Respiratory Conditions

Analysis of presentations for respiratory conditions at health services at the time of and following the Grenfell fire

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Introduction and purpose of this report

This report focuses on the use of health services for respiratory conditions at the time of and following the Grenfell Tower Fire.

This focused report has been produced to supplement A Journey of Recovery: Data Annex (2018) to respond in detail to noted increases in Urgent Care Centre and Walk in Centre attendances for respiratory conditions from Notting Dale ward and the wider North Kensington Area between October 2017 and March 2018.

Scope

This document triangulates data from primary, community and secondary care settings to examine in detail trends in the use of health services (hereafter referred to as activity) for respiratory conditions at the time of and following the Grenfell Tower fire.

In particular, the analyses presented seek to explain the statistically significant elevation in Urgent Care Centre and Walk in Centre usage rates in the period October 2017 to March 2018.

Consistent with the approach taken in the main impact data analysis, analyses are performed for children (0 to 19 years) and adults (20 years and above) and, with the exception of primary care prescribing data[1] , compare activity trends from Notting Dale ward to the wider North Kensington Area wards and Queen's Park ward, Westminster (control geography). See Appendix 1 Tables 1.1 and 1.2 for further information on the definition of the comparator geographies.

Each analysis compares pre- and post-incident activity rates to the previous year's trend to control for existing trends and seasonality. Where the data are robust, 95% confidence intervals have been applied to rigorously test for statistically significant variation in activity rates.

For each setting, quality and robustness of the data from each setting are also examined.

Appendix Table 2.1 details the codes used to identify respiratory conditions activity in each care setting.

Review and commentary on the findings presented were sought from local Respiratory Clinicians. Their views are reflected in the conclusions of this report.

[1] Primary care prescribing activity is measured in units of medication prescribed and analysed as units per 1,000 population. This data is only available grouped by GP practice is compared between practices: located in Notting Dale ward, practices proximate to the Grenfell Tower and practices in the wider North Kensington Area

Results of data analysis

This section summarises the key findings from the analysis of data across settings of care.

The comparator geographies for each analysis are detailed in Appendix 1, all codes used to identify respiratory activity are detailed in Appendix 2 and all supporting charts are provided in Appendix 3, children's data and Appendix 4, adult's data.

Use of Primary Care Services (GP practices):

Identification of data

General Practice activity for respiratory conditions was obtained from Systm One, specifically read code chapter 'H' Respiratory. In addition, as local clinicians advised asthma is the most likely presentation of symptoms after a fire, sub analysis of activity for asthma activity was also conducted.

Results

Analysis of General Practice activity rates for respiratory conditions showed no evidence of an increase at the time of or in the months following the fire for adults or children from Notting Dale ward or the wider North Kensington Area.

Focusing on the October 2017 to March 2018 period, GP attendances for respiratory conditions from Notting Dale ward and the wider North Kensington Area were not shown to be elevated at a time when statistically significant increases in Urgent Care Centre attendances occurred.

Due to small numbers, analysis of asthma activity for children was not possible. Analysis of the rate of adults attending GP practices for asthma from Notting Dale ward does not show a peak in attendance rates at the time of or following the fire, or an elevation in rates between October 2017 and March 2018.

Data quality

Systm One data enables analysis of new activity by month for registered patients: changes to existing conditions or new presentations coded. This source is therefore useful for measuring changes to the incidence of respiratory conditions at the time of, and post- the Grenfell Tower fire.

Primary Care Prescribing:

Identification of data

Data on General Practice prescribing rates for respiratory conditions were obtained from Epact data. These data provide information on the number of items prescribed for respiratory conditions, in general and by specific product groups, e.g. bronchodilators.

In this analysis, the rate of items prescribed per 1,000 population was performed for all respiratory medications and the following medication groups recommended by NHS medicines management as most relevant to this analysis:

- Bronchodilators
- Corticosteroids for respiratory conditions
- Antihistamines

See Appendix 2 Table 2.1 for details of the medications included

Results

The analyses found no evidence of an increase in the prescribing of respiratory medicines at the time of or following the fire for children, but a non-statistically significant increase in June 2017 was noted for adults registered at Notting Dale ward located, not replicated in the comparator geographies.

Focusing on the October to December 2017 period, rates of prescribing of respiratory medications were not found to be statistically elevated from the Notting Dale ward located practices or the nine wider North Kensington Area practices located closest to the Grenfell Tower at a time when statistically significant increases in Urgent Care Centre/Walk in Centre attendances occurred.

Data quality

Prescribing data is a useful proxy measure of activity for respiratory conditions, however the following caveats should be noted.

Prescribing data is not specific to individuals but measures the number of prescriptions from a particular GP practice. Because of this, it is not possible to identify if a rise in prescribing volumes is many individuals now seeking a

particular medication or an increase in the medication requirement of a single individual.

In addition, GP practice catchments span ward boundaries, e.g. residents of several North Kensington wards could be registered at a Notting Dale ward located practice. Because of this artefact, prescribing rates to residents of Notting Dale due to the fire could be diluted within practice level averages and therefore missed or underestimated. By clustering practices by ward and proximity to Grenfell Tower, it is hoped the impact of this caveat is reduced.

Urgent Care and Walk in Centres:

Identification of data

Urgent Care Centre (UCC) and Walk in Centre (WiC) data is provided from the NHS Secondary Users Service. These data flow into the Accident and Emergency data and are distinguished by depart type coding. The data relate to attendances and are can be analysed by GP practice or ward of residence. For this analysis, attendances have been grouped by ward.

Statistical significance testing of changes to this activity has not been performed due to the low confidence in the coding of diagnoses at these settings.

Codes used to identify attendances for respiratory conditions are detailed in Appendix 2 Table 2.1.

Results

The number of monthly attendances to UCC/WiC for children from Notting Dale ward with respiratory conditions was too small to support robust analysis. Analysis of UCC/WiC data for adults indicates a peak in attendance rates for respiratory conditions in June 2017 from Notting Dale ward. This finding is not replicated in the comparator geographies (wider North Kensington Area and Queen's Park ward) and therefore may be suggestive of demand related to the Grenfell Tower fire.

Later in the year there is observed elevation in attendance rates from Notting Dale ward for adults from October 2017 to March 2018. As this finding is made

across all comparator geographies, the later 2017 elevations in activity for respiratory conditions are considered most likely to reflect seasonal demand rather than the late presentation of Grenfell related symptoms.

Data quality

The coding of diagnosis for UCC/WiC attendances is poor. Overall only 19% of activity receives a diagnosis code, and of attendances 4% records are coded as respiratory conditions.

Due to the paucity of diagnosis coding for this setting of care it is not possible to robustly measure changes in respiratory conditions activity. As a result, in this analysis, findings are reported as increases and decreases in activity but the statistical significance of these variations have not been tested. Findings from these settings are therefore considered indicative but not definitive.

A&E departments:

Identification of data

Accident and Emergency (A&E) department data is provided from the NHS Secondary Users Service. The data relate to attendances and can be analysed by GP practice or ward of residence. For this analysis, attendances have been grouped by ward.

Statistical significance testing of changes to this activity has not been performed due to the low confidence in the coding of diagnoses at these settings

Codes used to identify attendances for respiratory conditions are detailed in Appendix 2 Table 2.1

Results

The number of monthly attendances to A&E for children from Notting Dale ward with respiratory conditions was too small to support robust analysis. Analysis of A&E data for adults indicates a peak in attendance rates for respiratory conditions in June 2017 from Notting Dale ward and the wider North Kensington Area. The peak for adults in June 2017 from Notting Dale ward and the wider North Kensington Area is not consistent with rates in June 2016

in either area and are not replicated in Queen's Park ward. These findings are therefore suggestive of increased demand for A&E services for respiratory condition related to the Grenfell Tower fire.

Later in the year there is observed elevation of attendance rates from Notting Dale ward for children and adults from October 2017 to March 2018. This trend is replicated across all comparator geographies for both age groups, therefore the later 2017 elevations in activity for respiratory conditions are considered most likely to reflect seasonal demand rather than the late presentation of Grenfell related symptoms.

Data quality

As for UCC/WiC data, there is a paucity of diagnosis coding in A&E data. This means that it is not possible to robustly measure changes in respiratory condition activity for this setting. As a result in this analysis, the findings are reported as increases and decreases in activity, but the statistical significance of these variations have not been applied. Findings from these settings are therefore considered indicative but not definitive.

Emergency admissions:

Identification of data

Emergency admissions data is provided by the NHS Secondary Users Service. Emergency admissions are packaged into spells of activity per patient. Emergency admissions can be analysed by GP practice or ward of residence. For this analysis, attendances have been grouped by ward.

Codes used to identify attendances for respiratory conditions are detailed in Appendix 2 Table 2.1.

Results

Monthly numbers of children admitted to hospital for emergency respiratory care were too small to permit robust analysis of impact. For adults numbers were sufficient, however analyses showed no elevation in emergency respiratory admissions from Notting Dale ward or the comparator geographies at the time of or following the Grenfell Tower fire.

The analysis of adult emergency admissions also showed no elevation for period October 2017 to March 2018 from Notting Dale ward or the comparator geographies. This finding suggests there was no late Grenfell Tower fire or seasonal impact on emergency respiratory admissions.

Data quality

Emergency admissions data is very well coded and contains considerable detail on the reason for admission. However, the findings for emergency hospital admissions should be treated with caution as respiratory symptoms are not commonly included as a primary diagnosis or first secondary diagnosis for admission. Due to this caveat the number of emergency admissions for respiratory conditions is likely to be underestimated from the data and robustness of these findings likely to be reduced.

Outpatient appointments:

Identification of data

Outpatient first and follow-up attendance rates are provided by the NHS Secondary Users service. These data assign patients to Treatment Functions that describe the general category of care, e.g. Respiratory Medicine, but do not include details of the diagnosis of the patient. Outpatient attendances can be analysed by GP practice or ward of residence. For this analysis, attendances have been grouped by ward.

See Appendix 2. Table 2.1 for the Treatment Function codes used in this analysis

Results

Monthly numbers of children attending Respiratory Medicine outpatient clinics (first and follow-up appointments) were too small to permit robust analysis of impact. Analysis of adult Respiratory Medicine outpatient attendances showed no elevation in attendance rates (first and follow-up appointments) at the time of or following the Grenfell Tower fire. However, analysis of adult attendance rates does show an elevation in outpatient attendance rate between October 2017 and March 2018 for first, but not follow-up appointments. This finding is

not statistically significant, but may be suggestive of follow-up appointments for those affected at the time of the fire.

Data quality

Due to the absence of diagnosis coding in this dataset it is not possible to distinguish activity that may be related to the Grenfell Tower fire from general respiratory condition monitoring. As a result any increased activity from Notting Dale ward or the immediate area may be underestimated, as relevant activity shifts may be hidden by opposing movements in attendances for other, non-Grenfell related diagnoses.

Clinical view

The findings of this data analysis were presented to clinical experts on 22 May 2018. The following key points were made:

- The clinicians felt the A&E and emergency admissions data underestimated the activity arriving at Imperial on 14 June 2017
- The elevated UCC/WiC activity for children and adults between October 2017 and March 2018 was most likely due to the exceptional cold and flu season especially if the attendances were for ‘non-asthma’ conditions.

Conclusion

The analyses conducted for this report have indicated some increases in activity for the treatment of respiratory conditions at the time of or following the Grenfell Tower fire:

- Peak in prescribing of all respiratory medications to adults June 2017 from practices in Notting Dale, but not statistically different to previous years
- Increase in rates of adult UCC/WiC attendances from Notting Dale ward in June 2017 not seen in the comparator geographies
- Increase in rates of adult A&E attendances from Notting Dale in June 2017 also seen in wider North Kensington Area

However the limitations of each data source should be considered and the likelihood of underestimation of an effect, particularly in hospital activity is likely.

This report concludes that the significant increase in attendance rates to Urgent Care Centres (UCC) and Walk in Centres (WiC) between October 2017 and March 2018 are not related to the Grenfell Tower fire. This conclusion is based on four pieces of evidence:

- The increase was recorded in all geographies compared, including the control geography Queen's Park ward Westminster
- With the exception of A&E activity and first Outpatient appointments for adults, the elevation in activity at the UCC/WiC is not replicated in any other care setting
- In the UCC/WiC and A&E data the majority of activity (92%) was coded to diagnosis subcode "non-asthma", suggesting these attendances were not made for other causes than irritation of the airway
- Local clinicians consider that the exceptional cold and flu season in 2017/18 was the most likely explanation for increased activity at UCC/WiC and A&E departments between October 2017 and March 2018.

Appendix 1 Comparator geographies used in analyses

This appendix details the definition of comparator populations used in this analysis. Table 1.1 maps comparators to groups of analyses undertaken by domain and sub-domain, Table A1.2 details the GP practices used to proxy ward populations.

Table A1.1 Comparators used in analyses by setting

Sub-domain(s)	Comparator populations
GP practices **Urgent Care and Walk In Centre attendances** **A&E attendances** **Emergency hospital admissions** **Outpatient hospital attendances**	Residents of: • Notting Dale ward • Wider North Kensington Area wards (Colville, Dalgarno, Golbourne, St.Helen's) • Queen's Park, Westminster
Primary care prescribing	People registered with GP practices located • in Notting Dale ward • in close proximity to Grenfell • in the Wider North Kensington Area • in Queen's Park, Westminster (See table A1.2 for details)

Table A1.2 GP practice populations used to approximate ward populations

Grouping	Code	Practice Name	Code	Practice Name
North Kensington Practices - Proximate	E87003	North Kensington MC	E87733	The Exmoor Surgery
	E87024	The Golbourne MC	Y00200	The Portobello MC
	E87742	The Golbourne MC	Y00507	St.Quintin Health Centre
	E87065	The Notting Hill MC	Y01011	Barlby Surgery
	E87067	Colville Health Centre		
Notting Dale - Practices	E87050	The Beacon Practice		
	E87706	The Foreland MC		
Queen's Park practices - Comparator	E87021	Dr Garfield and Partners	E87755	Queens Park HC
	E87735	Queens Park HC	E87057	Queens Park HC
	E87751	Harrow Road		
Wider North Kensington Area Practices	E87026	Meanwhile Garden MC		
	E87007	Westbourne Grove MC		
	E87061	The Pembridge Villas Surgery		

MC – Medical Centre

Appendix 2 Diagnosis codes used to identify activity by care setting

This appendix details the data codes used to identify relevant respiratory conditions by physical care setting

Table A2.1 Relevant A&E diagnoses coded

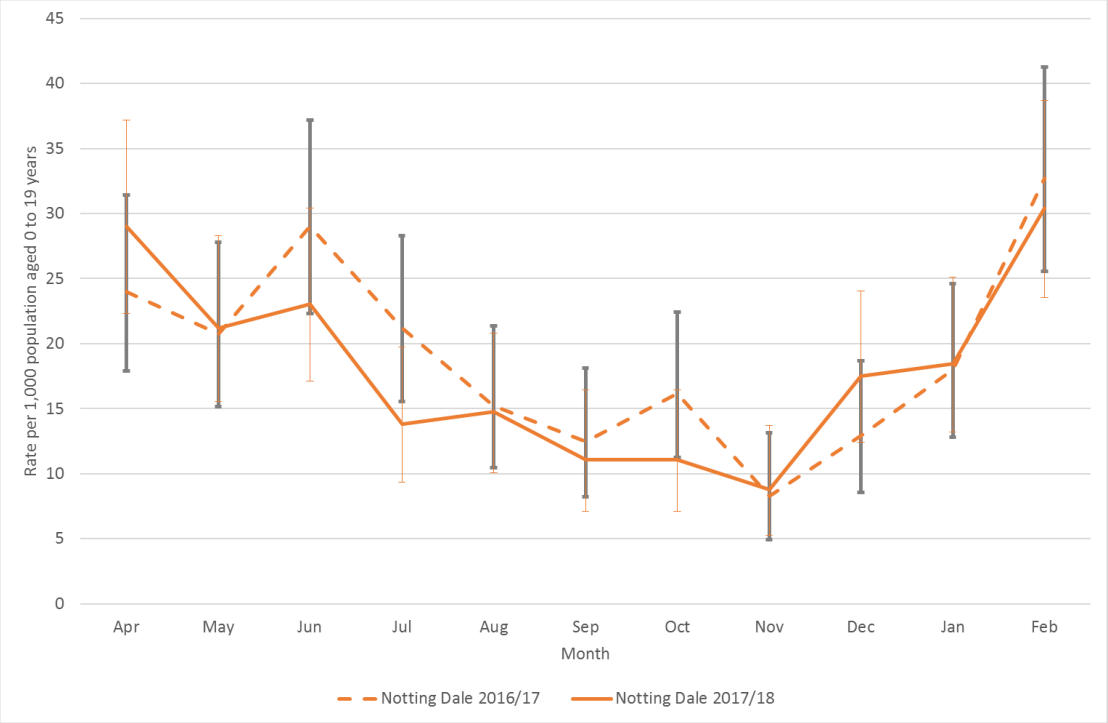
Setting	Field and Description	Code(s)
GP practices	GP read Codes V2	Chapter H
Primary care prescribing	British National Formulary (BNF) Sections: All respiratory Bronchodilators Corticosteroids for respiratory conditions Antihistamines	(0301 -0304, 0307-0310) 0301 0302 0304
Accident and Emergency departments, Urgent Care Centres and Walk in Centres	Diagnosis code 1 - Respiratory symptoms	25
Emergency hospital admissions	Primary Spell diagnoses - International Classification of Disease 10th Edition codes (ICD 10 codes):	J06, J20 – J22, J43 – J47, J63, J67, J68, J70, J98, J99
Outpatient appointments	Treatment Function Code – Respiratory Medicine	258, 340, 341

