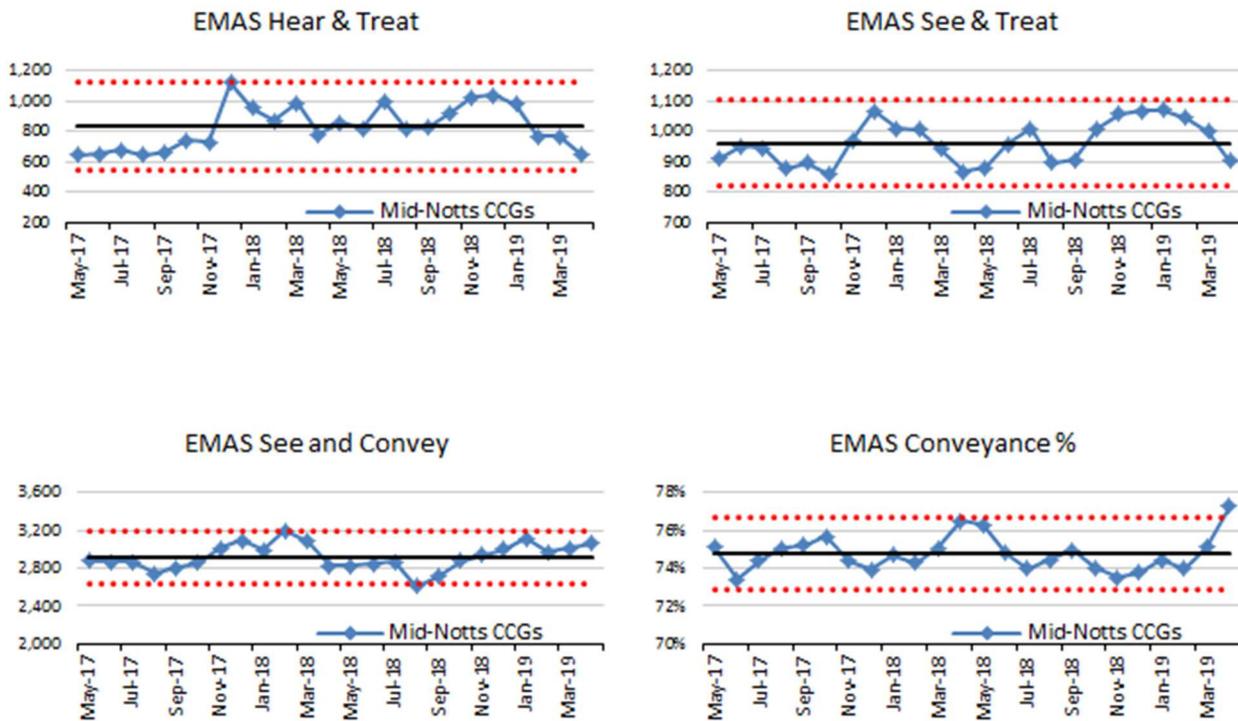


Figure 17

There has been a reduction in both EMAS Hear and Treat and in EMAS See and Treat in the last few months. This has led to a special cause exception for the EMAS conveyance % in April 2019.

Clinical Panel Review – Commentary

Following the Panel Review discussions were undertaken with EMAS to understand some of the detail behind the data set out in this document, and to understand how the reduction in hear and treat and see and treat correlated to the number of calls EMAS received.

EMAS commented that the total number of calls as a metric was correct however there would need to be a caveat that in some cases multiple calls would be received for the same incident, road traffic incidents and collapse in public places being two key examples.

Further EMAS information detailed how the EMAS Capacity Management Plan (CMP) would impact the rates set out above. If CMP 3 or 4 are instigated then the way EMAS manages demand changes. Hear and Treat and See and Treat are extended to a greater level of calls reducing pressure on conveyance rates if ambulances are not available, and therefore reducing conveyance rates.

During 17 and 18 EMAS experienced considerable resource issues which meant CMP 3 and 4 were instigated for significant periods of time. This in turn would see increases in hear and treat and see and treat rates and a reduction in conveyance rates. As a result EMAS have undertaken a significant recruitment drive which may have led to increased levels of conveyance but also improving the safety and efficiency of their service.

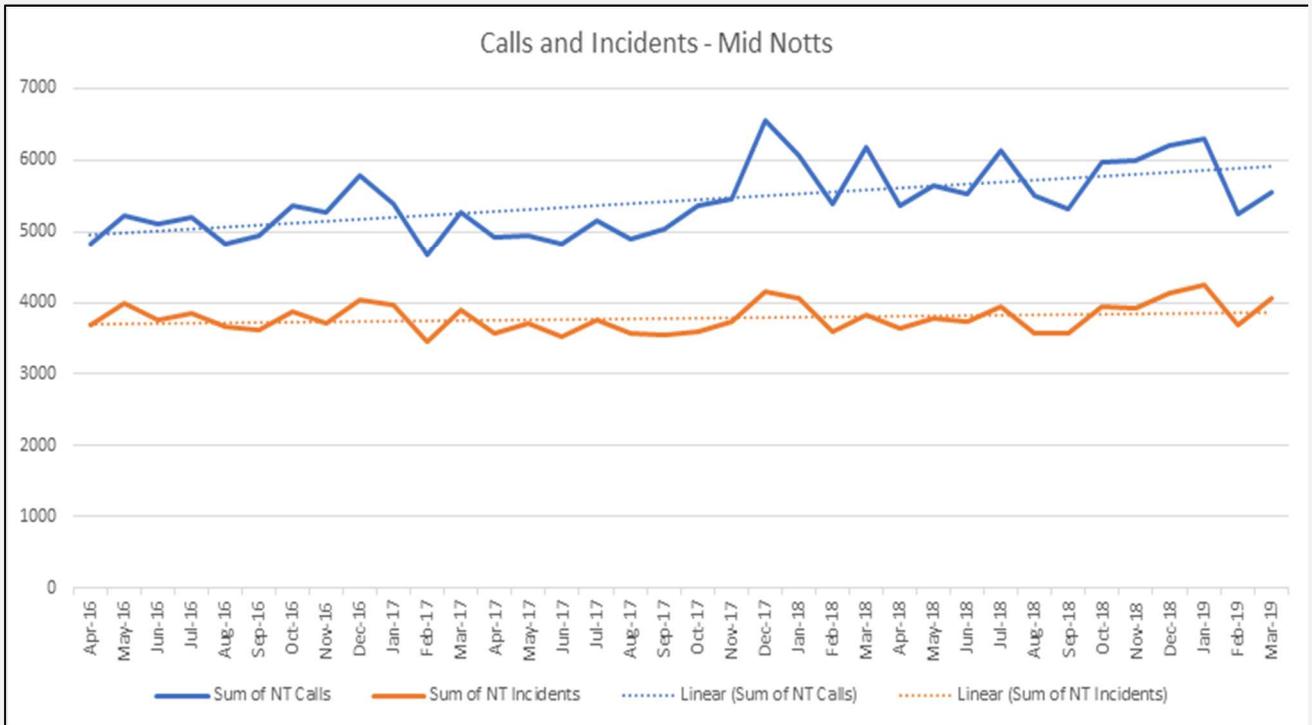
Whilst this does reflect a potential increase in demand it means patients are being dealt with in a more timely manner and preventing long delays for patient who were waiting for ambulances

EMAS supporting the development of the demand driver work and have agreed to provide more information for inclusion in the demand driver analysis and narrative on the information included

EMAS Data

Total Number of Calls.

Calls including duplicates and incidents where an EMAS resource is on scene (excludes hear and treat)



5.1.1.3. An increase in attendances at KMH other than by ambulance

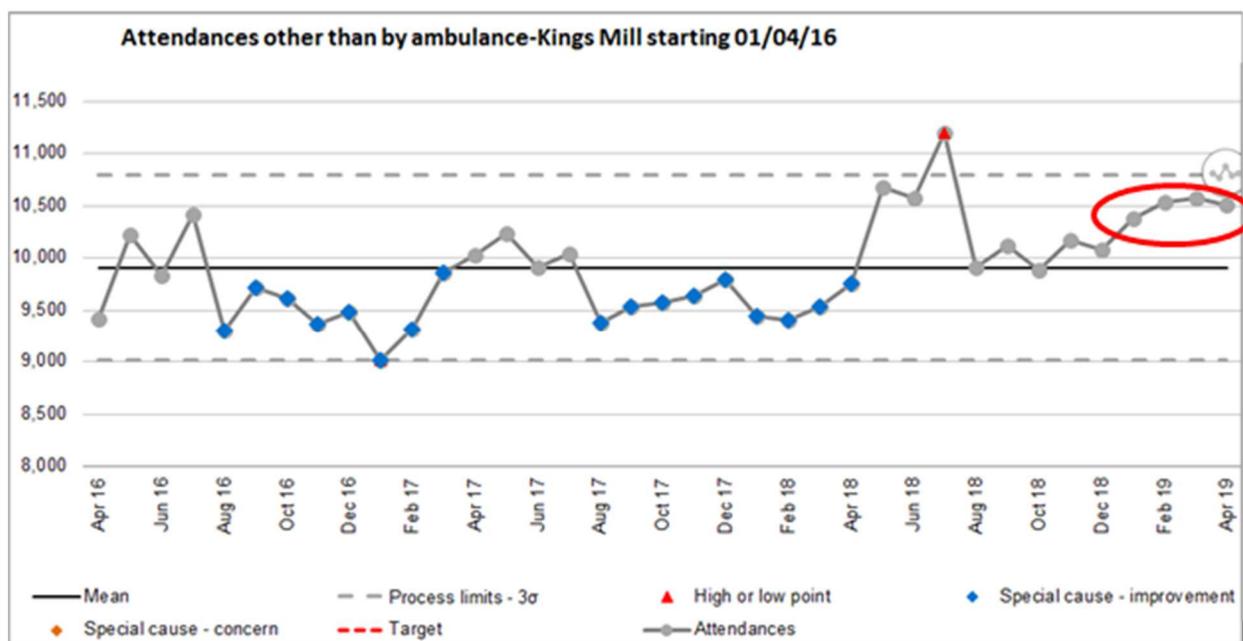


Figure 18

Although there is only a single special cause data point in July 2018 the third area of investigation is for attendances that arrive other than by ambulance between January 2019 and April 2019. One more data point in May 2019 above the average will lead to a special cause of seven consecutive data points above the average. This group is again mutually exclusive from the first two investigation areas.

The CCG breakdowns of these increases are shown below.

CCG	Jan18 - Apr18	Jan19 - Apr19	% Diff	Diff
Mansfield & Ashfield	17,660	19,307	9%	1,647
Newark & Sherwood	4,911	5,483	12%	572
Bassetlaw	106	89	-16%	-17
Hardwick	2,706	2,991	11%	285
Nottm City	247	372	51%	125
Nottm North & East	1,309	1,524	16%	215
Nottm West	175	189	8%	14
South Derbys	1,227	1,330	8%	103
Oveeseas Visitors	405	521	29%	116
Other	1,231	1,337	9%	106
Grand Total	29,977	33,143	11%	3,166

Figure 19

Other than Bassetlaw CCG all other commissioners have observed an increase of 8% or more for walk-in attendances to KMH.

The majority of these take place between the hours of 7:00 and 13:00 with a further spike at 18:00.

Arrival Hour	Jan18 - Apr18	Jan19 - Apr19	% Diff	Diff
0	451	445	-1%	-6
1	346	360	4%	14
2	299	277	-7%	-22
3	227	236	4%	9
4	187	213	14%	26
5	209	235	12%	26
6	286	327	14%	41
7	500	631	26%	131
8	963	1,131	17%	168
9	1,793	2,147	20%	354
10	2,294	2,522	10%	228
11	2,159	2,614	21%	455
12	2,083	2,405	15%	322
13	2,054	2,304	12%	250
14	1,956	2,096	7%	140
15	1,958	2,048	5%	90
16	2,034	2,206	8%	172
17	2,063	2,197	6%	134
18	2,024	2,345	16%	321
19	1,907	2,065	8%	158
20	1,450	1,545	7%	95
21	1,146	1,192	4%	46
22	910	962	6%	52
23	678	640	-6%	-38
Grand Total	29,977	33,143	11%	3,166

Figure 20

By day of the week the smallest increase is for Monday attendances. However Monday still sees the highest number of attendances overall so this just seems to be a balancing out across days. The increase in Tuesday of 19% stands out in the table below.

Day of the Week	Jan18 - Apr18	Jan19 - Apr19	% Diff	Diff
Monday	5,087	5,272	4%	185
Tuesday	4,204	4,991	19%	787
Wednesday	4,113	4,634	13%	521
Thursday	4,016	4,481	12%	465
Friday	4,059	4,454	10%	395
Saturday	4,201	4,572	9%	371
Sunday	4,297	4,739	10%	442
Grand Total	29,977	33,143	11%	3,166

Figure 21

GP practice opening Hours

A comparison was made on those GP practices that only work core hours and the four GP practices that work the most extended hours.

The two groups “Core” and “Extended” were then compared for evidence that longer hours equate to lower weighted rates of ED attendances using the Mann Whitney U Test.

There was no evidence that this was the case but the result may be affected by the small sample size of data. Data and results of this test are shown below.

GP practice	ED weighted Rate Jan - Mar 2019	Group	Rank (1 - lowest ED rates, 9 - highest ED rates)
A	65.4	Core	2
B	85.5	Core	8
C	79.2	Core	5
D	112.8	Core	9
E	72.7	Core	3
F	79.1	Extended	4
G	81	Extended	7
H	63.5	Extended	1
I	79.4	Extended	6

	Core	Extended
Count	5	4
Rank Sum	27	18
U	8	13
alpha	0.05	
Tails	1	
U	8	
U-Crit	2	
Significant	No	

Figure 22

The following maps show the hotspots for attendances in Mid-Nottinghamshire. For Newark and Sherwood the rate of attendances is mainly affected by location with the four Newark practices observing the highest attendance rates per 1,000 weighted population.

For Mansfield and Ashfield CCG there is no discernible pattern on GP practice location.

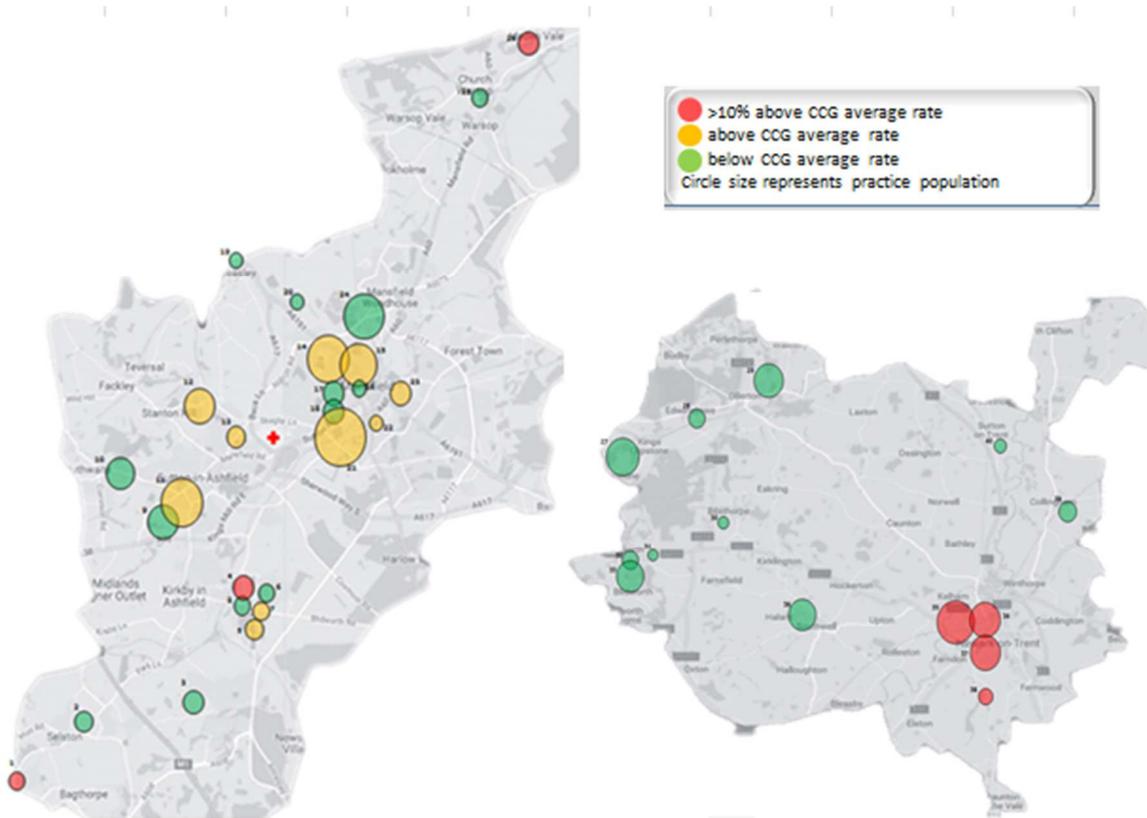


Figure 23

5.2. Emergency Admissions to ambulatory wards

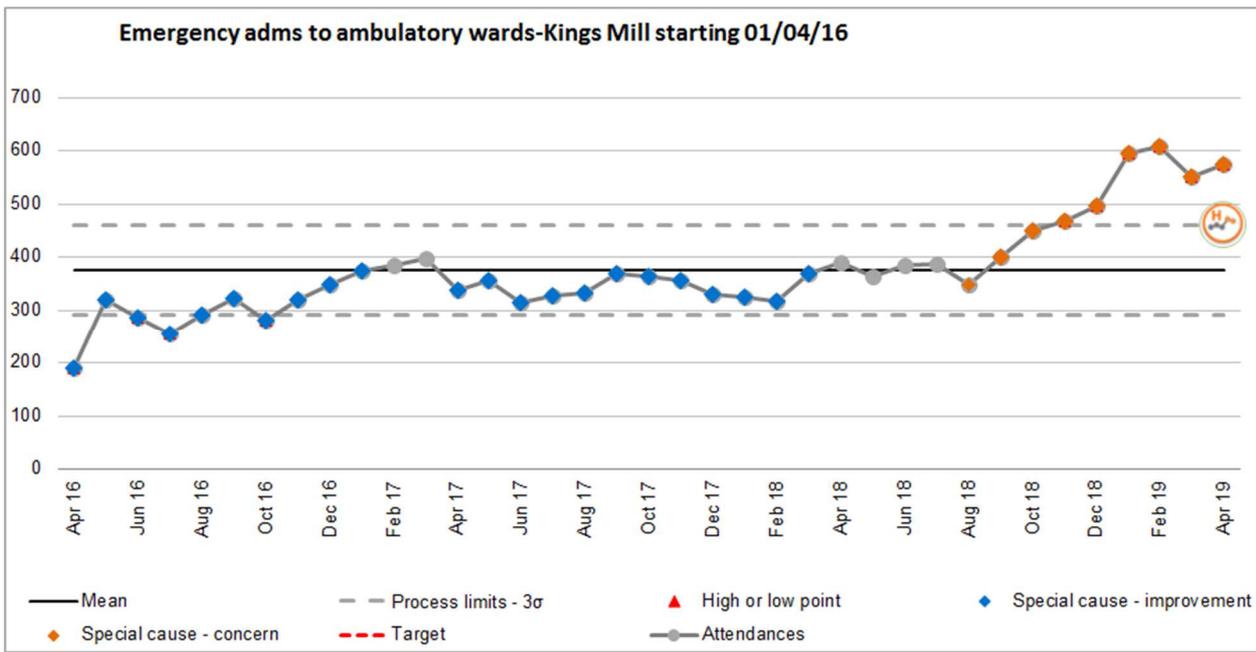


Figure 24

A special cause concern is observed when measuring emergency admissions into ambulatory wards. From November 2018 onwards there have been 6 special cause data points.

Ambulatory pathways are used by the Trust based on an AMB score and is used to identify potential ambulatory care patients from the general medical emergency in-take. This scoring can be done without the need for a full clinical assessment and investigation.