Appendix 3

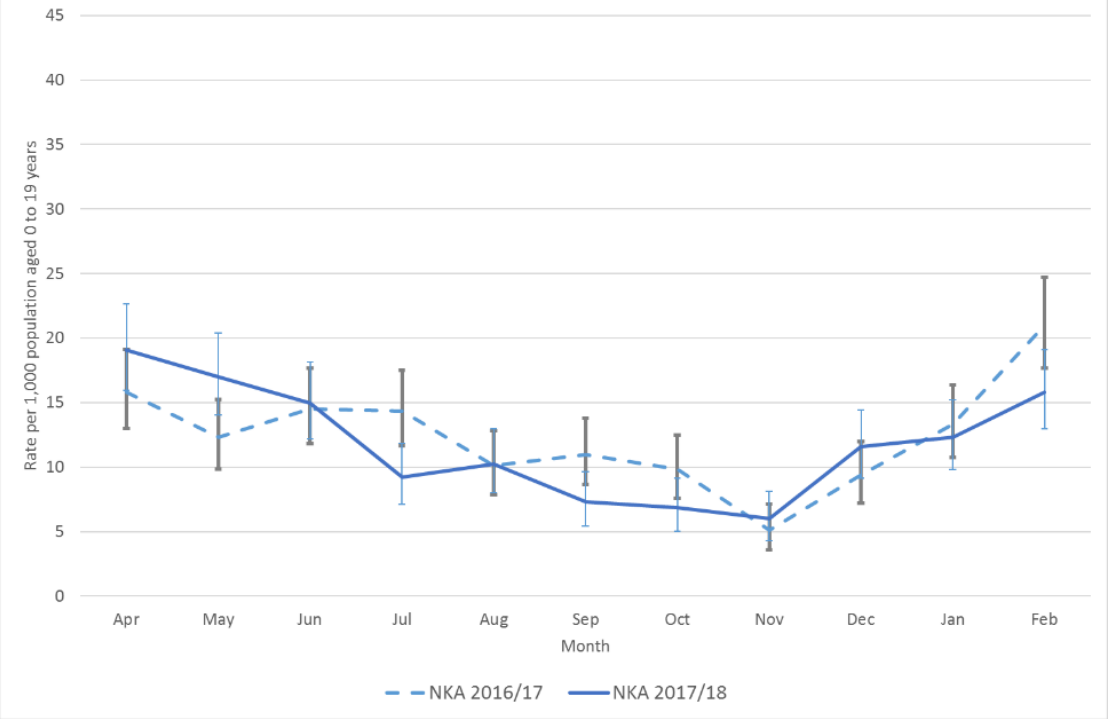
Results of analyses of activity rates by setting children aged 0 to 19 years

GP activity – Respiratory conditions

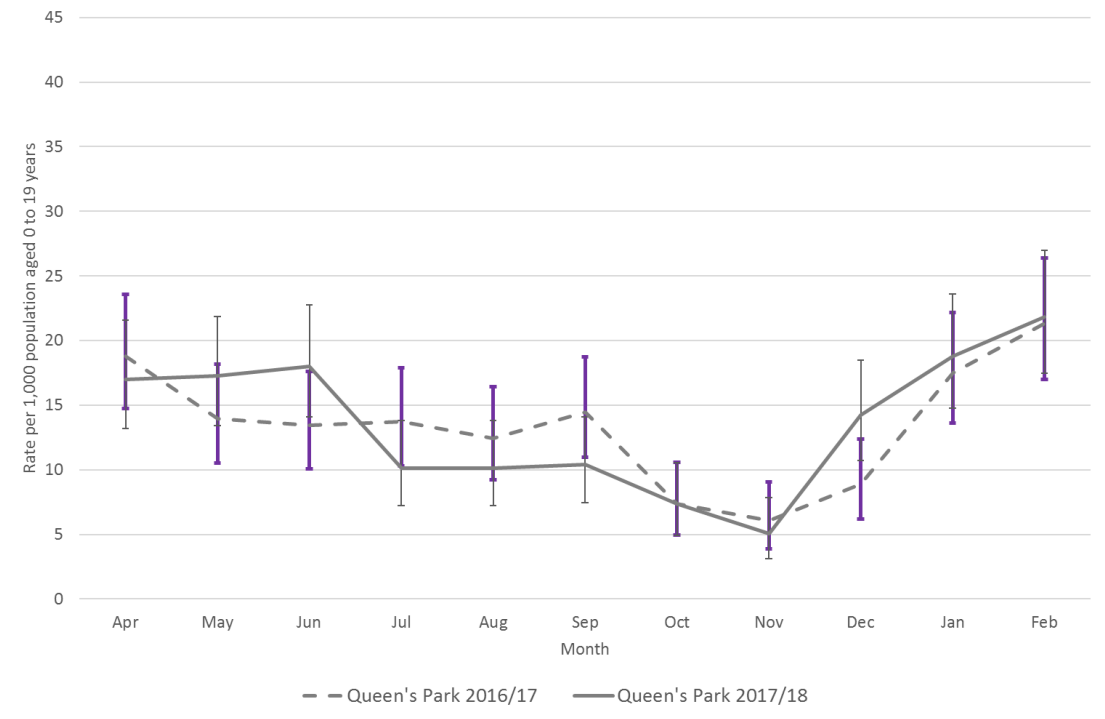
Notting Dale



North Kensington Area (Excl. Notting Dale)

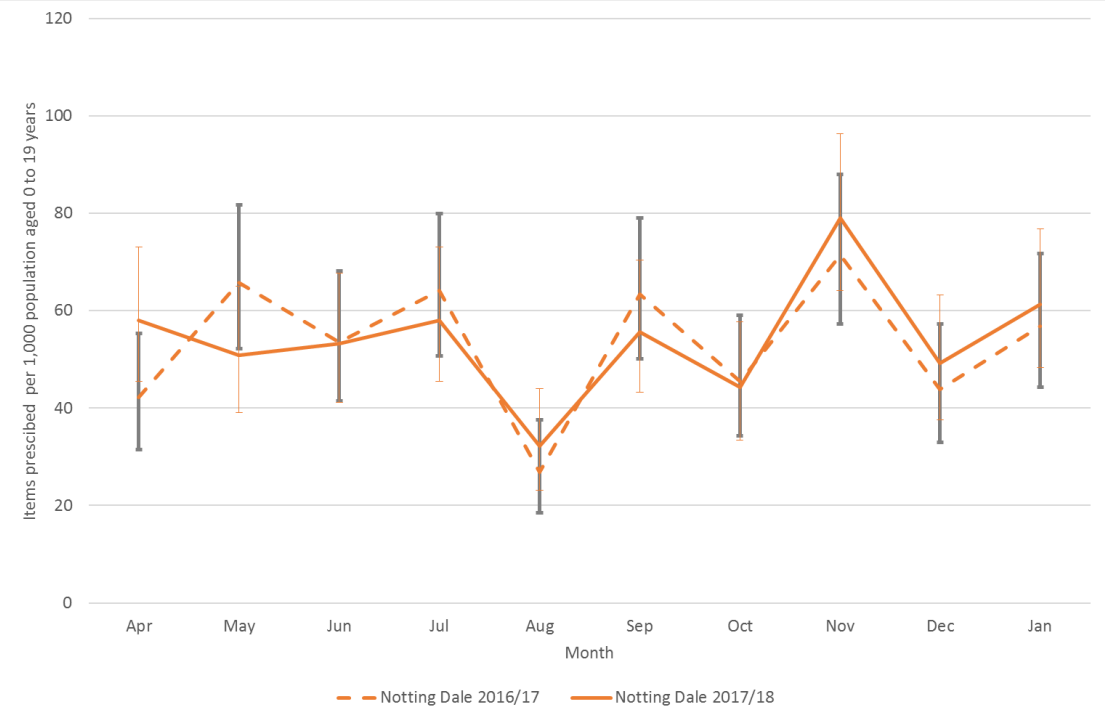


Queen's park – Comparator

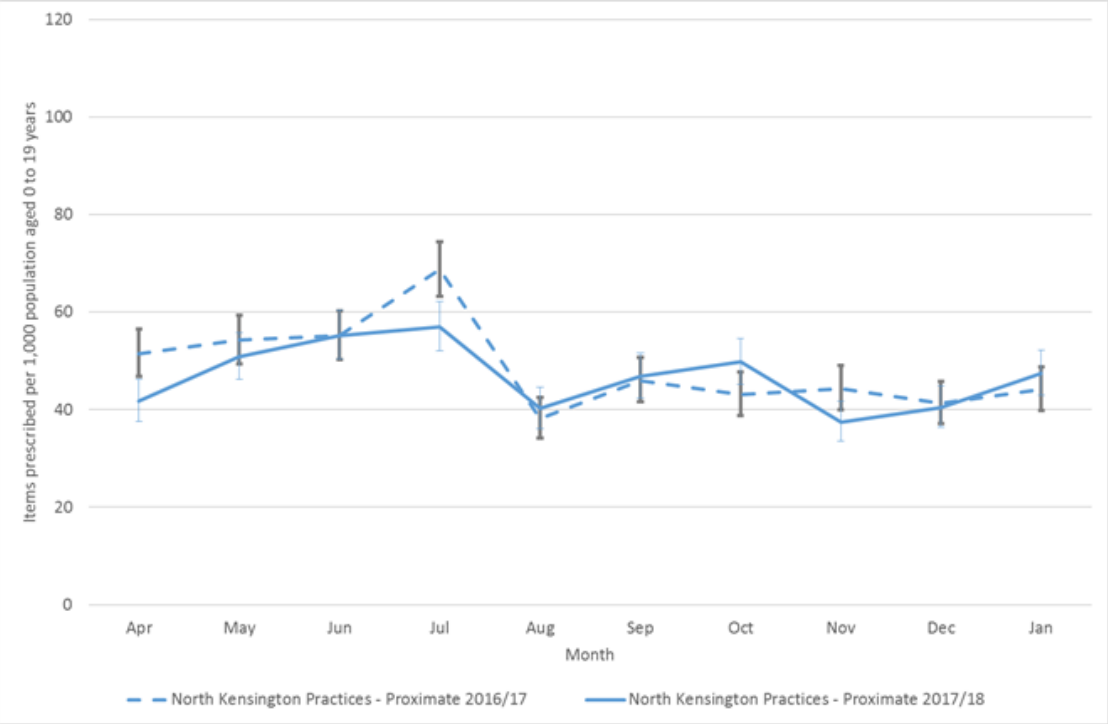


Primary Care prescribing activity – Respiratory conditions (All)

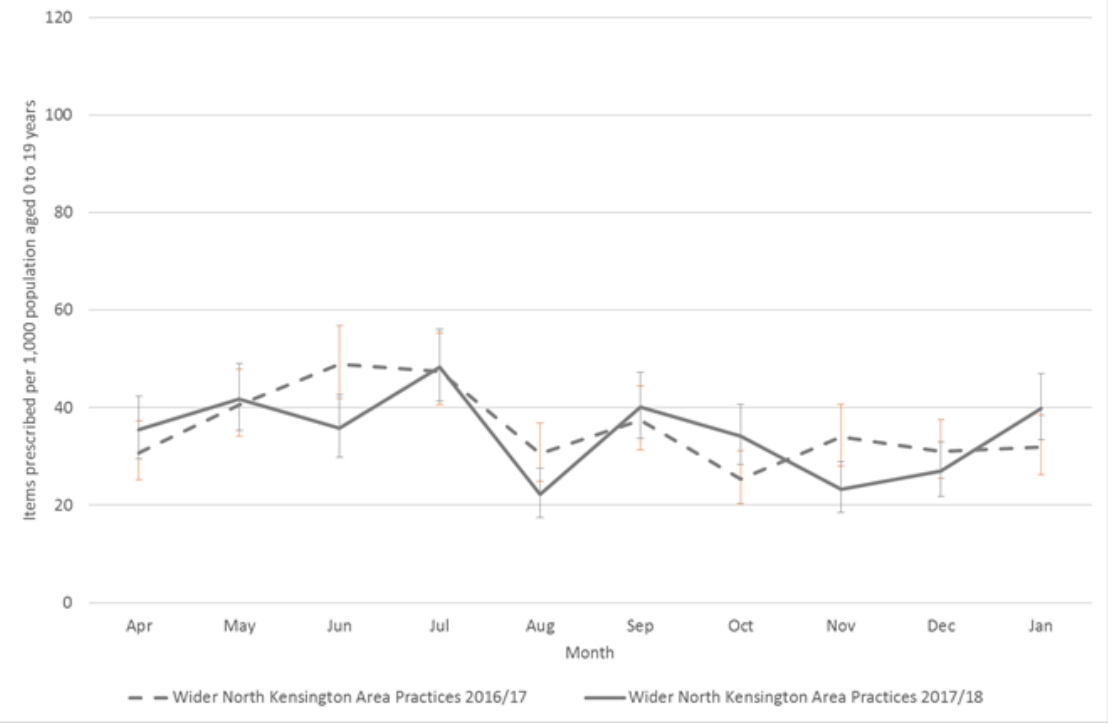
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