The NHS long term plan suggests that one in three of all emergency admissions should be ambulatory or 'same day emergency care'.

The below SPC chart also shows that there has been a decrease in 1 day stays from October 18 although this is not yet a special cause.

Length of stays or 2 or more days have however increased during this Jan19 – April 19 period. This is shown in figure 26.

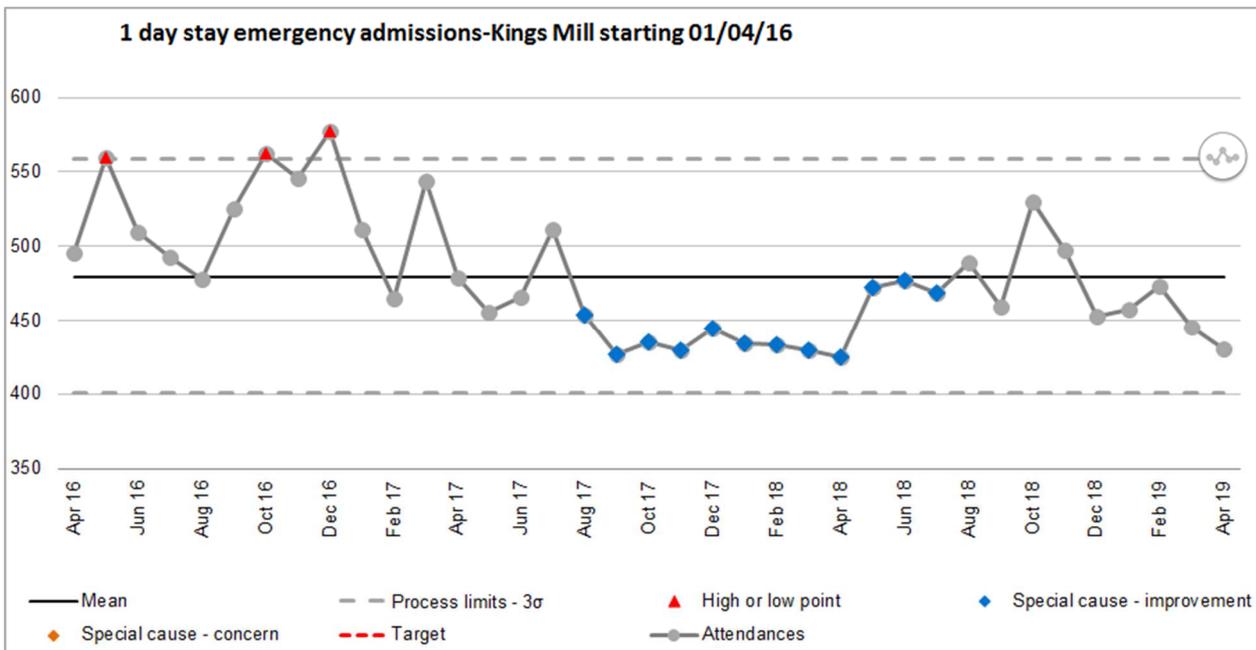


Figure 25

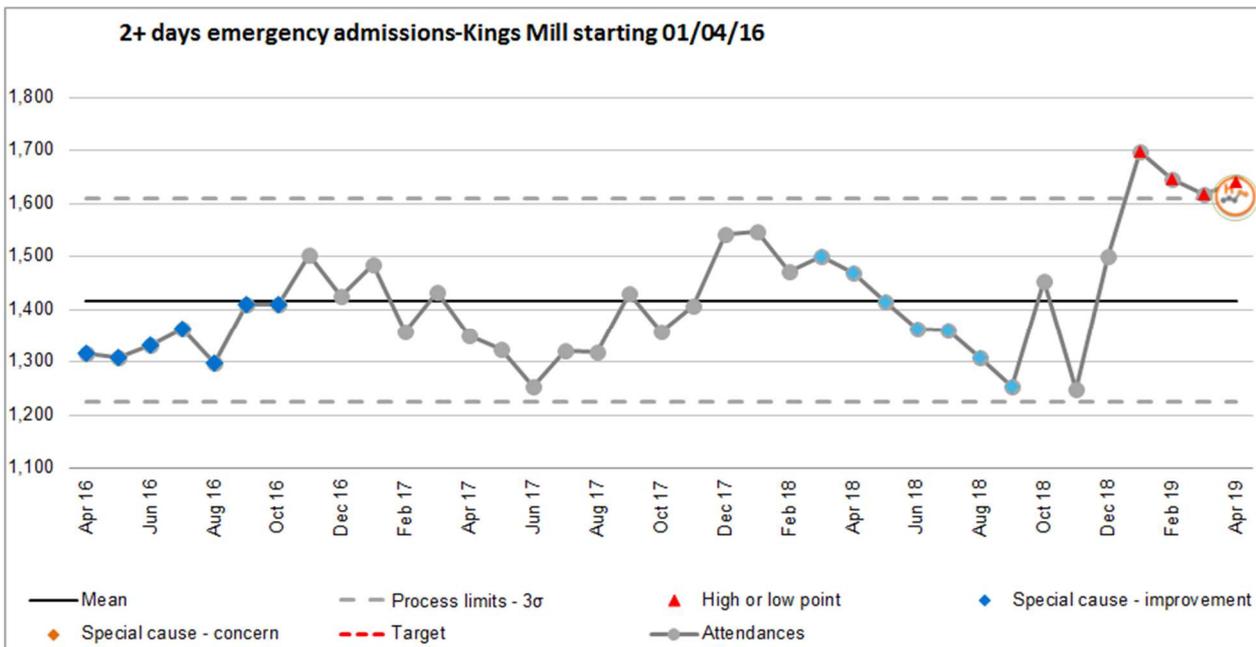


Figure 26

The special cause data points for 2+ days emergency admissions are from January 2019 to April 2019. These will be impacted by the increased demand described earlier in this report including more patients from outside of Mid-Nottinghamshire and an increase in EMAS conveyances that will put increased pressure on the emergency department.

Further work is required to understand if the overall increase in emergency admissions is fully caused by the increase in demand drivers linked to ED or is also due to a process / behaviour change leading to higher conversion rates.

Another key line of enquiry would be investigating whether additional bed capacity has an impact on conversion rates. The charts below detail the conversion rate trends at KMH with a special cause concern beginning in October when the escalation beds were opened.

A clinical audit may be required to help further understand this pattern.

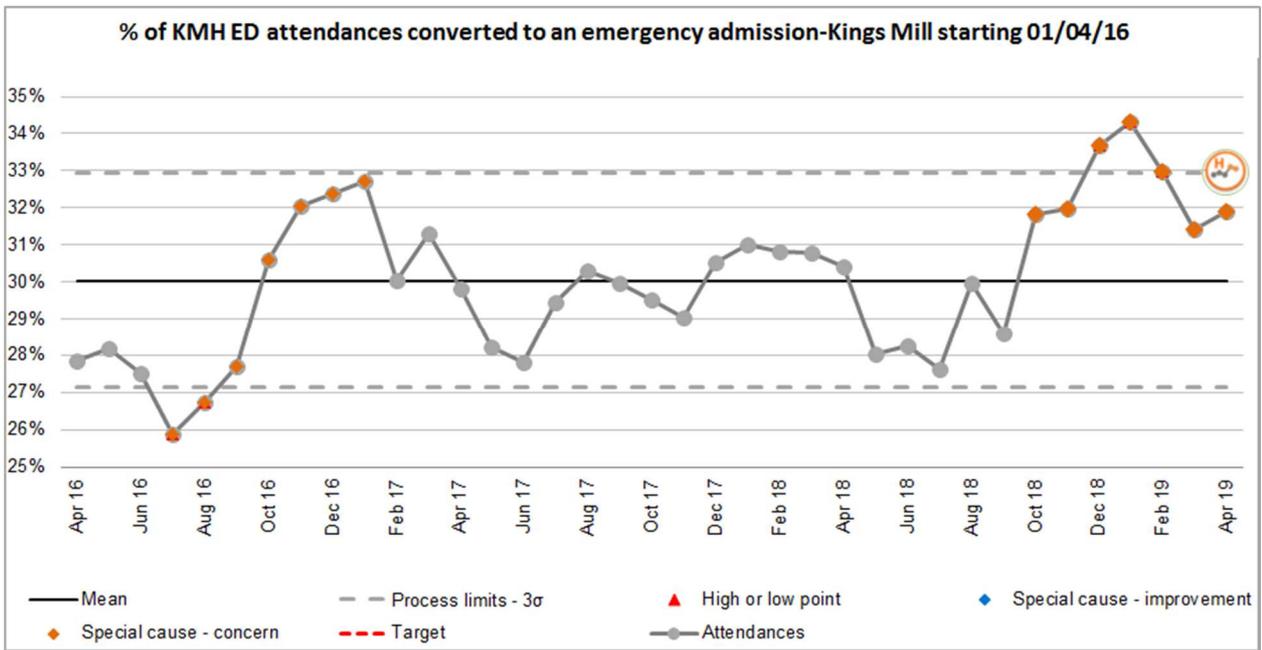


Figure 27

5.3. Further analysis on KMH data and patient category

Further analysis has been undertaken on a range of other potential demand drivers including Care Home patients, High Intensity Service Users, Bank Holidays, Mental Health conditions etc.

Please note that all of this data has been processed by the analysts and a decision been made as to whether it was significant enough to include in this report. Whilst it may not be included in the report it could be used for further key lines of enquiry.

In this report a decision was made to look at all patents arriving at KMH ED including resus, major, minors and primary care in one dataset. This was to help focus on the total urgent care demand at the KMH front door.

The charts below show this split between the patient categories which help describe the acuity of the patient arriving at KMH.

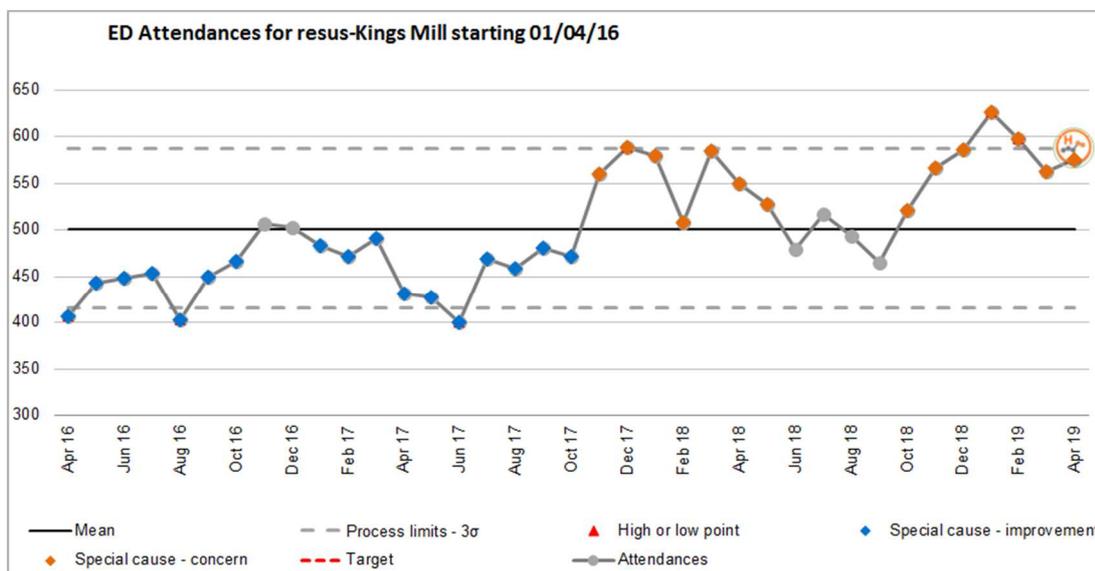


Figure 28

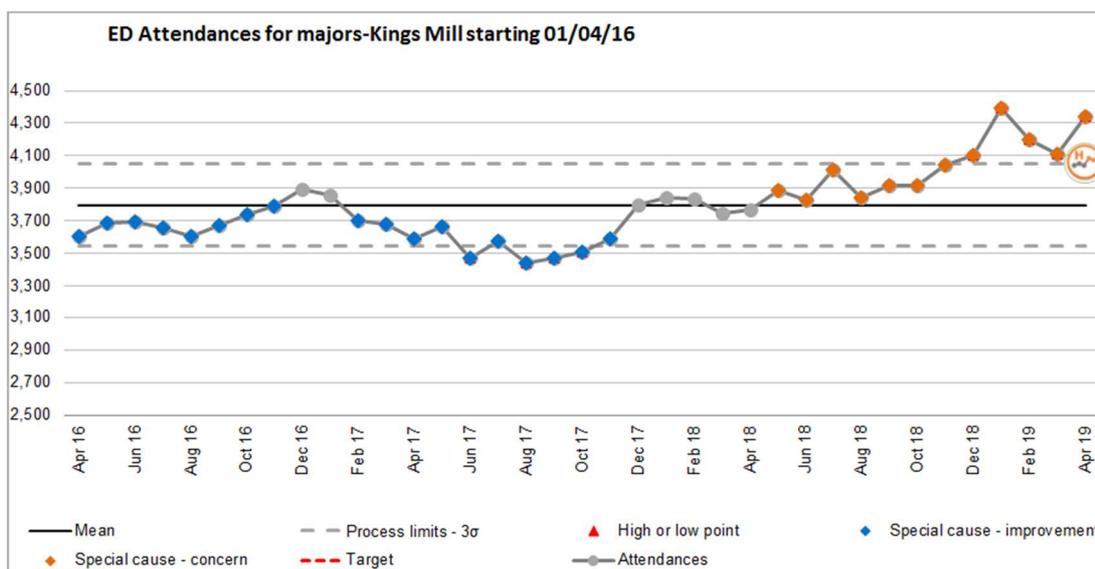


Figure 29

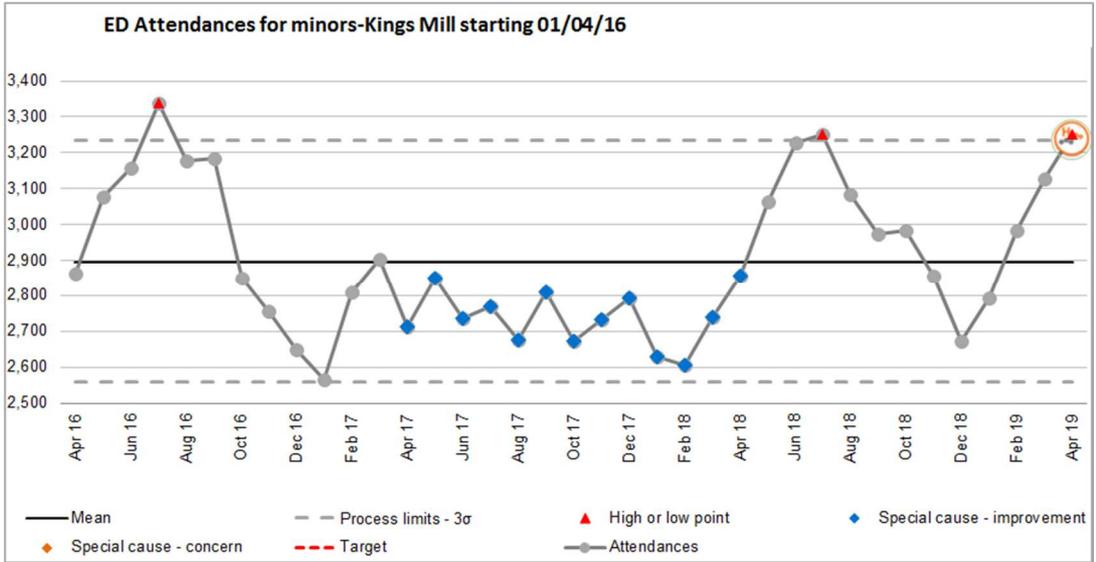


Figure 30

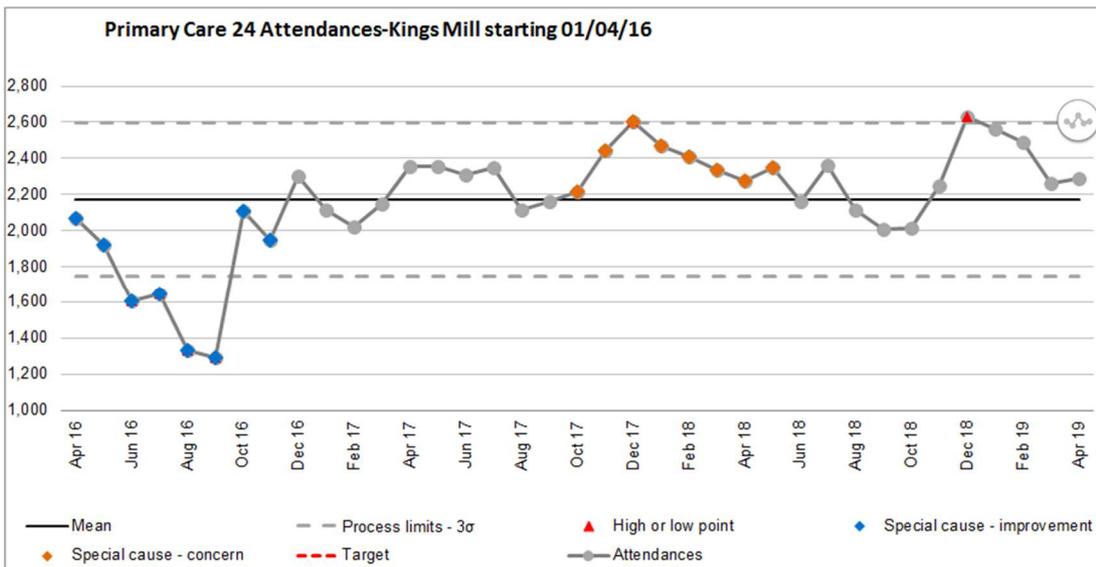


Figure 31

Clinical Review Panel – Commentary

The panel discussed if the positive performance IN A&E at KMH may have had an impact on the increase in demand and whether performance at QMC may lead to Mid-Notts Patients coming into KMH.

However supporting data identifies that this demand is fairly stable and there has been no corresponding decrease to QMC demand from Mid Notts Patients

The tables below provide the supporting analysis

ED Attendances

Area	2016/17	2017/18	2018/19
Greater Nottingham CCGs	163,060	162,277	165,899
Mid-Notts CCGs	4,069	3,917	4,018
Out of Area/Other CCG	28,652	28,928	29,684
Grand Total	195,781	195,122	199,601

Emergency Admissions

Area	2016/17	2017/18	2018/19
Greater Nottingham CCGs	60,270	63,376	68,117
Mid-Notts CCGs	2,923	2,984	3,194
Out of Area/Other CCG	11,391	11,643	12,269
Grand Total	74,584	78,003	83,580

6. NHS 111

NHS111 is the national non-emergency telephone medical helpline introduced in 2010.

NHS England publishes monthly statistics on NHS 111 services across England.⁶ National data show a clear year on year increase in the number of calls made to 111.

The chart below show the percentage increase in calls received and triaged with the NHS Pathway system in Nottinghamshire and in England overall.