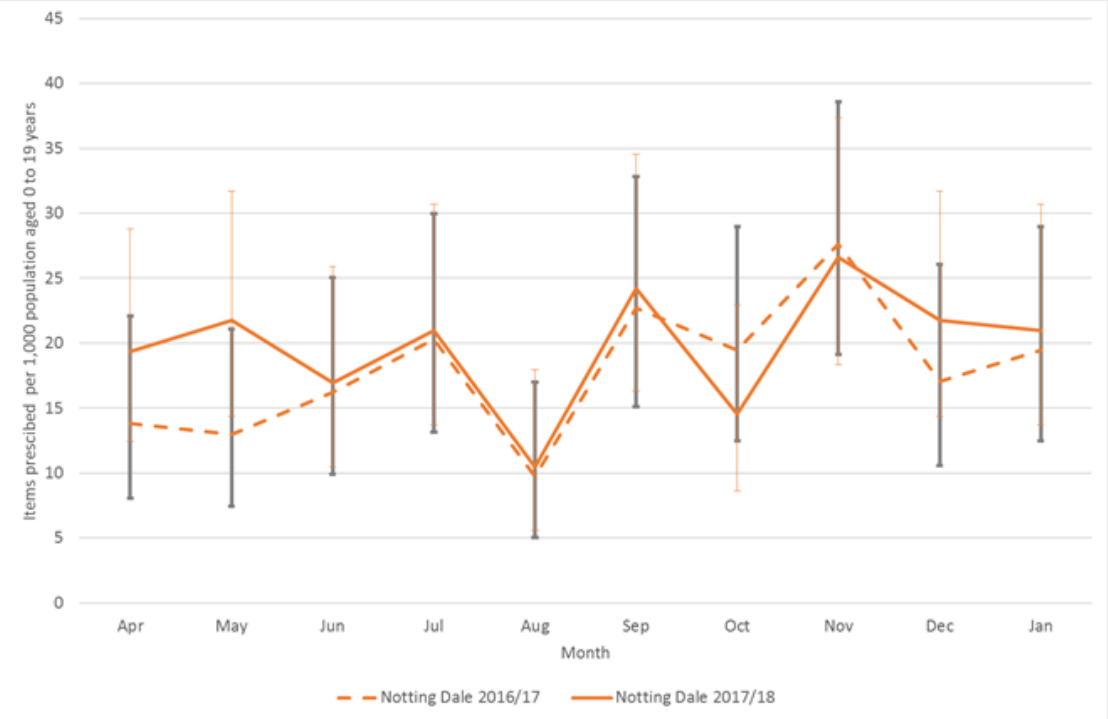


Wider North Kensington Area – Practices located furthest away from Grenfell

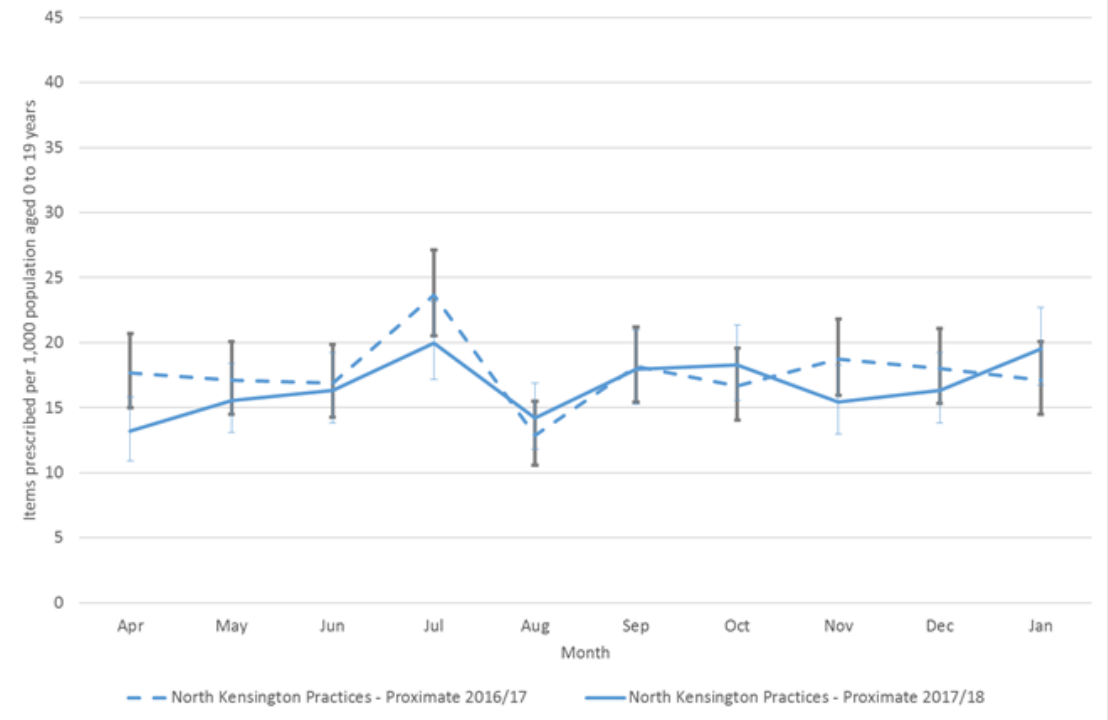


Primary Care prescribing activity – Bronchodilators

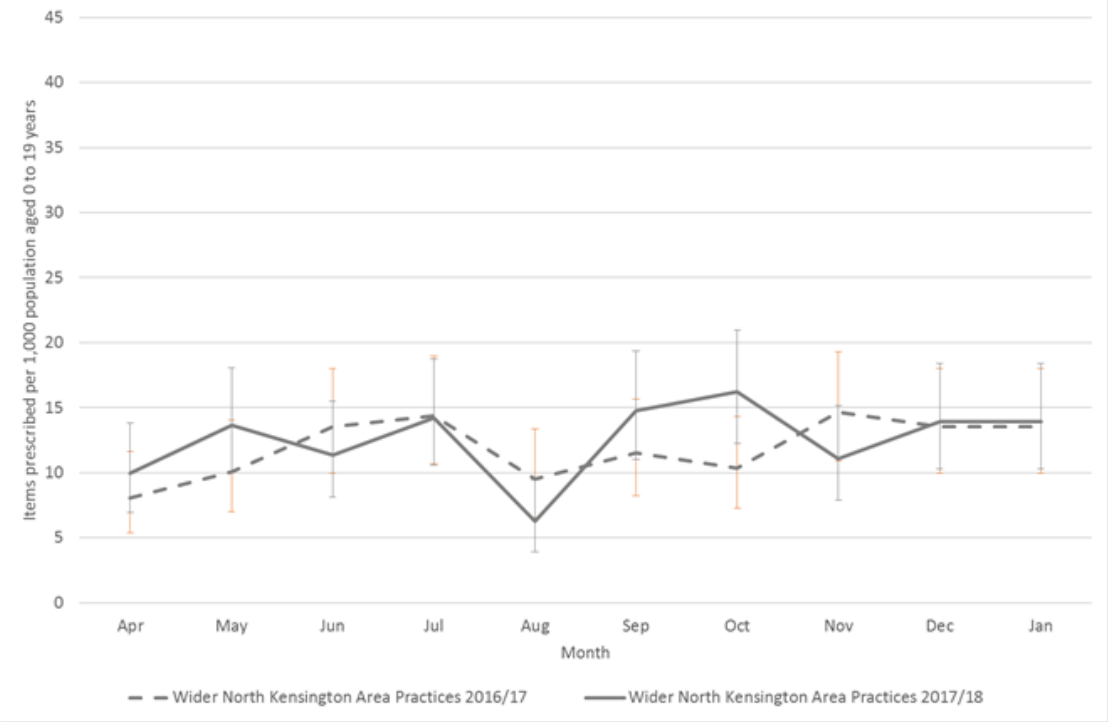
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

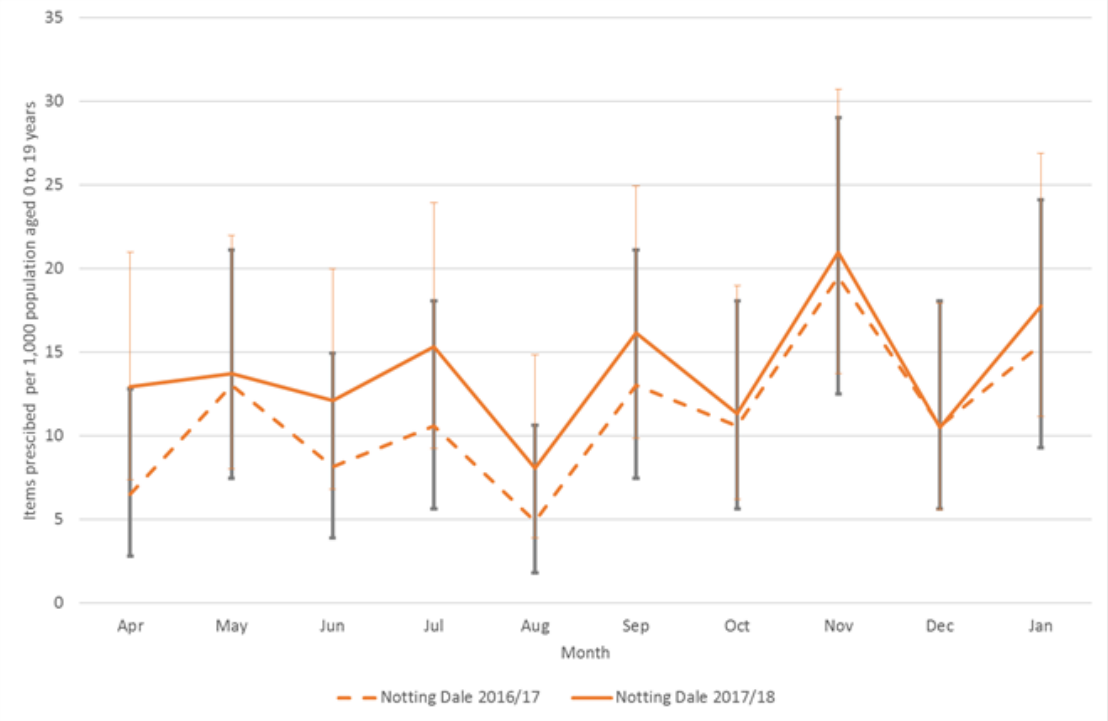


Wider North Kensington Area – Practices located furthest away from Grenfell

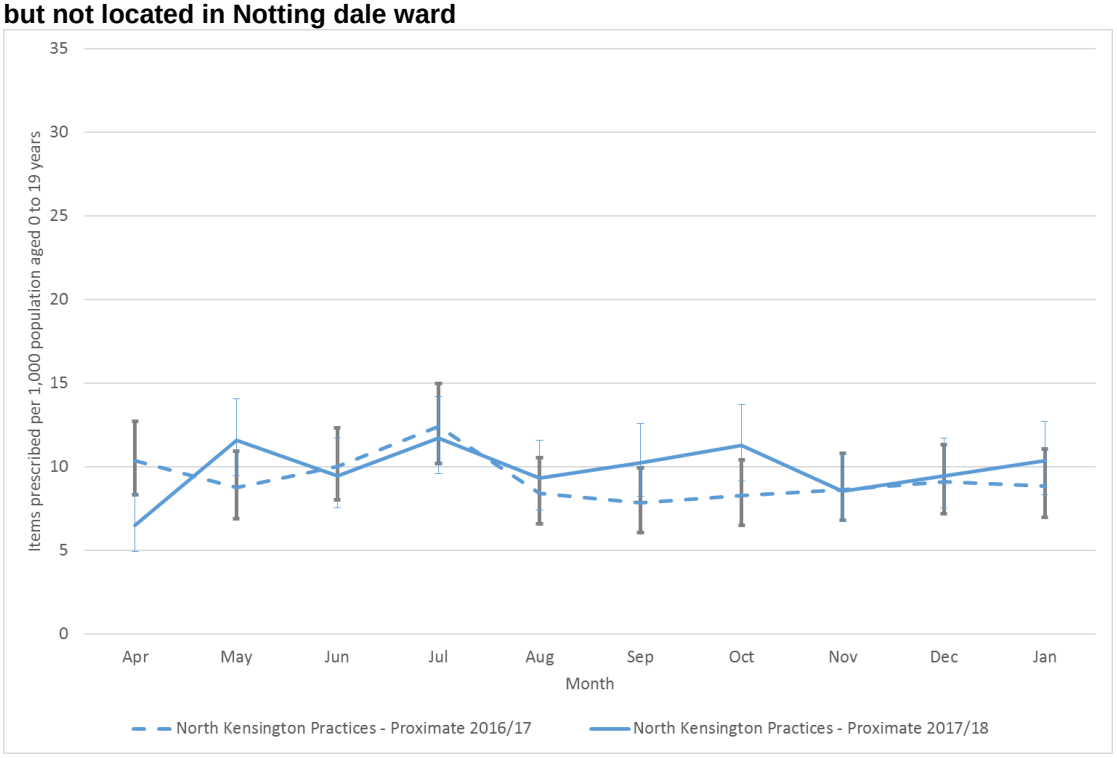


Primary Care prescribing activity – Corticosteroids – Respiratory

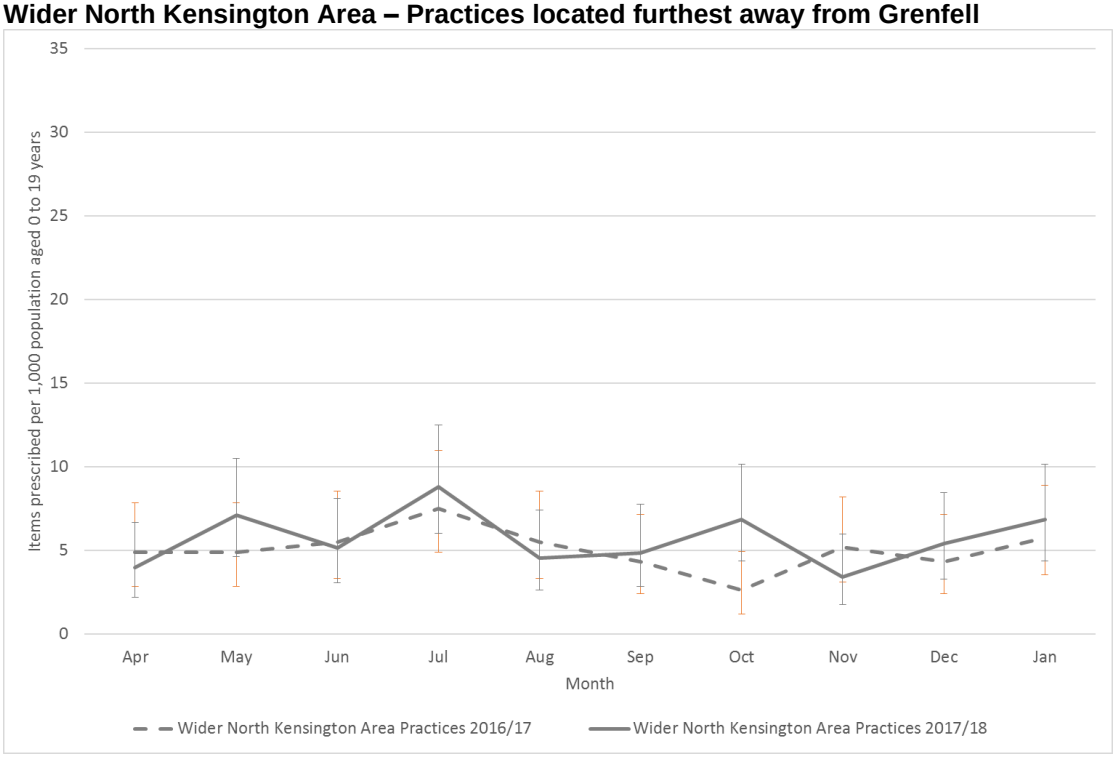
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

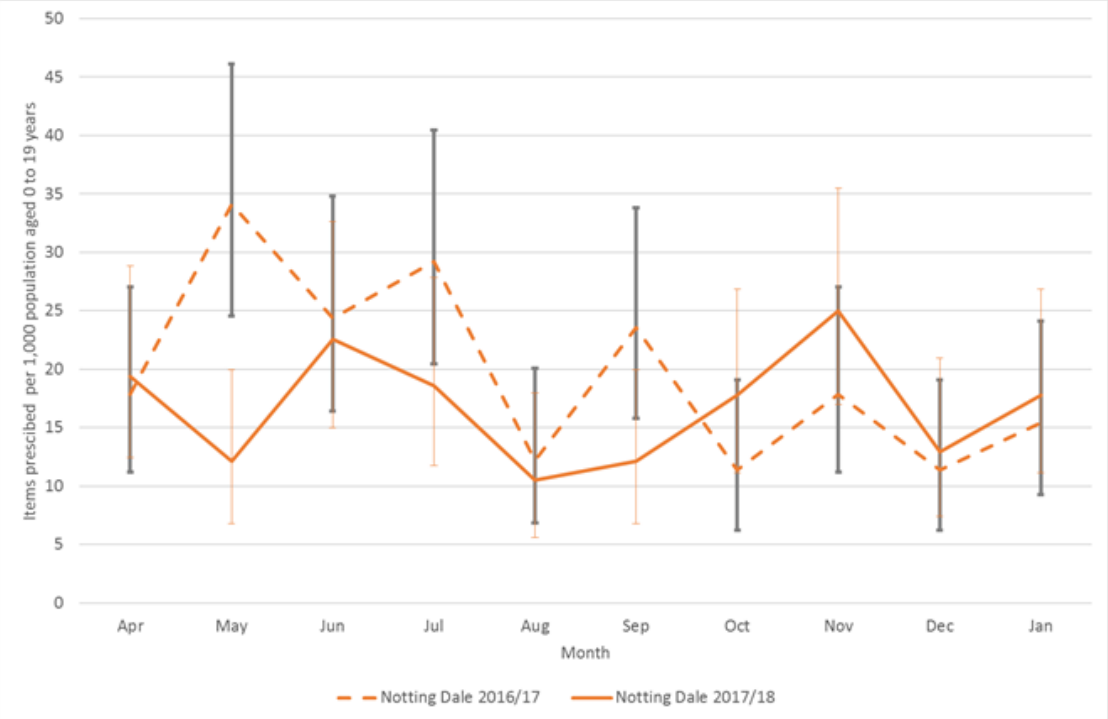


Wider North Kensington Area – Practices located furthest away from Grenfell

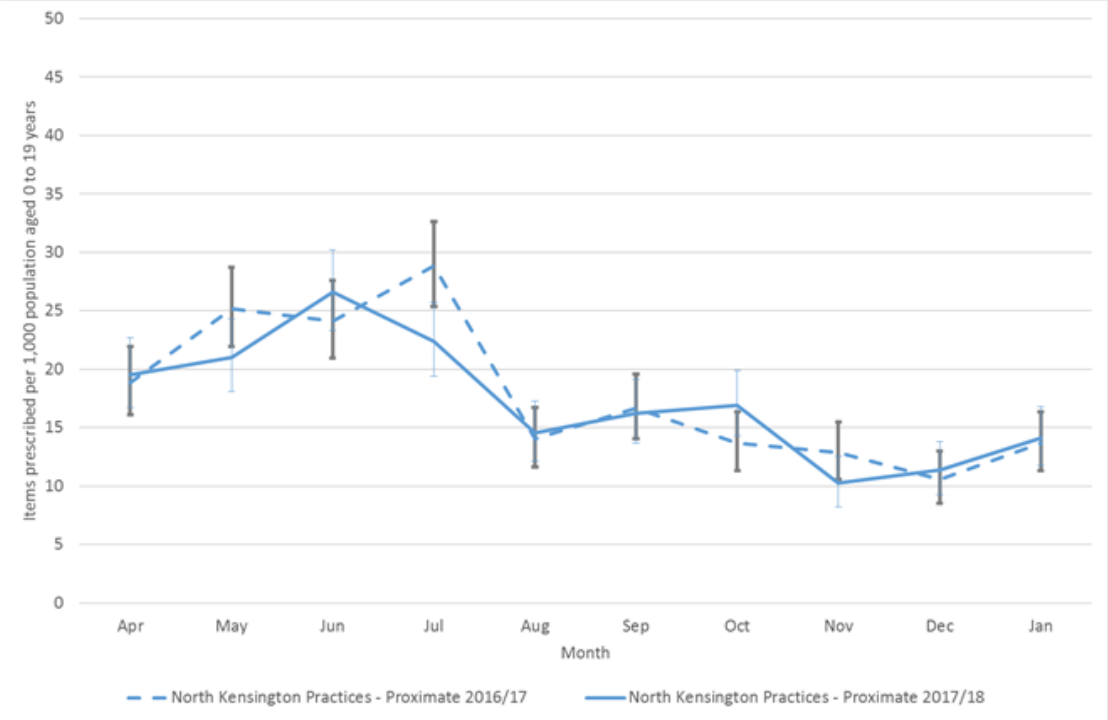


Primary Care prescribing activity – Antihistamines

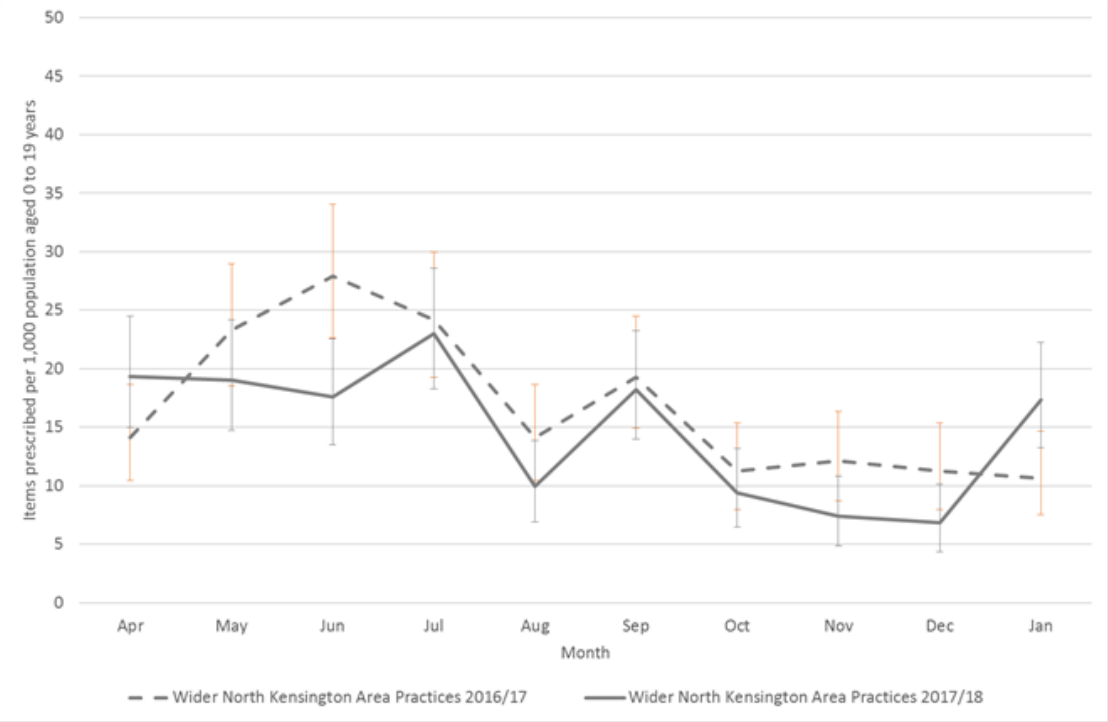
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

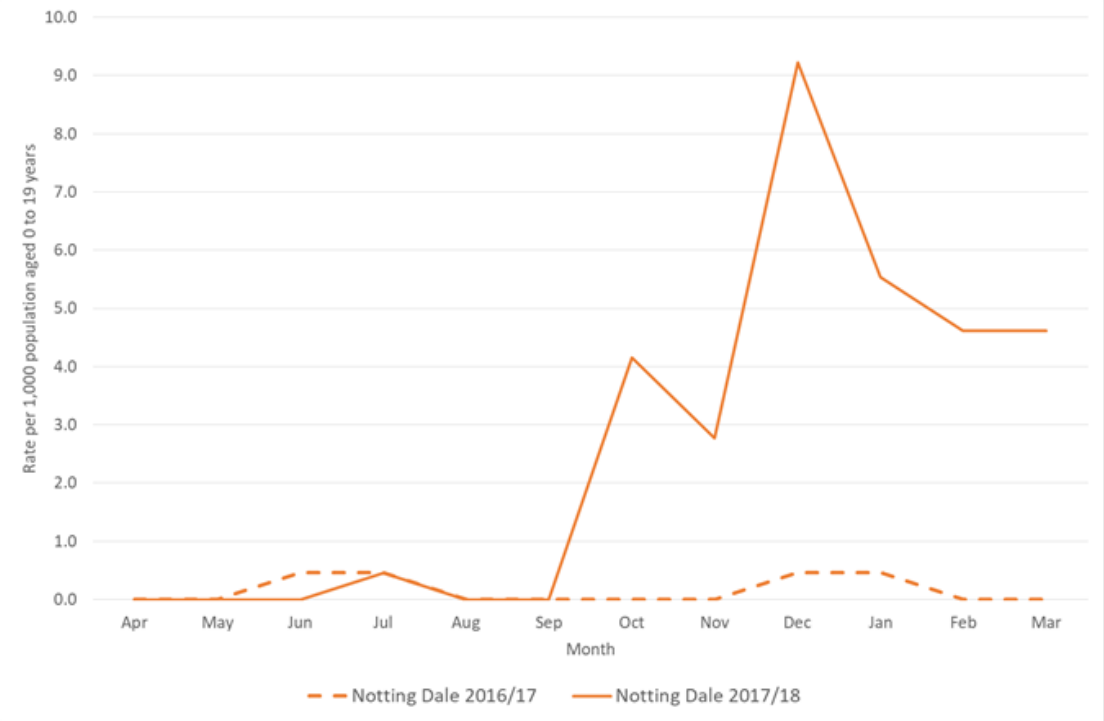


Wider North Kensington Area – Practices located furthest away from Grenfell

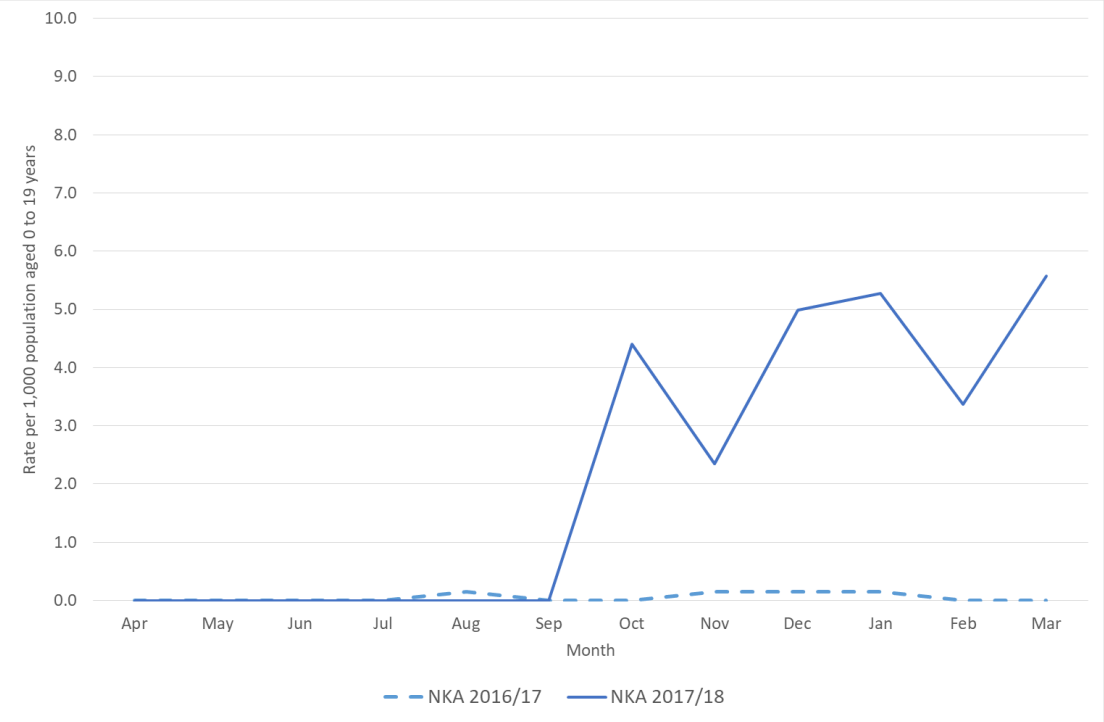


Urgent Care Centre and Walk-in Centre activity – Respiratory conditions

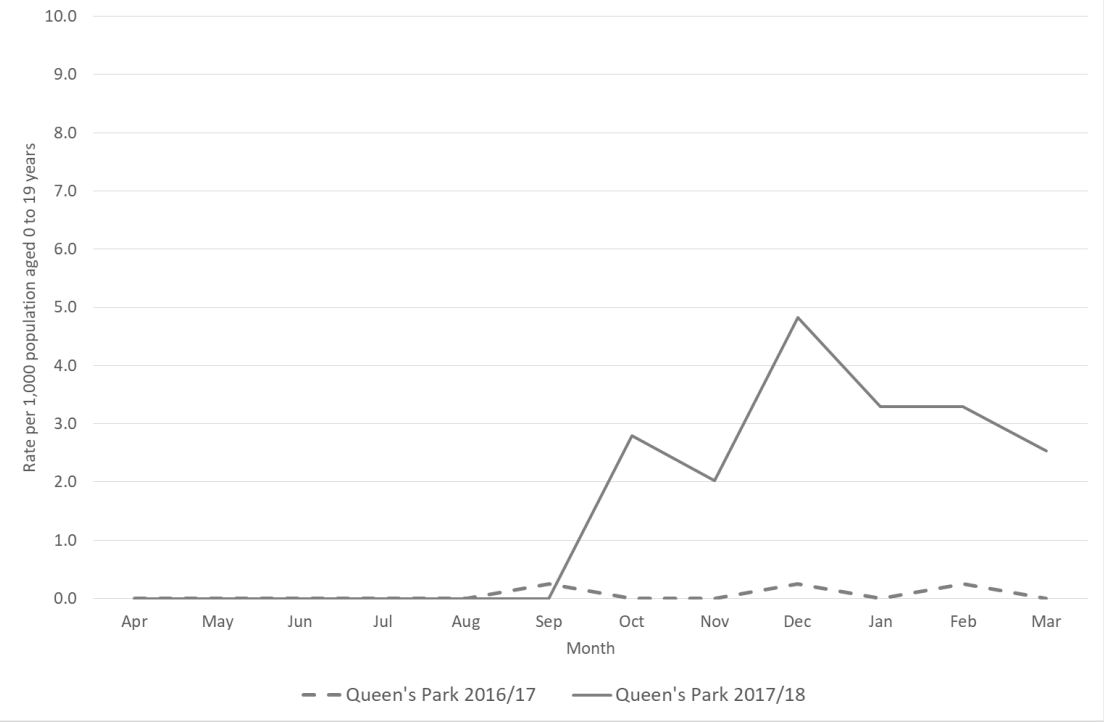
Notting Dale



North Kensington Area (Excl. Notting Dale)

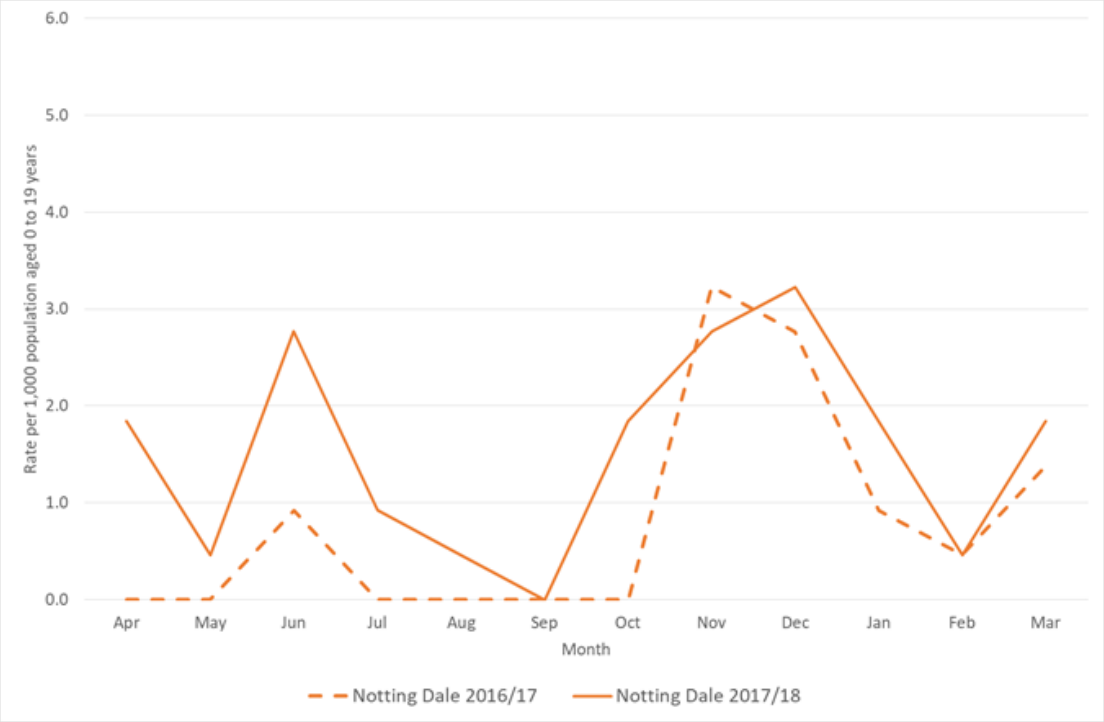


Queen's park – Comparator

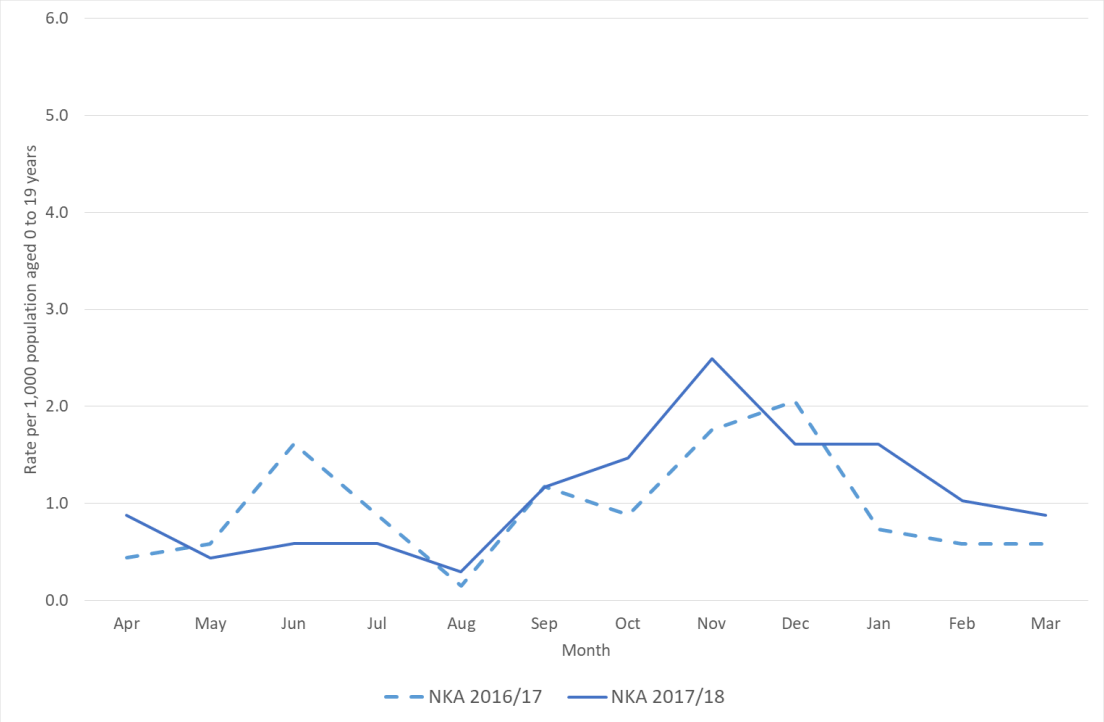


Accident and Emergency department activity – Respiratory conditions

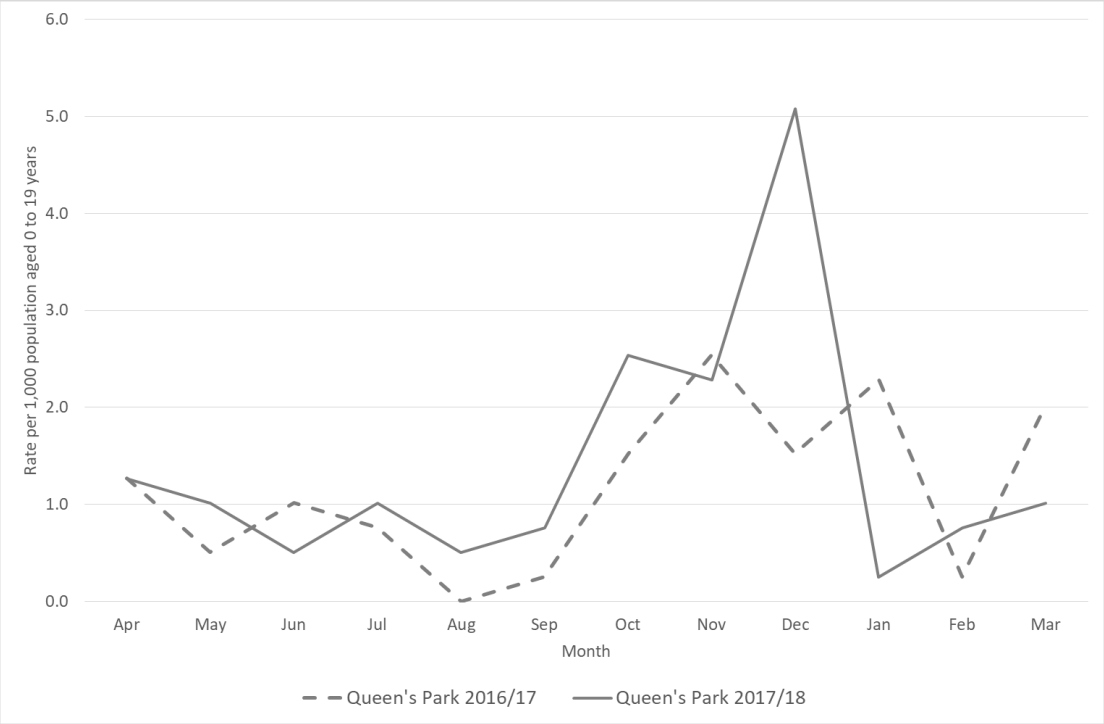
Notting Dale



North Kensington Area (Excl. Notting Dale)