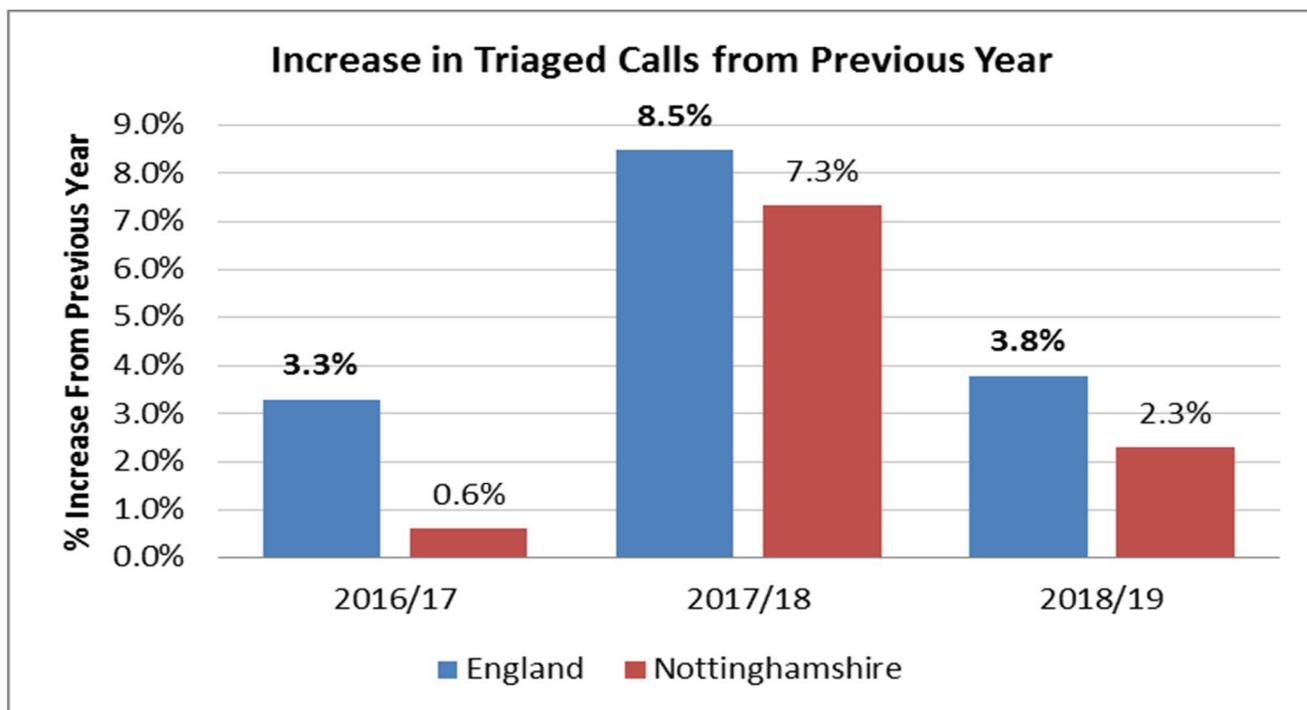


Figure 32

In 2017 and 2018, several national and regional campaigns to promote the NHS111 service were launched by Public Health England⁷, NHS England⁸ and local CCGs. These campaigns may explain, at least in part, the increase in calls seen in 2017/18 and 2018/19 from the previous 2 years (2015/16 – 2016/17).

⁶ NHS 111 Data: <https://www.england.nhs.uk/statistics/statistical-work-areas/nhs-111-minimum-data-set/>

⁷ Public Health England: <https://campaignresources.phe.gov.uk/resources/campaigns/56-nhs-111/overview>

⁸ NHS England: <https://www.cnwl.nhs.uk/news/nhs-england-launches-new-nhs-111-service-campaign/>

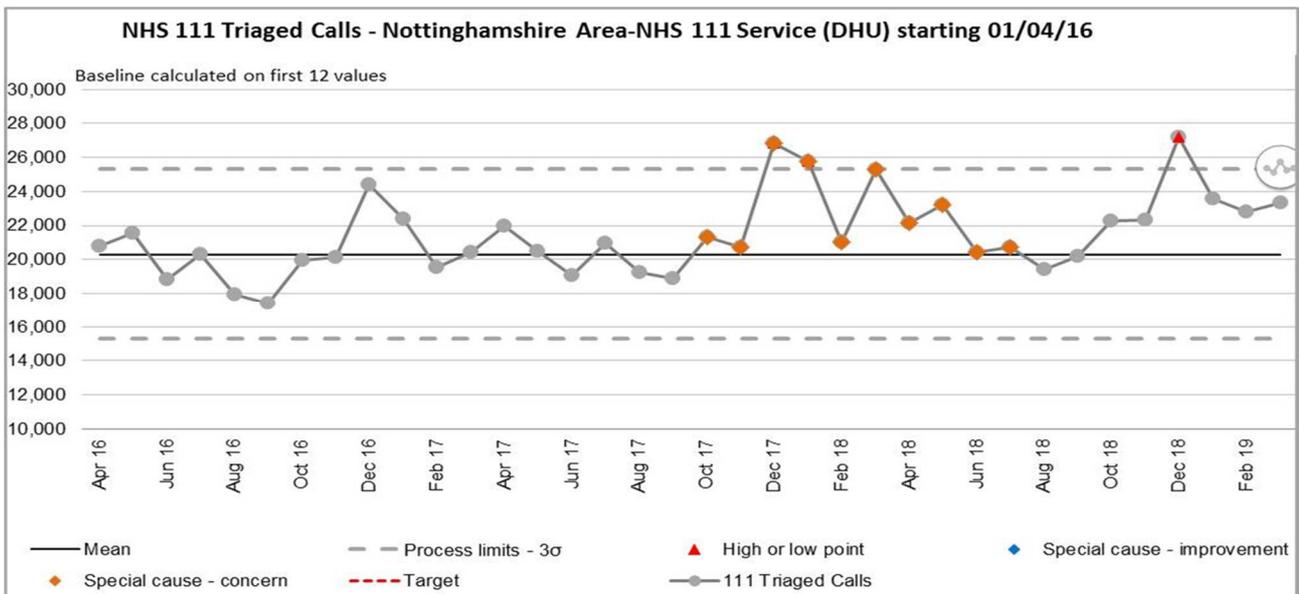


Figure 33

The increase in calls has also inevitably led to an increase in ambulance dispatches as well as patients been directed to ED.

Furthermore, the proportion of calls with a disposition of “ambulance dispatch” has also increased. The increase has occurred nationally and is particularly evident from July 2018, but it appears to be more accentuated in Nottinghamshire. The increase in ambulance dispositions is partly driven by a national change in the NHS Pathways system related to Sepsis. This has driven an increase in calls identified as Category 2 which cannot be clinically re-triaged (as it would for cat 3 and 4) so results in additional ambulance dispatches.