Queen's park – Comparator



Emergence admissions activity – Respiratory conditions

Insufficient numbers to analyse data

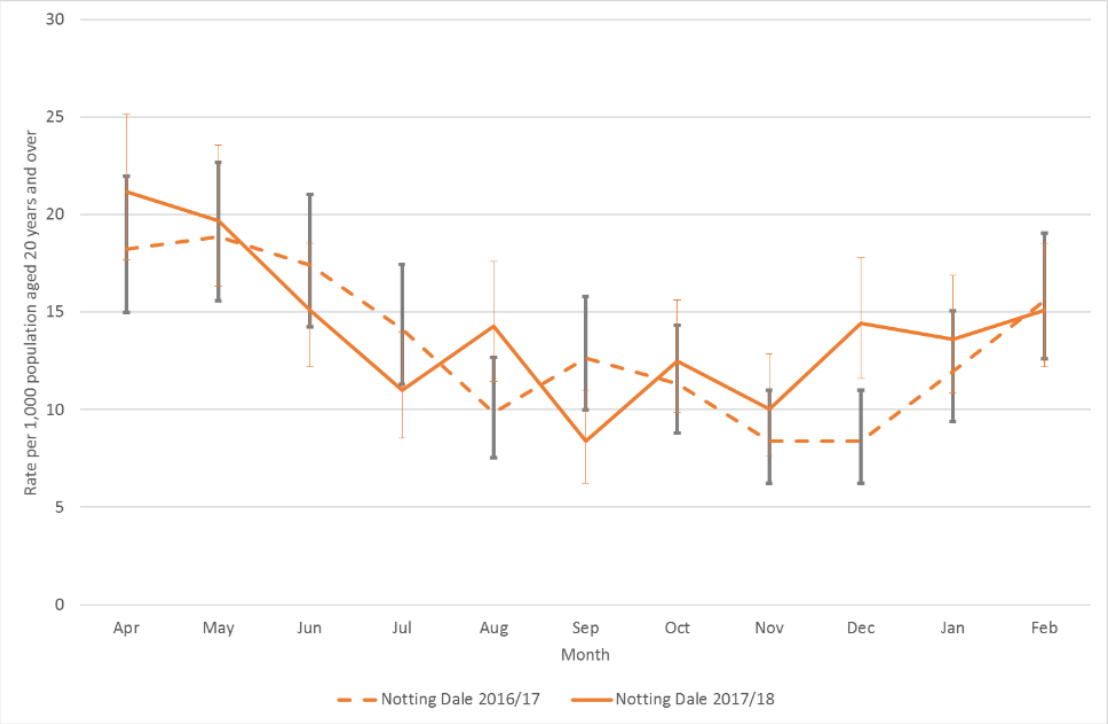
Outpatient appointment activity – Respiratory Medicine, Paediatric Respiratory Medicine and Respiratory Physiology

Insufficient numbers to analyse data

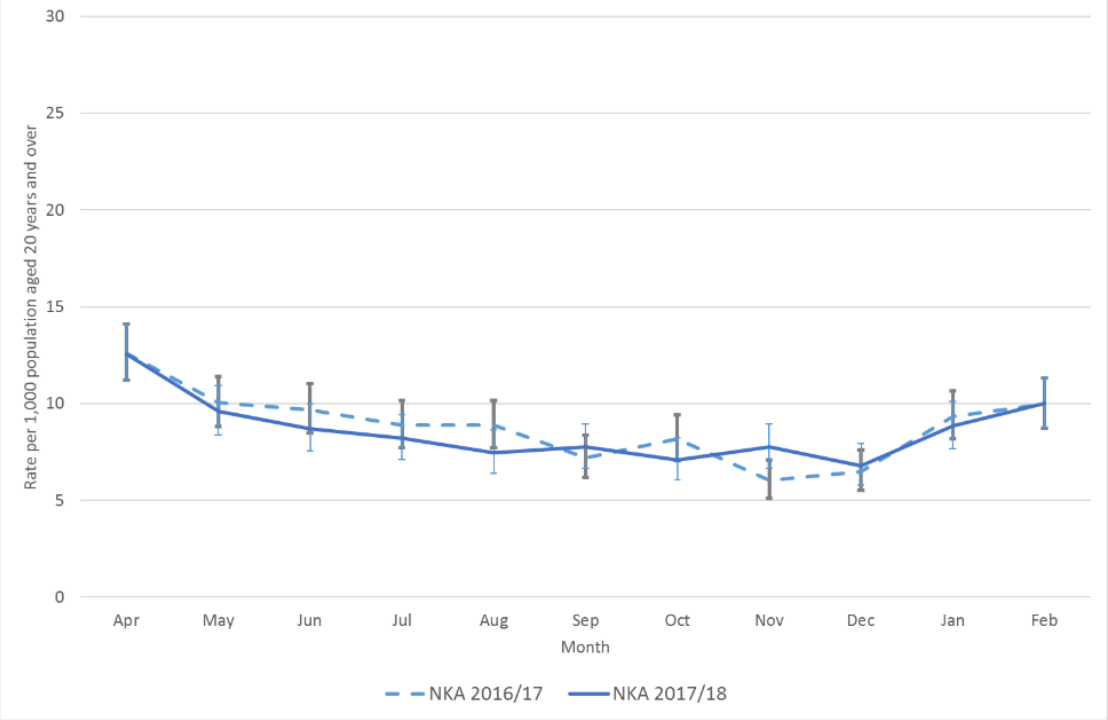
Results of analyses of activity rates by setting adults aged 20 years and over

GP activity – Respiratory conditions

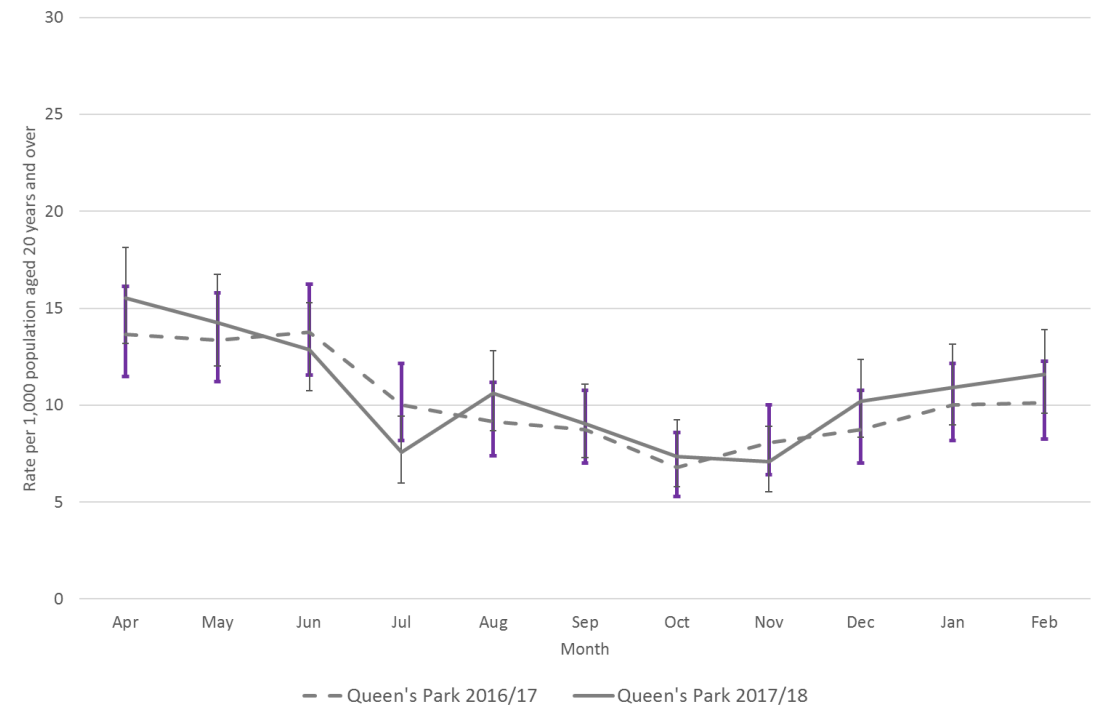
Notting Dale



North Kensington Area (Excl. Notting Dale)

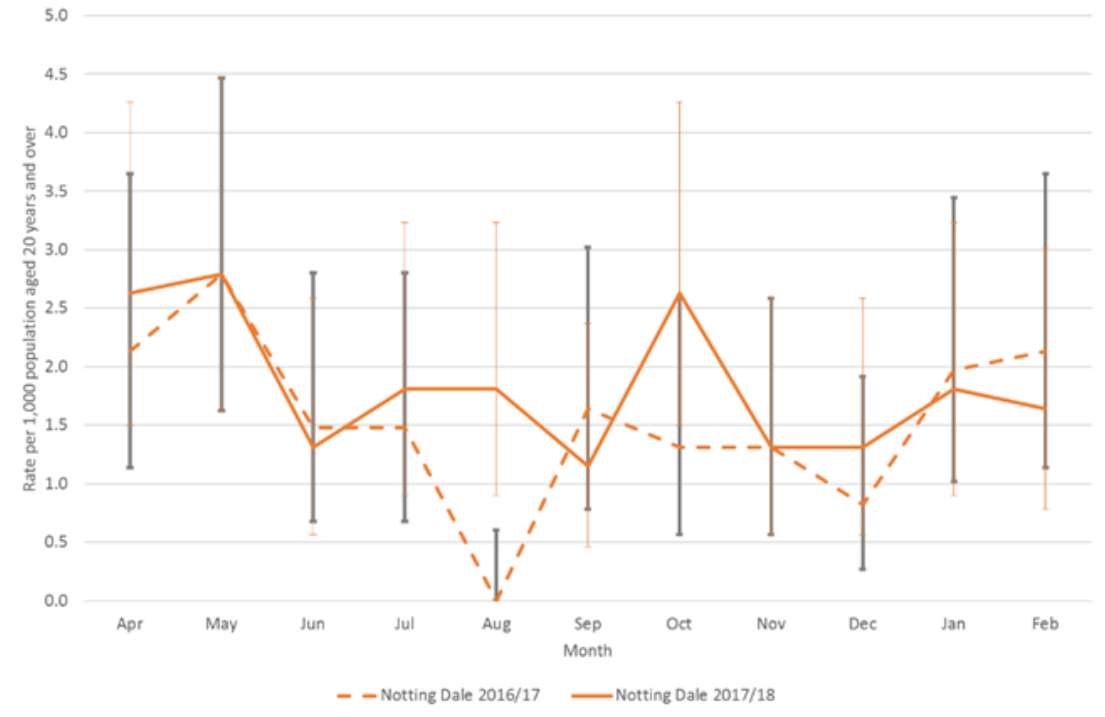


Queen's park – Comparator

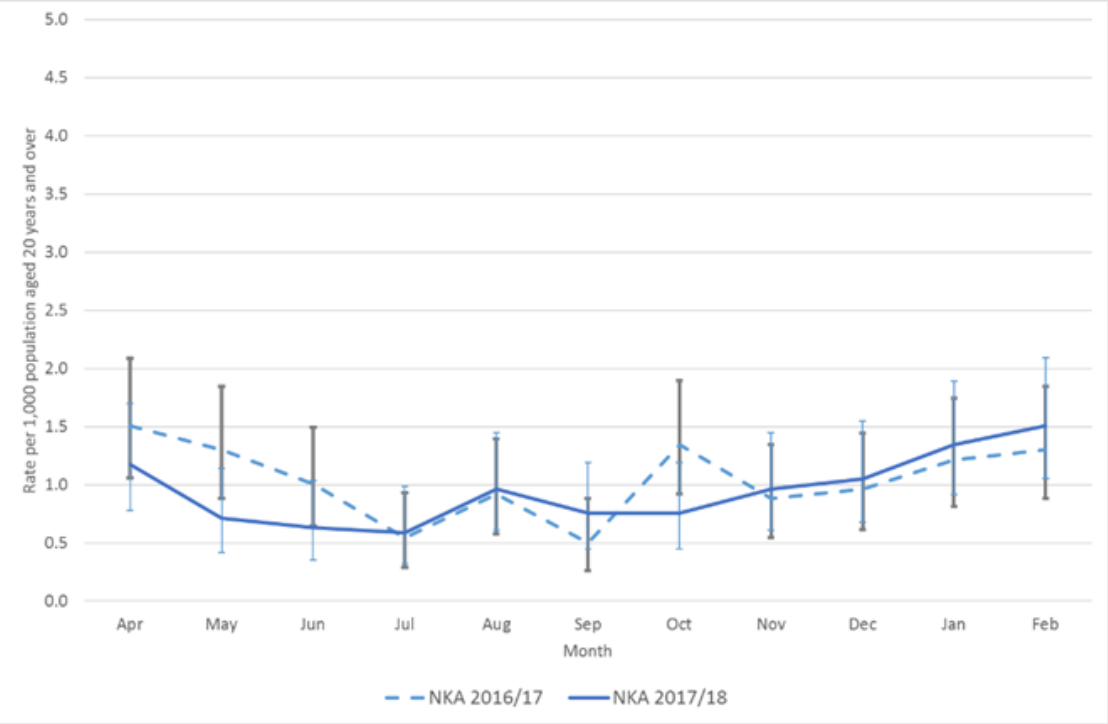


GP activity – Asthma

Notting Dale – Practices located in Notting Dale ward



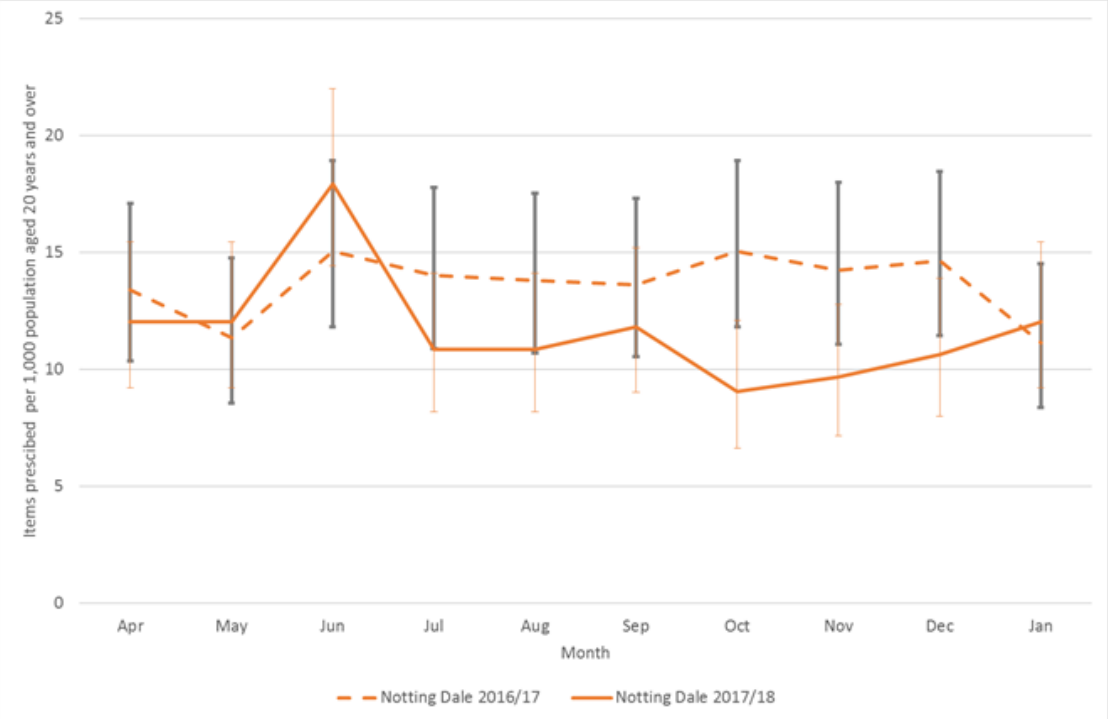
North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward