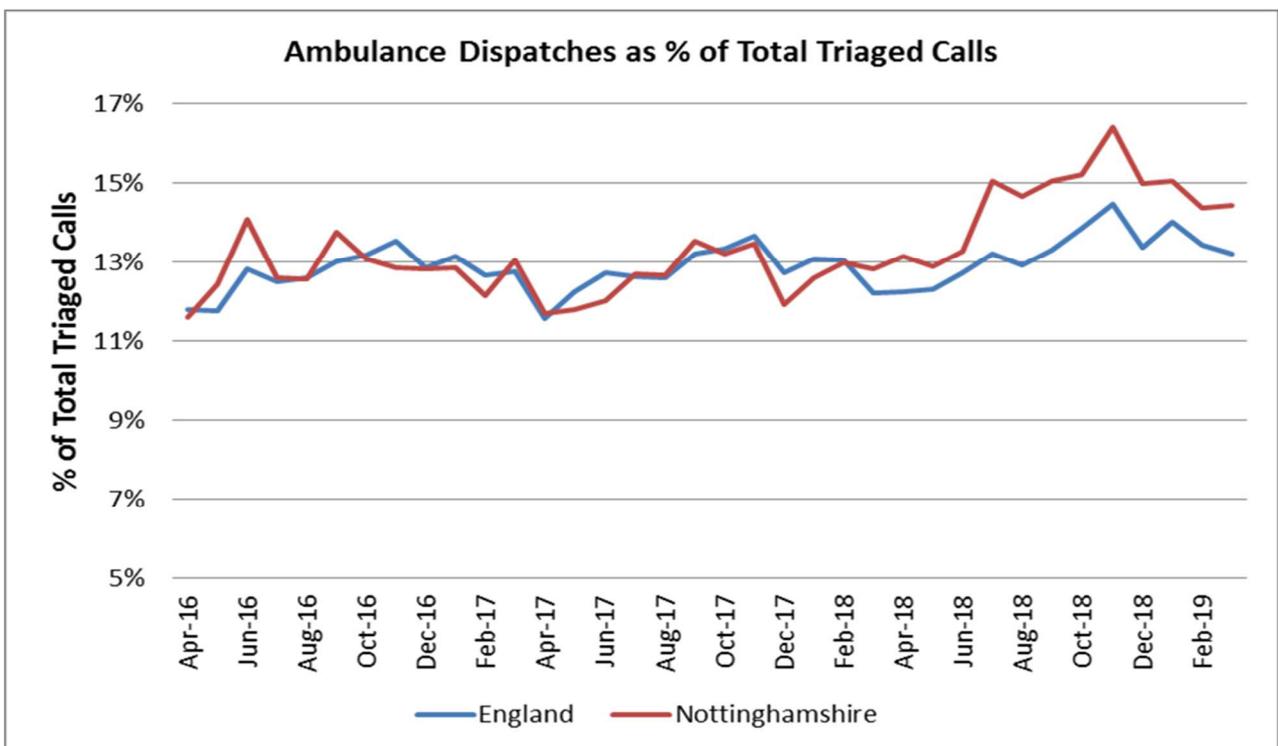


Figure 34

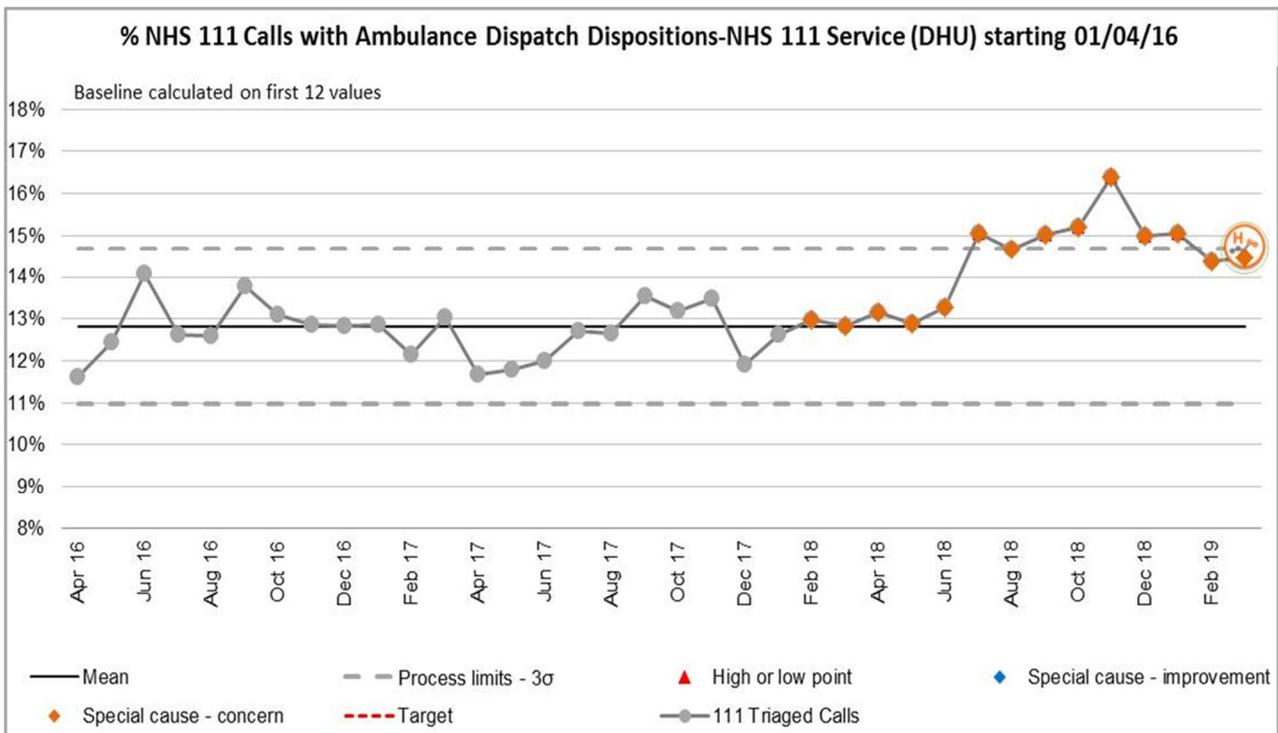


Figure 35

It should be noted, however, that not all calls with an “ambulance dispatch” or a “recommended to attend ED” disposition end up with an actual ambulance call-out or patients going to ED. Further triage may be done by the ambulance service (for Category 3 and 4 calls) or other local providers.

In Nottinghamshire, NEMS undertakes a clinical assessment of approximately 17% of 111 calls with a recommendation to attend ED. According to NEMS reports, approximately 78% of calls assessed by them are diverted away from ED.

DHU, the local provider of NHS 111 services, provides Nottinghamshire CCGs with a local anonymised dataset which provides basic information on triaged calls for patients registered with a Nottingham City or Nottinghamshire County GP Practices.

Using this data we are able to drill down to CCGs, Practices and patient demographics (age and gender).

The age and gender profile is similar to ED attendances. Calls are higher in the 0-4 group and then in 15 to 34 age groups, with females more likely to call the telephone service.

Clinical Panel Review – Commentary

Discussions with EMAS identified that there had been an increase in the triage time for 111 calls. Previously if a patient/caller had not received a clinical assessment/triage within 15 minutes there would be an automatic transfer to EMAS, this has now been increased to 30 minutes, so potentially would see a decrease in an ambulance disposition.

Contact for 111 provided and will require further exploration to understand what is creating the impact identified in the data, forms part of the next steps required

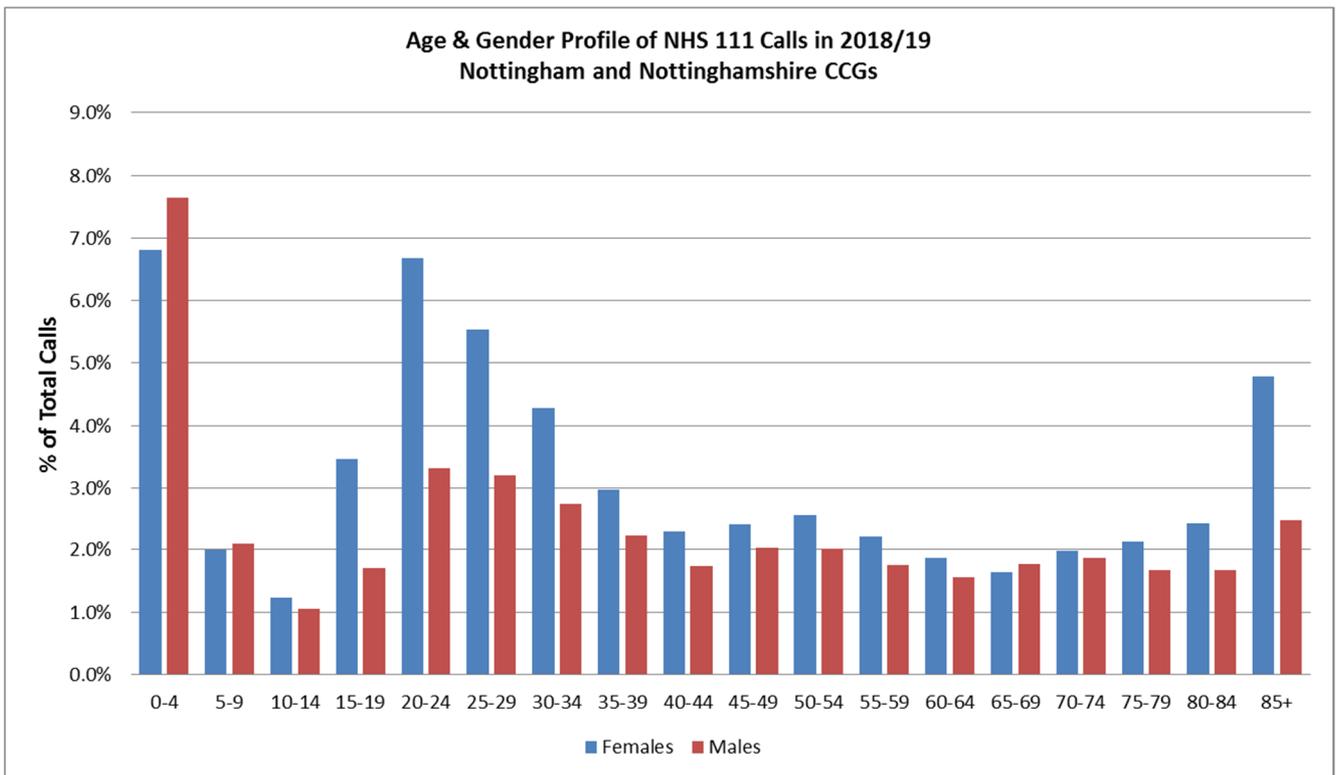


Figure 36

Compared to previous years, there has been very little change in the age profile, with slight increases in the age groups between 25 and 59, but most of these are not statistically significant.

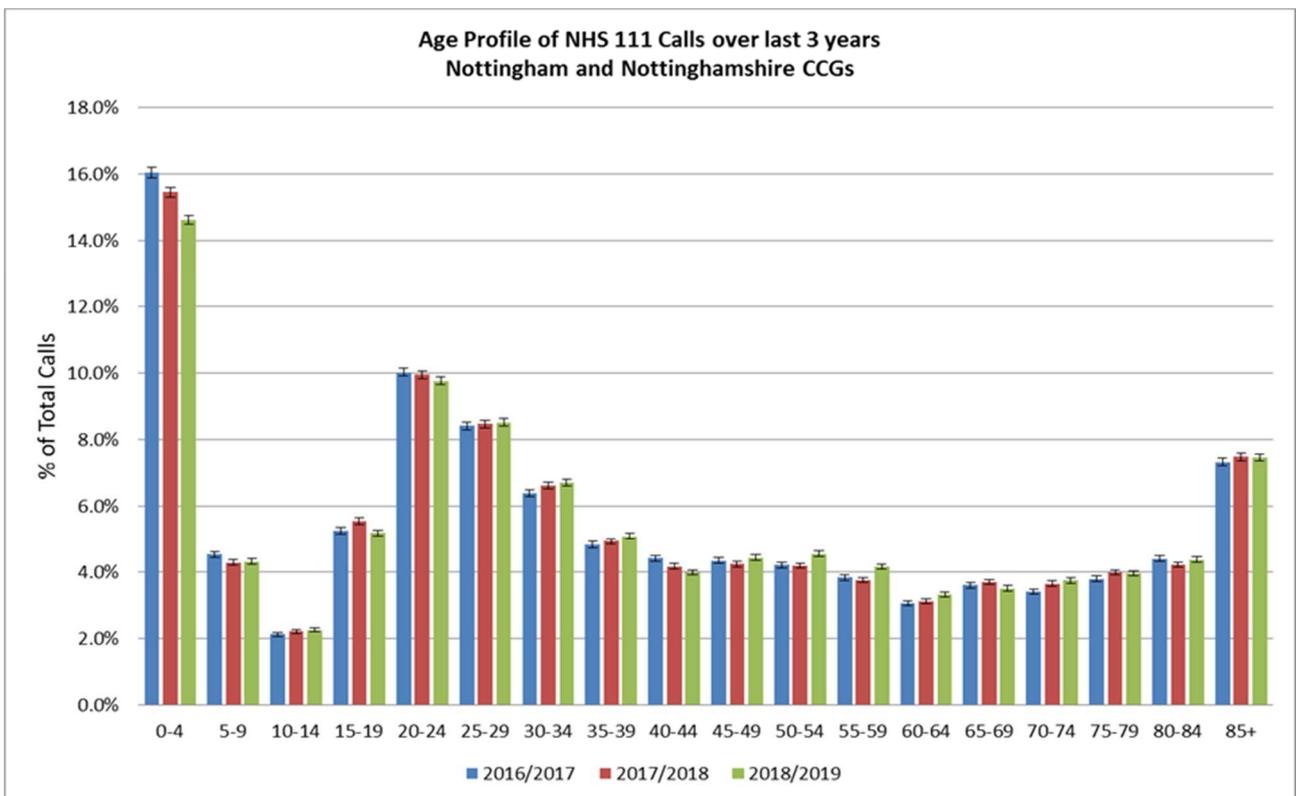


Figure 37

As for deprivation, data shows a moderate correlation between deprivation (IMD score) and the rate of 111 calls ($r=0.53$; $r^2=0.28$; $p<0.0001$). Age and gender standardised rates per 1,000 population

increase with deprivation. The scatter plot in figure 32 below shows variation between GP Practices and CCGs, which appears to be explained in part by deprivation.