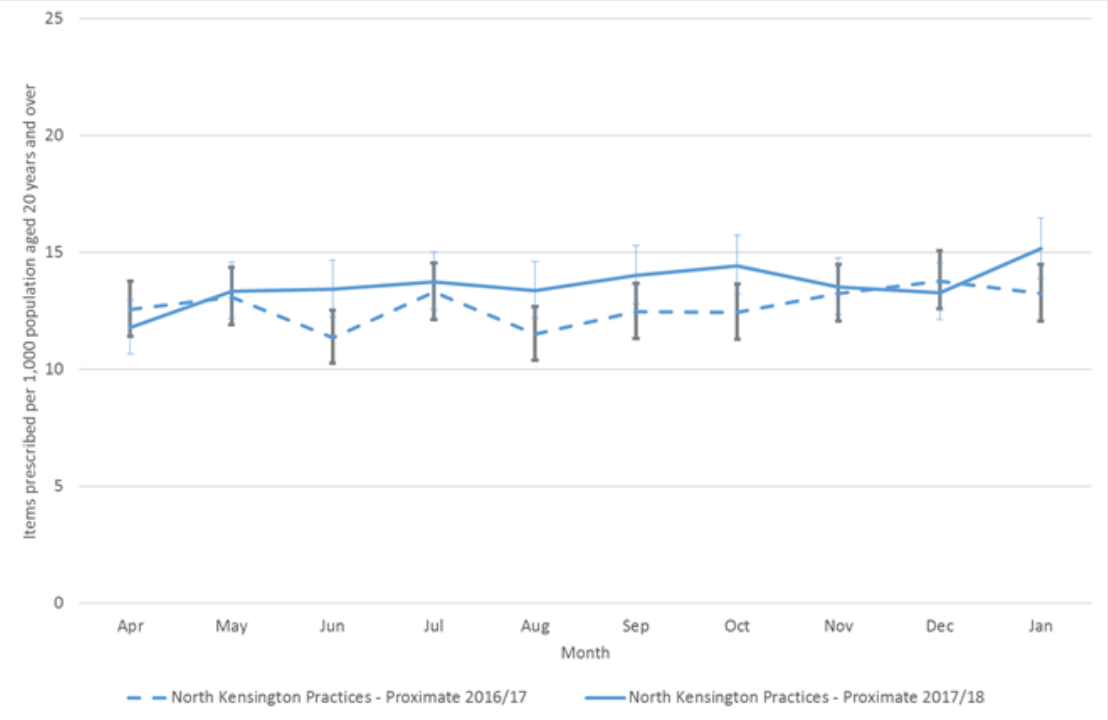
Wider North Kensington Area – Practices located furthest away from Grenfell

Primary Care prescribing activity – Respiratory conditions (All)

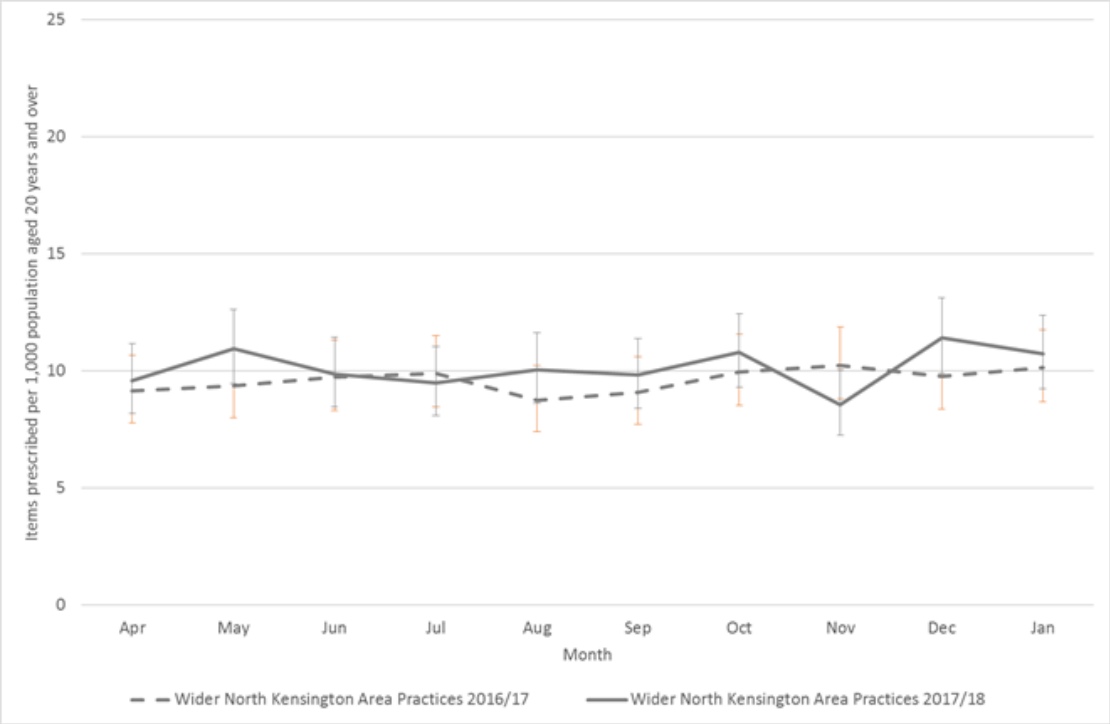
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

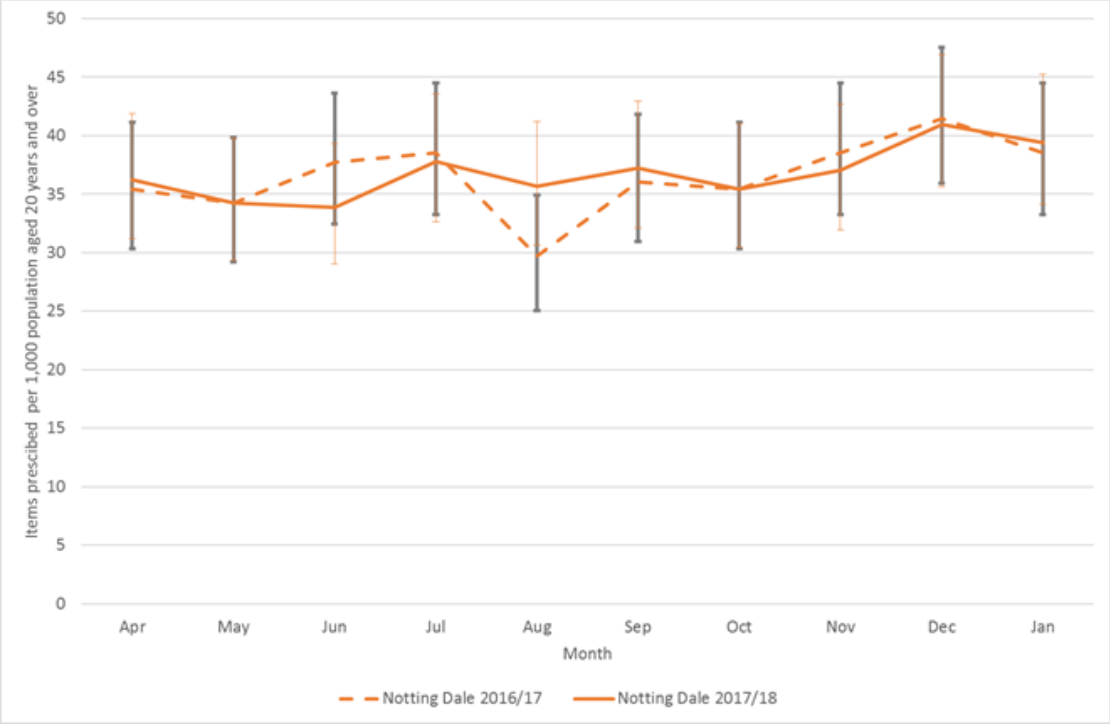


Wider North Kensington Area – Practices located furthest away from Grenfell

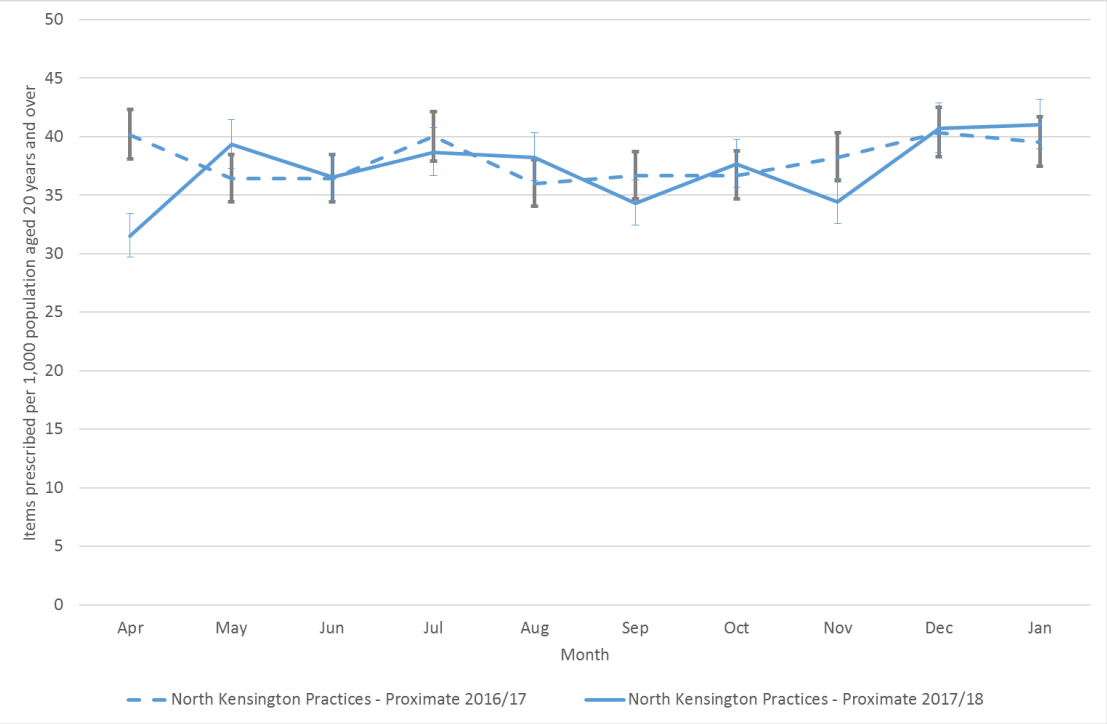


Primary Care prescribing activity – Bronchodilators

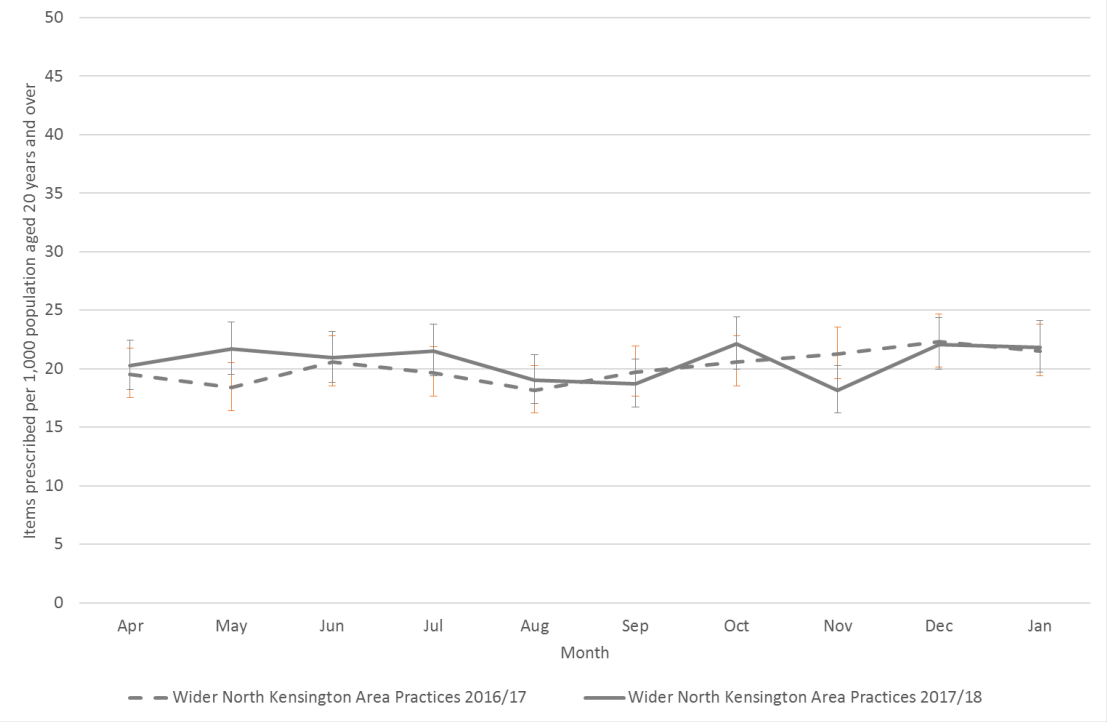
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