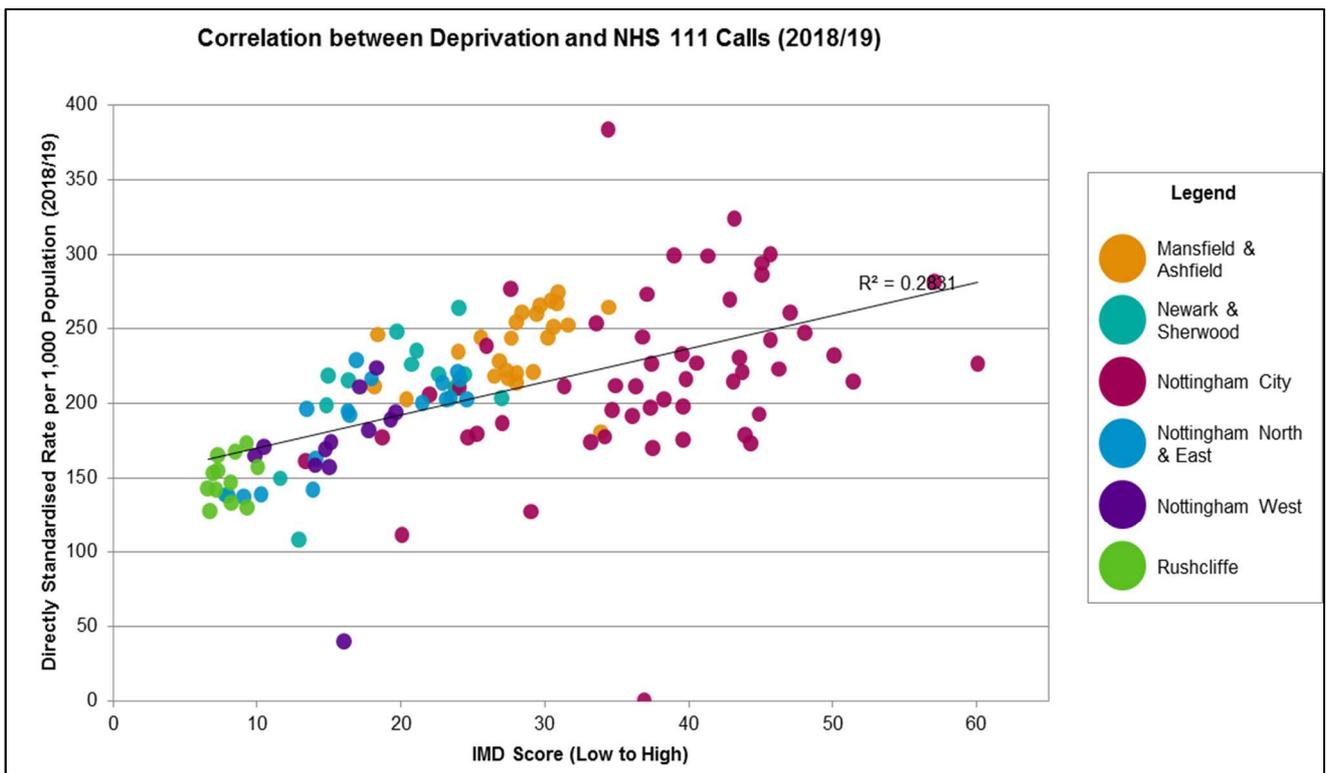


Figure 38

All Nottinghamshire CCGs have seen an increase in 2018/19 from 2017/18, although there are natural fluctuations between years which vary from CCG to CCG. No clear patterns can be seen across the CCGs.

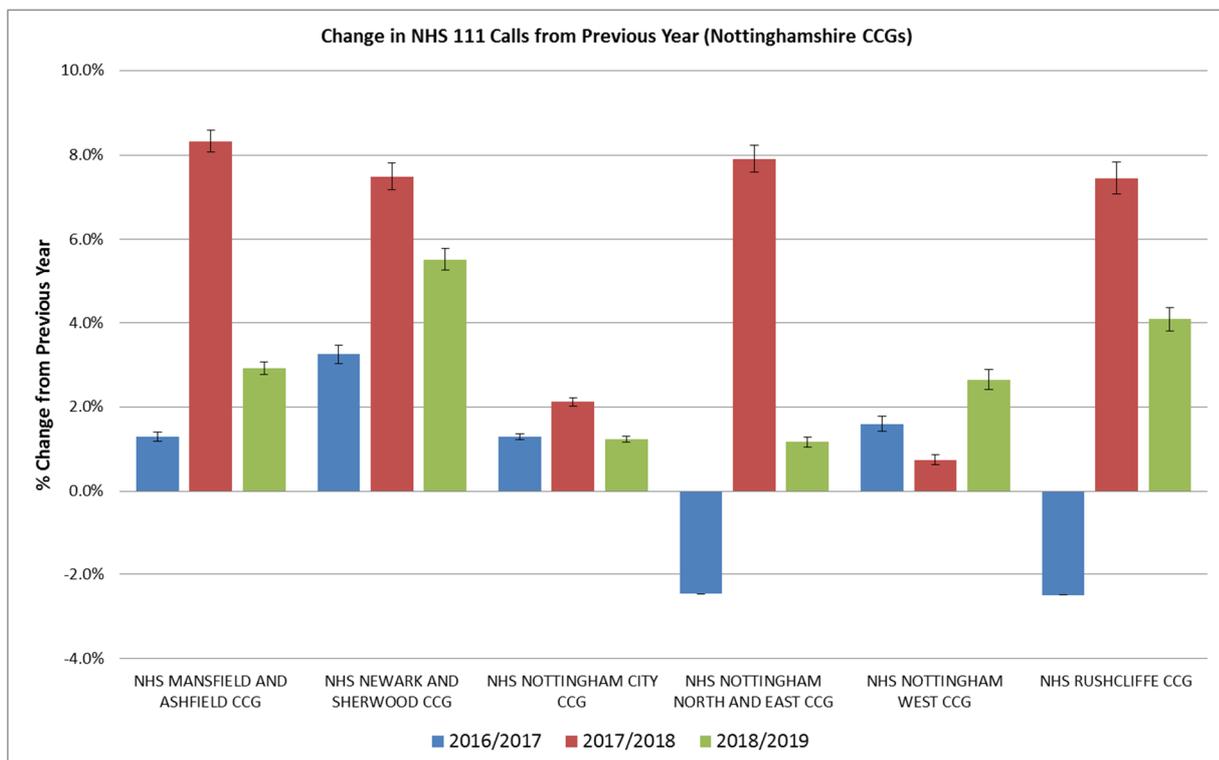
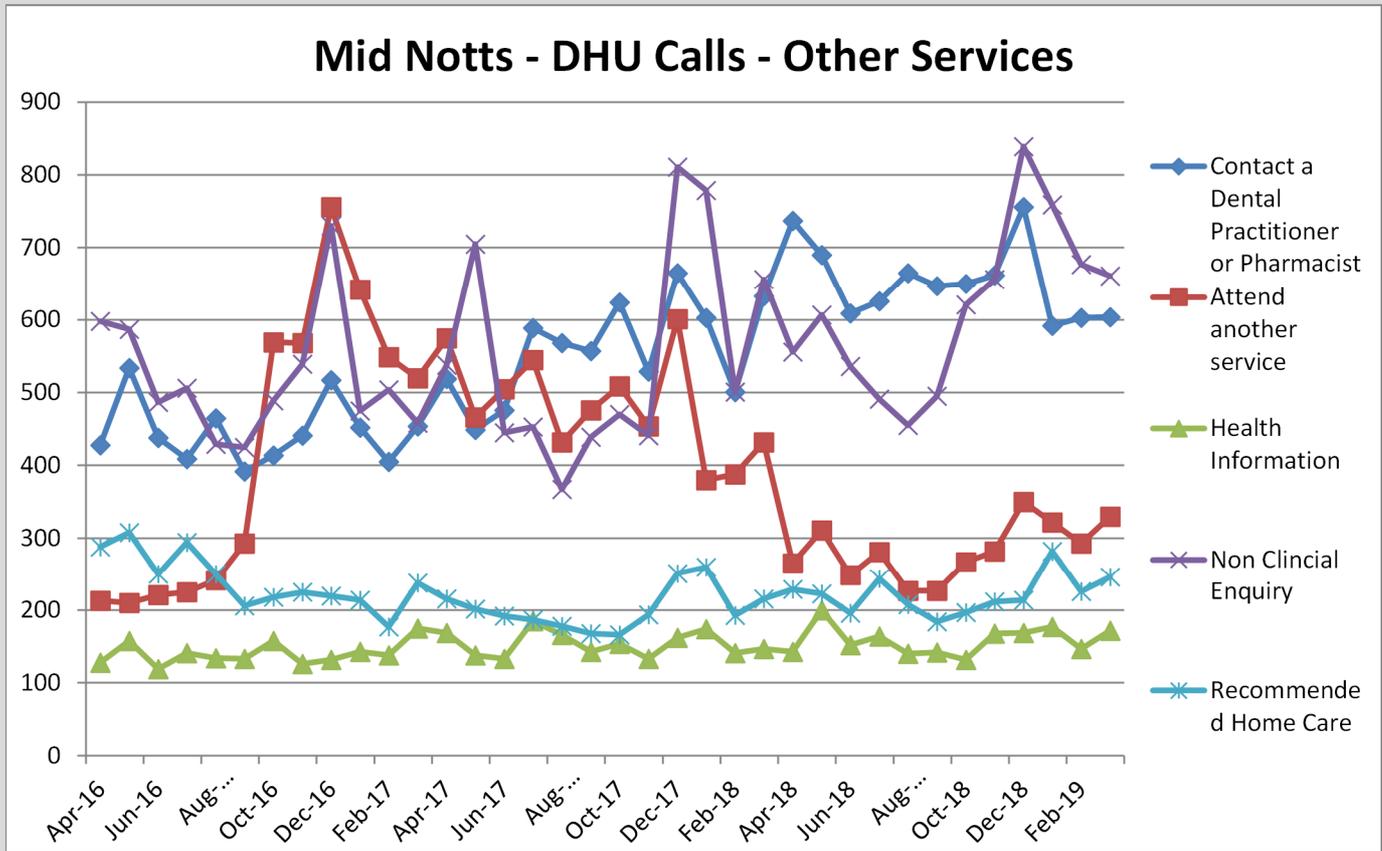
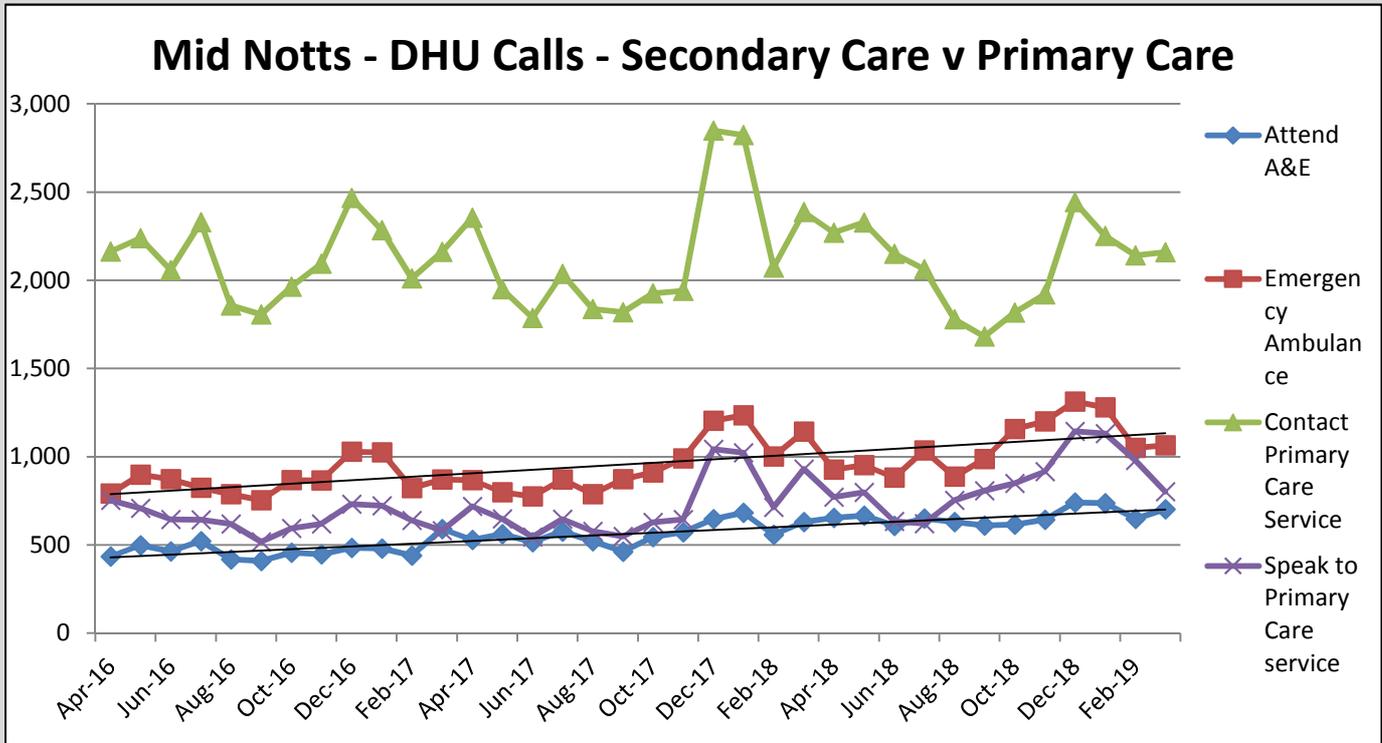


Figure 39

Clinical Review Panel – Commentary

Further work is required to explore the 111 data and will form part of the next steps. The following two graphs follow two lines of enquiry following the Clinical Panel. What is the split of 111 calls between primary and secondary care, and what other services are 111 calls directed to.



There are various definitions of emergency readmissions, but in this analysis we have used the definition and criteria set out by NHS England and NHS Improvement in their 2018/19 national Tariff Payment System Guidance. SUS data has been used for this analysis.

Emergency readmissions at SFH have gone up in 2018/19 with a special cause concern of seven data points above the median. This is however back in line with 16/17.

It was in 17/18 that we observed a period of special cause improvement but the main reasons for this are unclear at the moment.

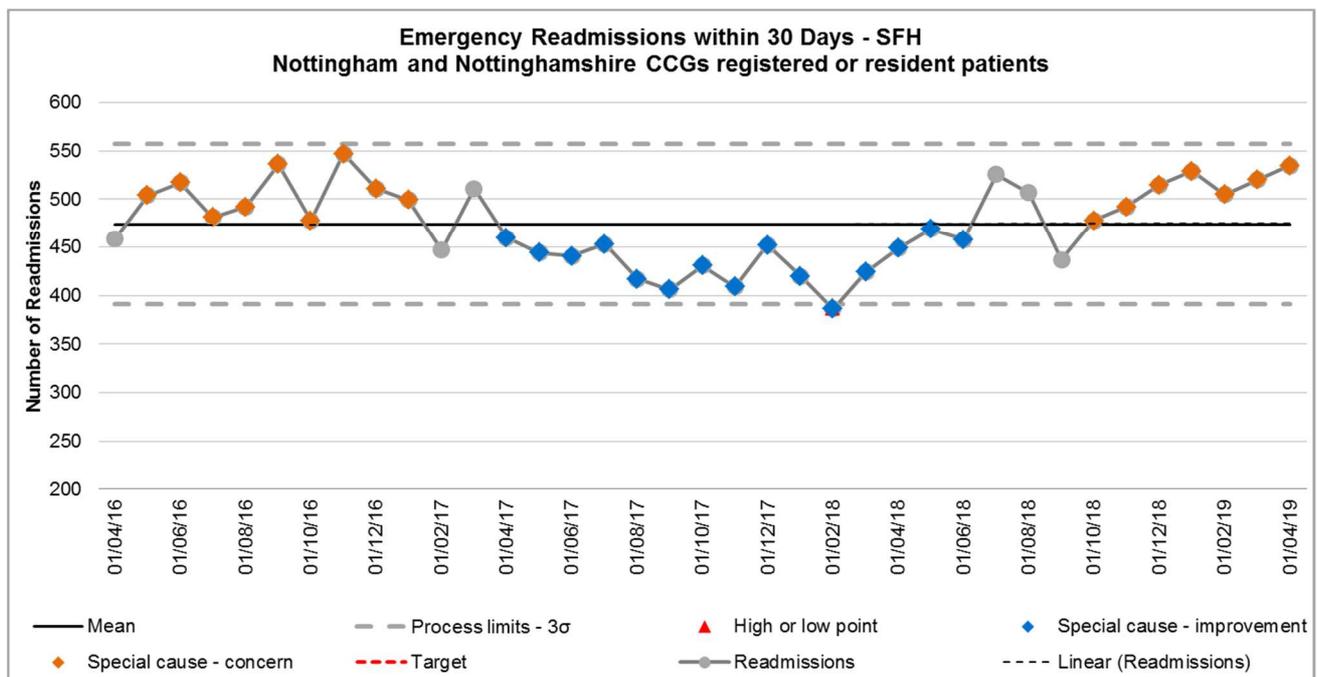


Figure 40

Just over half (57%) of the increase at SFH in 2018/19 has been observed in “same “day” admissions, with the reminder in admissions with a length of stay of at least 1 day.

8. CCG Demographic Change

As with the national population, the Mid Nottinghamshire population has been growing and also ageing. The overall registered population has increased by 1% year on year.

The age group 65-84 increased by 2.1% in 18-19 and the 85+ age group by 2.5%. This may partially explain some of the increase seen in ED attendances, emergency admissions and 111 or 999 calls.

Age Group	Apr-16	Apr-17	Apr-18	Apr-19
0-19	71,435	71,927	72,375	72,746
20-44	99,222	99,776	100,671	101,689
45-64	89,004	90,141	91,014	91,413
65-84	55,108	56,019	56,918	58,088
85+	7,533	7,662	7,804	7,999
Grand Total	322,302	325,525	328,782	331,935

% increase in population

Age Group	Apr-16	Apr-17	Apr-18	Apr-19
0-19	-	0.7%	0.6%	0.5%
20-44	-	0.6%	0.9%	1.0%
45-64	-	1.3%	1.0%	0.4%
65-84	-	1.7%	1.6%	2.1%
85+	-	1.7%	1.9%	2.5%
Grand Total	-	1.0%	1.0%	1.0%

Figure 41

10. Next Steps for Drivers of Demand Analysis (VS2)

The Drivers of Demand analysis when reviewed by the Clinical Panel has identified key pieces of information and data that is missing and a number of additional lines of enquiry.

The initial demand driver analysis did not have input from key system colleagues due to the time constraints, however since the first review by the Clinical Panel some further input and commentary has been included however there remains a need for more granular analysis to correlate and corroborate what the data and trends are identifying.

It is envisaged that through July more detailed work will be undertaken with NHCT, EMAS and DHU 111 to ensure the demand driver analysis covers all the key components across the system

The following pieces of work will be undertaken and will be coordinated by the Mid Nottinghamshire ICP team.

- Deep dive analysis of NHCT data and performance over three years, including analysis of anticipated changes for 2019/20
- Further work with EMAS to build on the commentary provided and to include more context behind the data and demand analysis. Including changing demand across the EMAS categories and complaint profiles
- Deep dive analysis with DHU 111 to understand changes to service impacting trends and growing demand for ambulance disposition
- Deep dive into changes in system interventions that were stemming demand increases during the Vanguard years
- Work with PCN leads and Primary Care colleagues to understand the GP perspective and impact on demand and demand mitigation initiatives
- Split between illness and injury across ED attendance by hour of day
- Analysis of attendance and admission by postcode
- Analysis of demand increase on Tuesday – demographic/streaming/referral
- Analysis of conditions, can they be linked back to changes in community provision, heart failure nurses for example