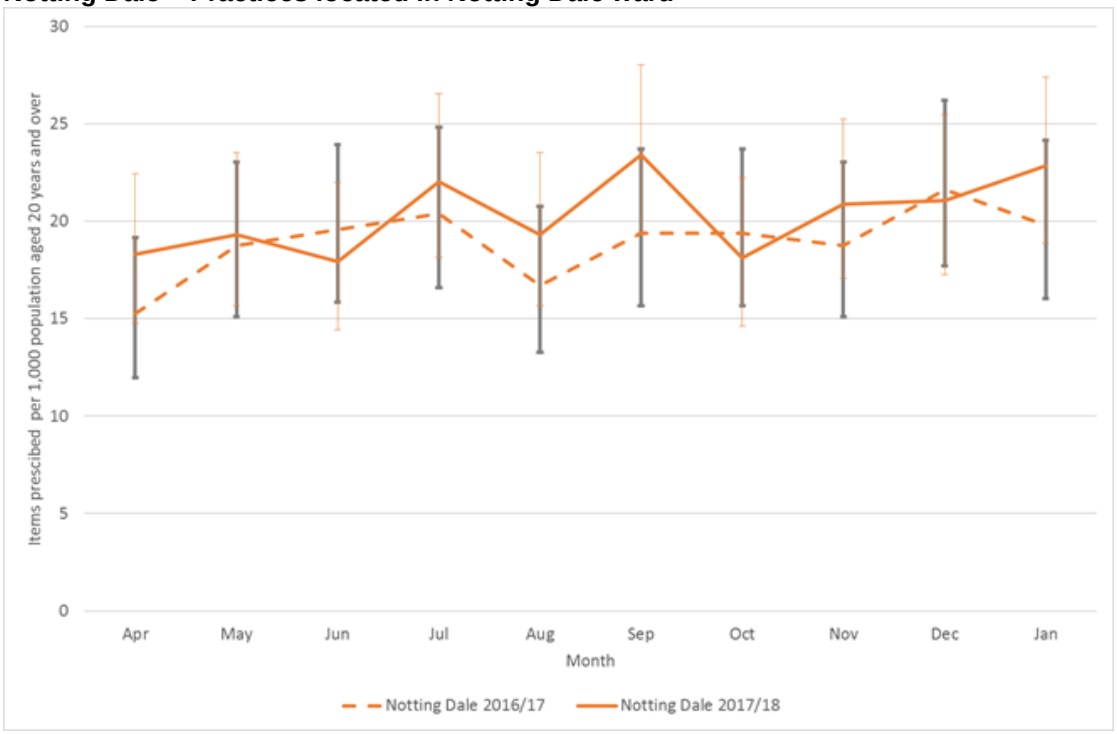


Wider North Kensington Area – Practices located furthest away from Grenfell

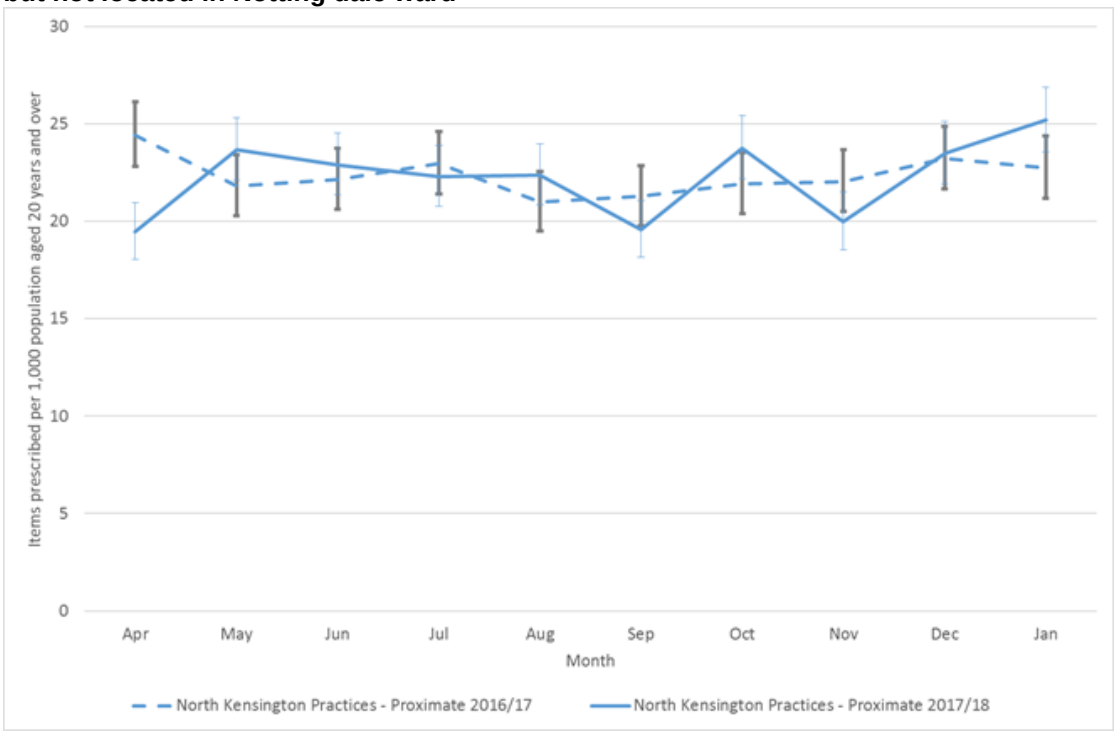


Primary Care prescribing activity – Corticosteroids – Respiratory

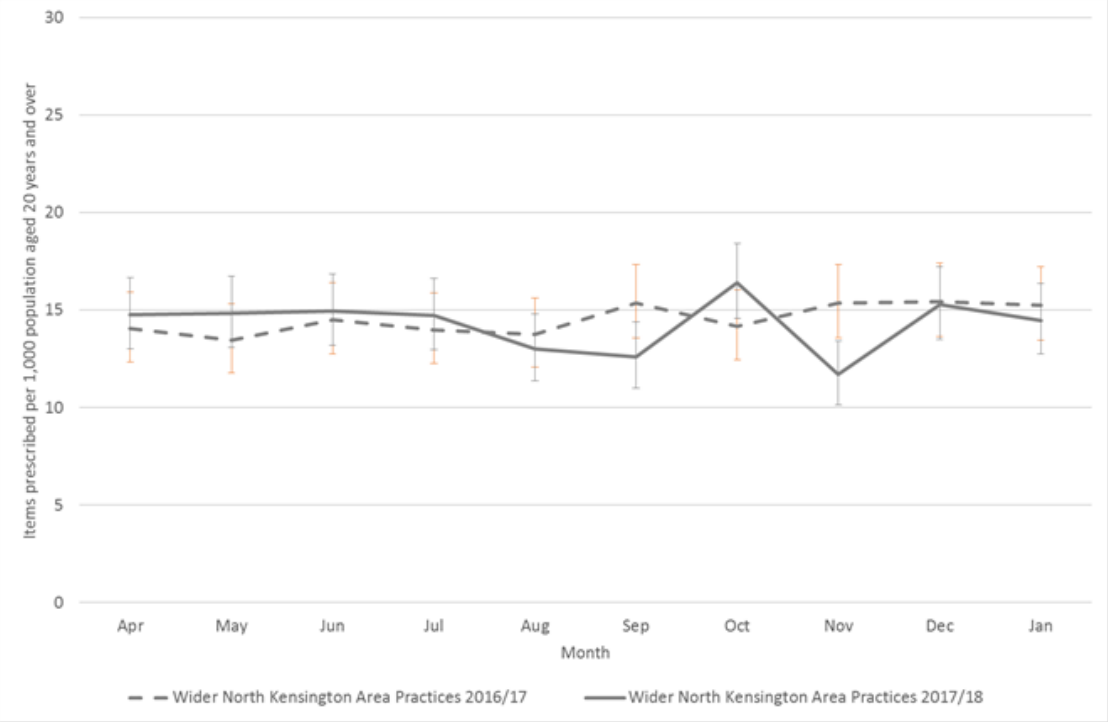
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

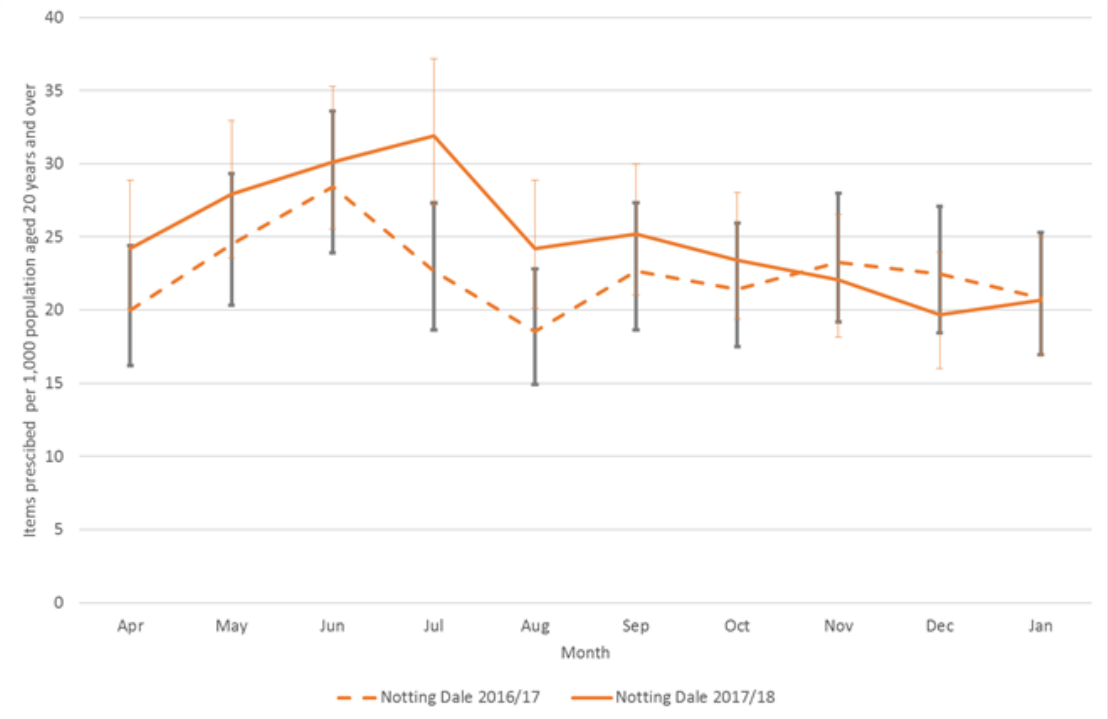


Wider North Kensington Area – Practices located furthest away from Grenfell

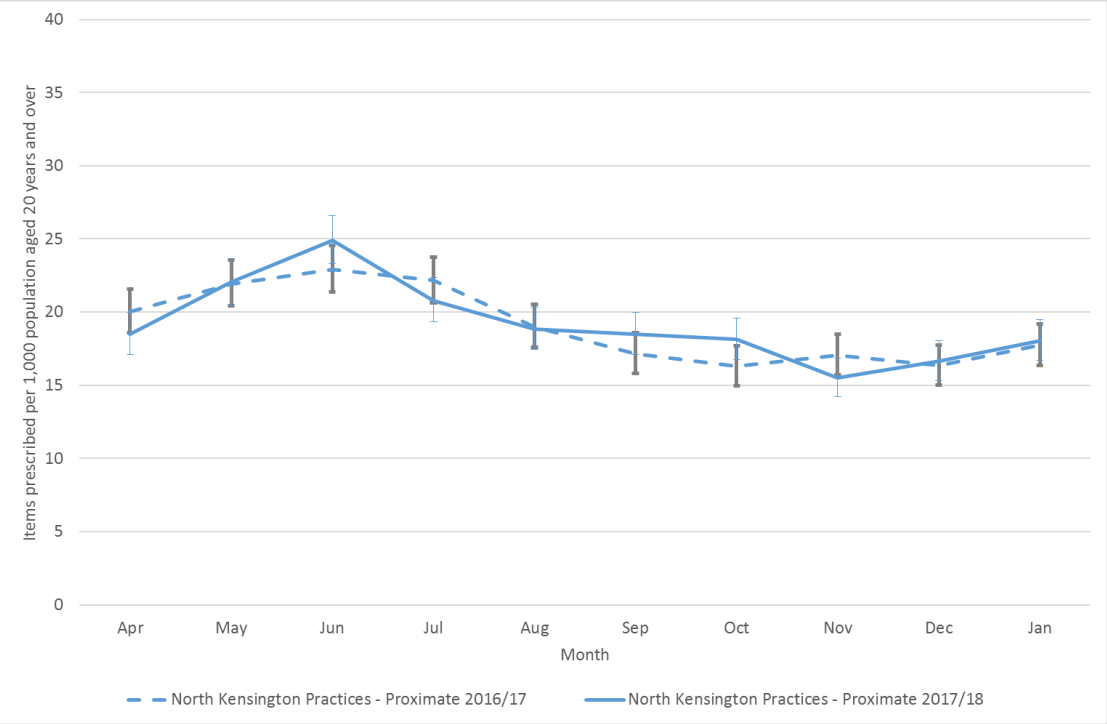


Primary Care prescribing activity – Antihistamines

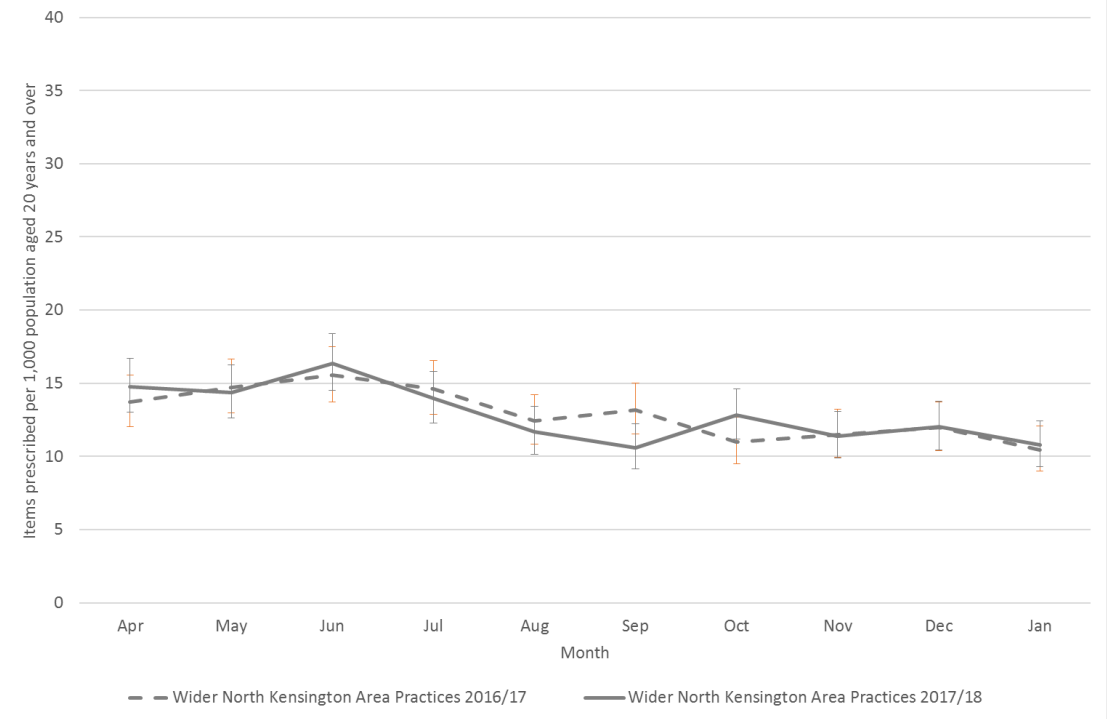
Notting Dale – Practices located in Notting Dale ward



North Kensington Area – Proximate practices – Practices located close to Grenfell but not located in Notting dale ward

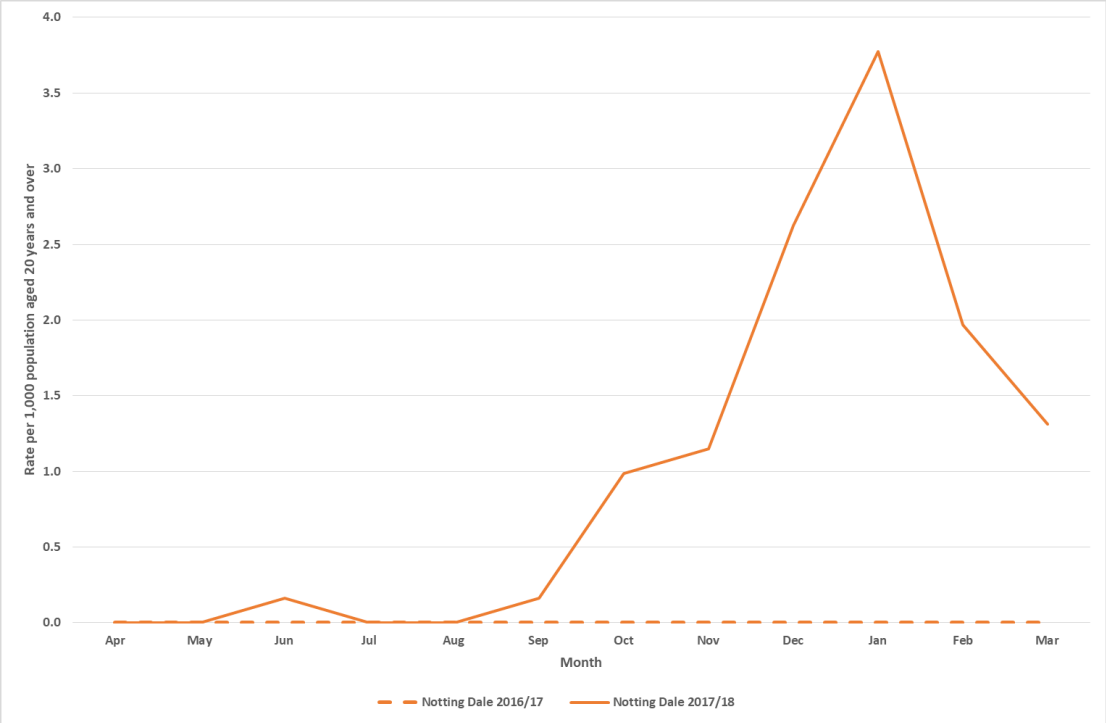


Wider North Kensington Area – Practices located furthest away from Grenfell

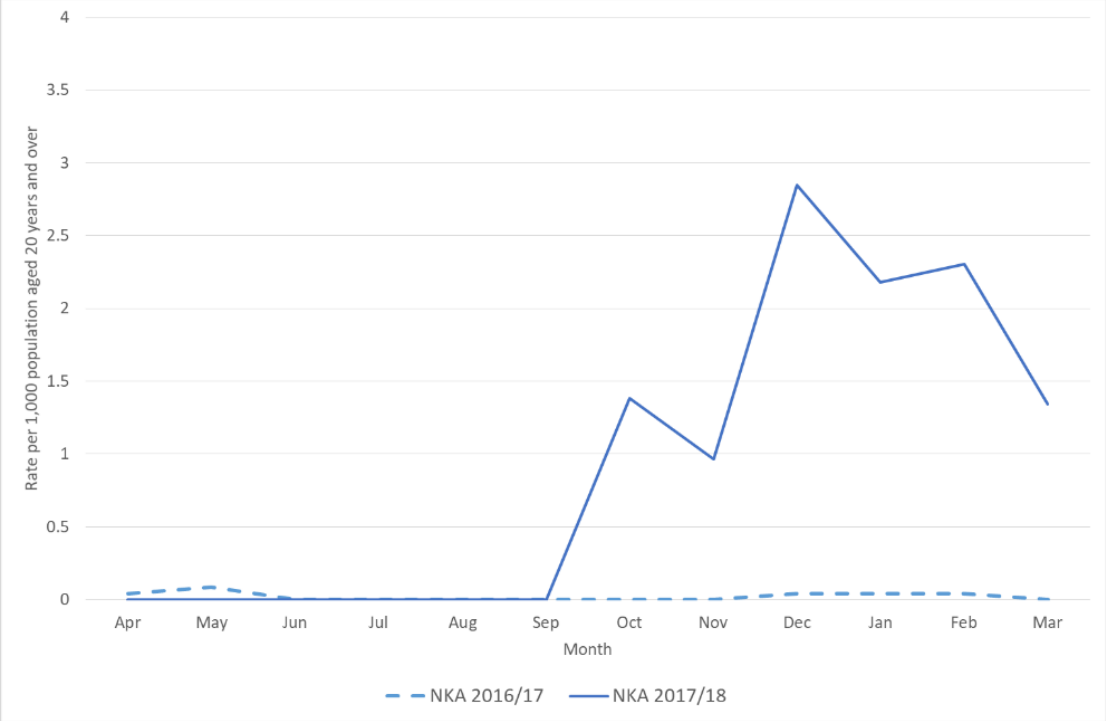


Urgent Care Centre and Walk-in Centre activity – Respiratory conditions

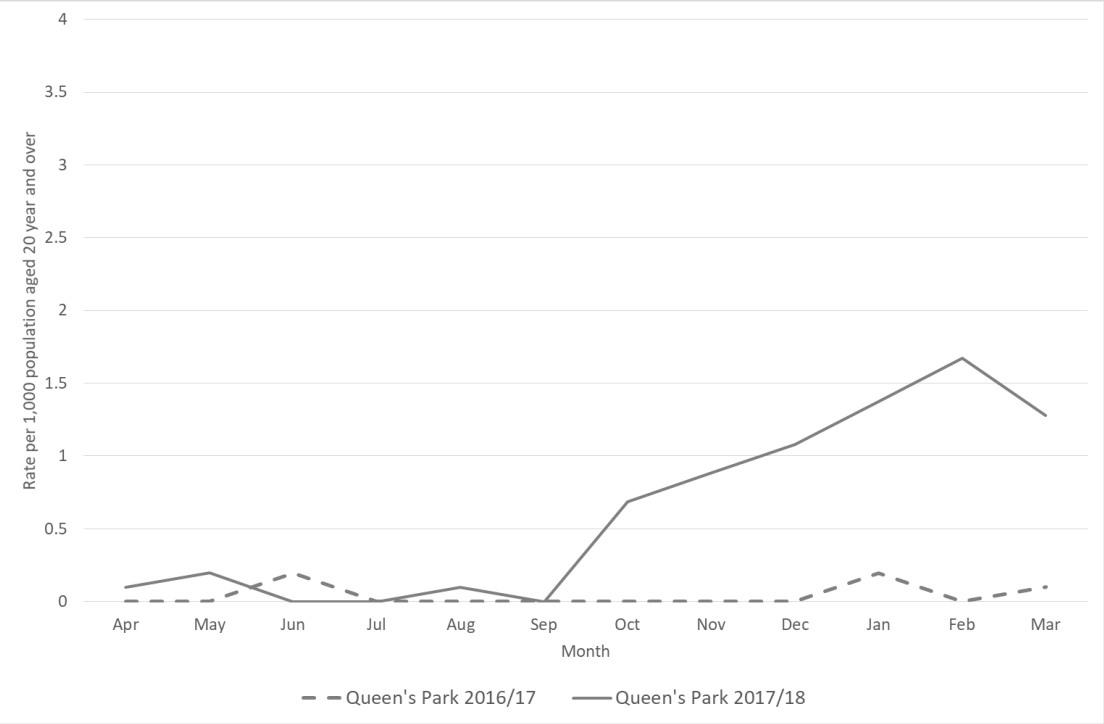
Notting Dale



North Kensington Area (Excl. Notting Dale)

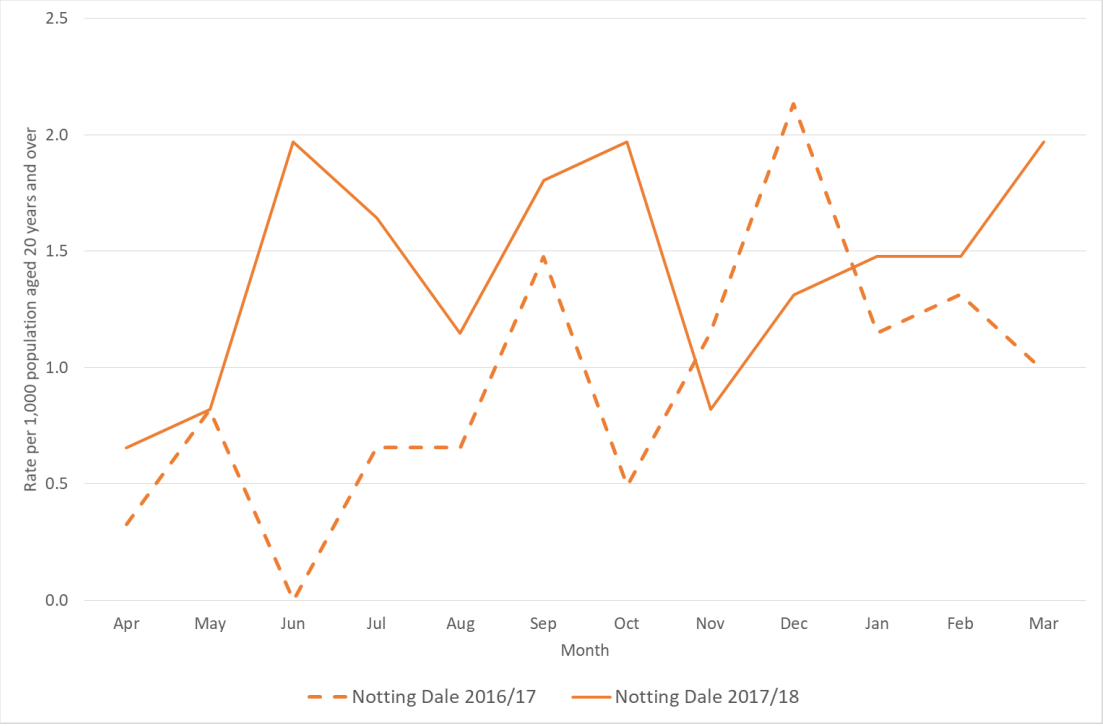


Queen's park – Comparator

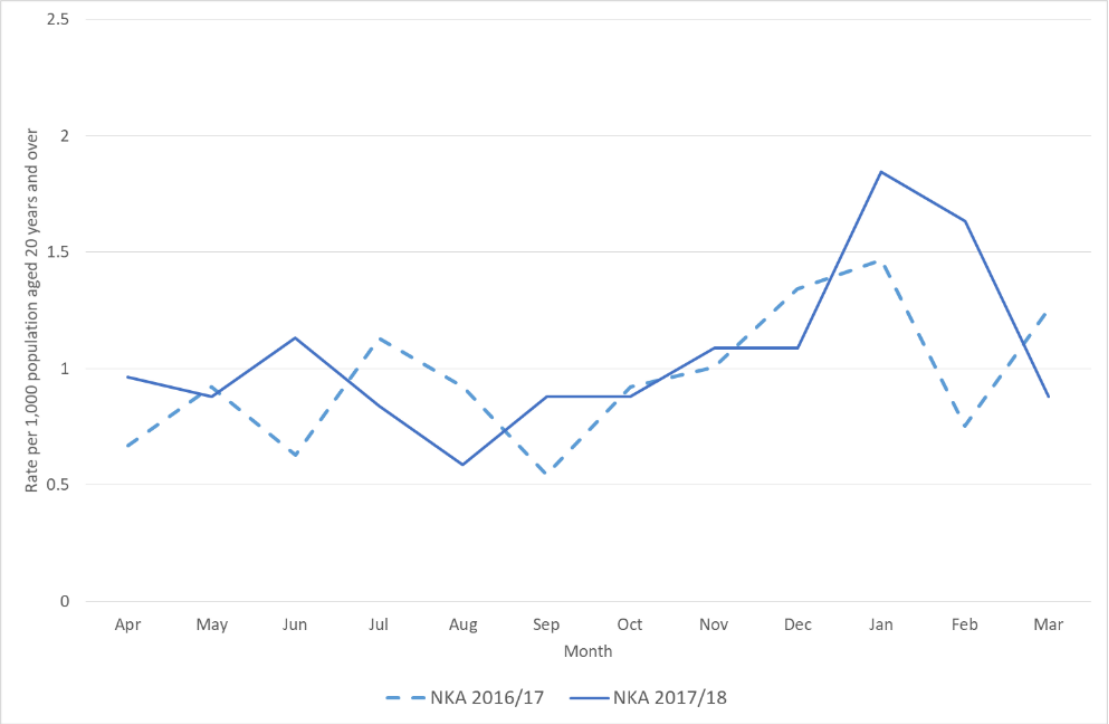


Accident and Emergency department activity – Respiratory conditions

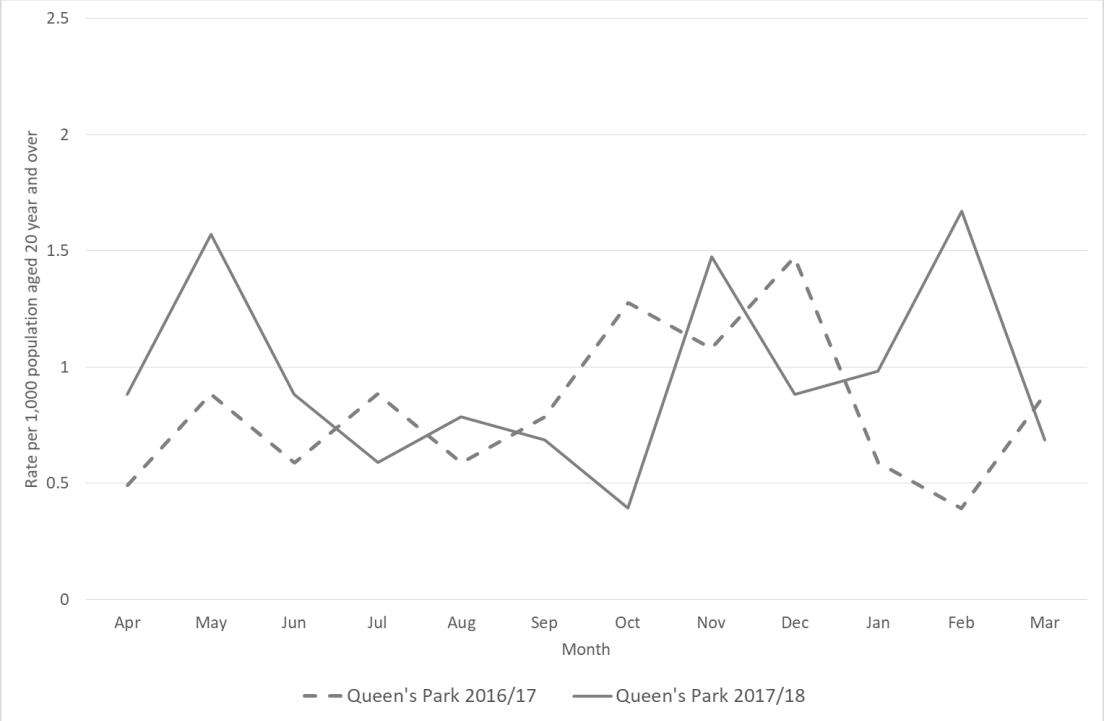
Notting Dale



North Kensington Area (Excl. Notting Dale)

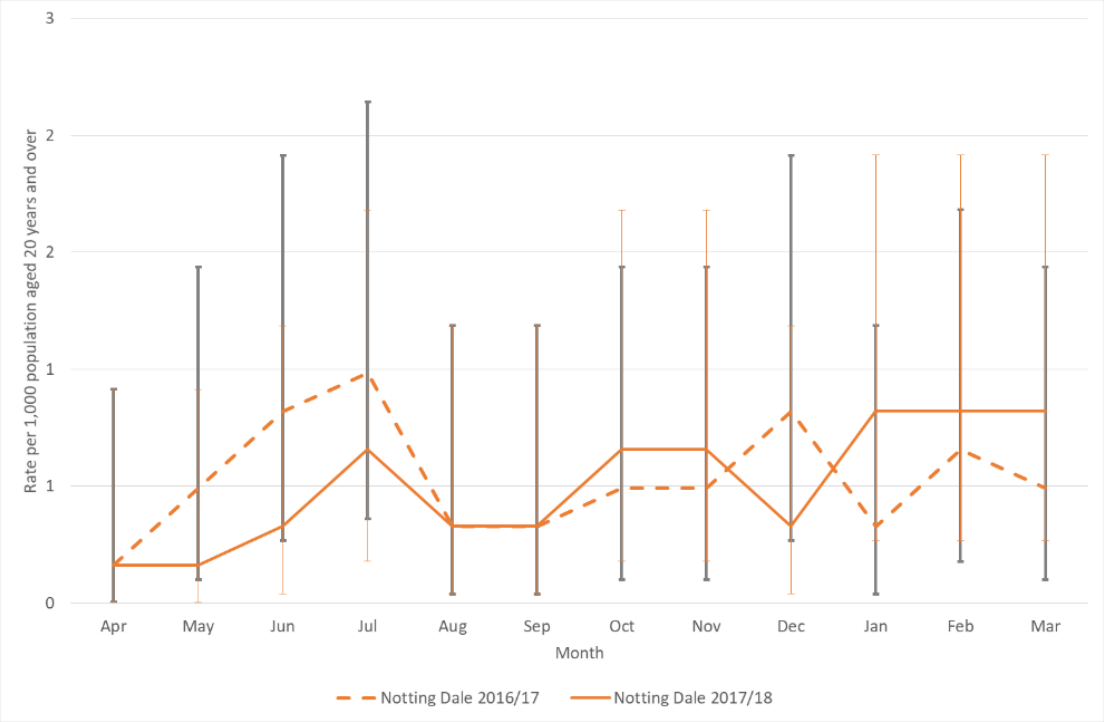


Queen's park – Comparator

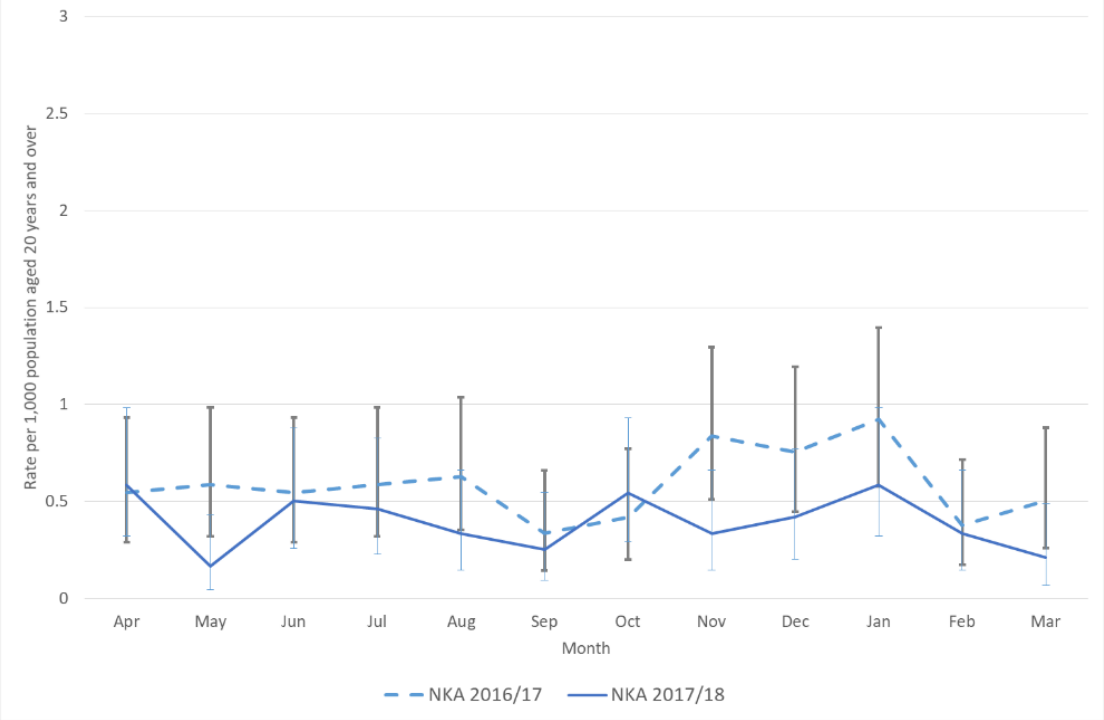


Emergence admissions activity – Respiratory conditions

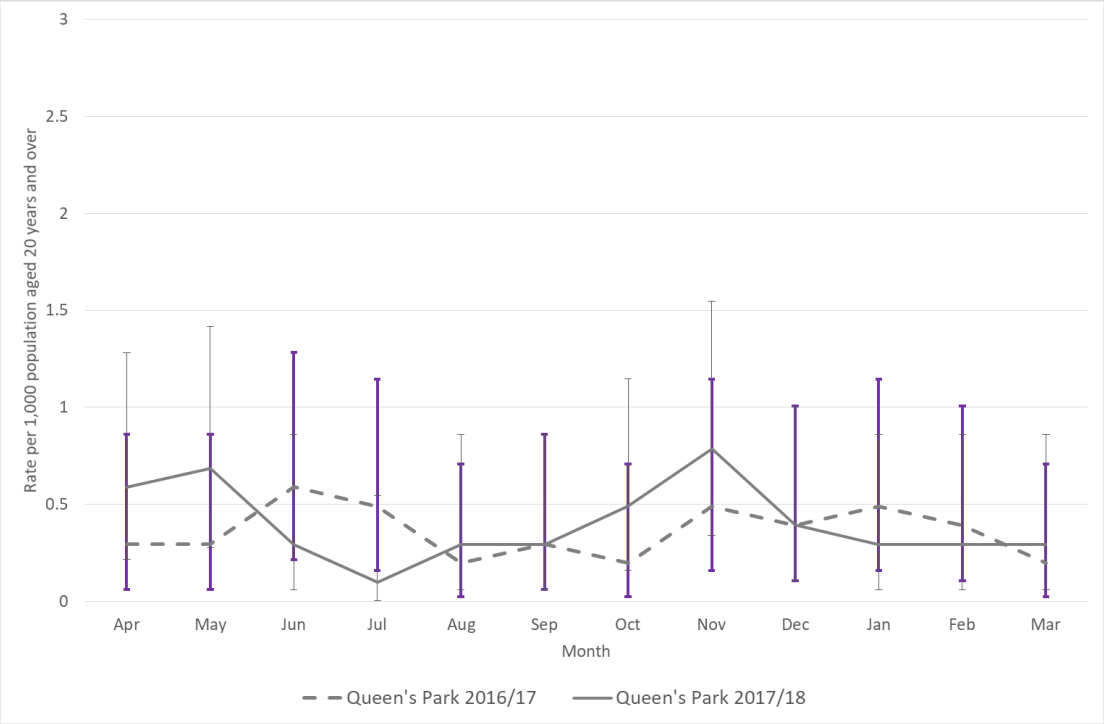
Notting Dale



North Kensington Area (Excl. Notting Dale)

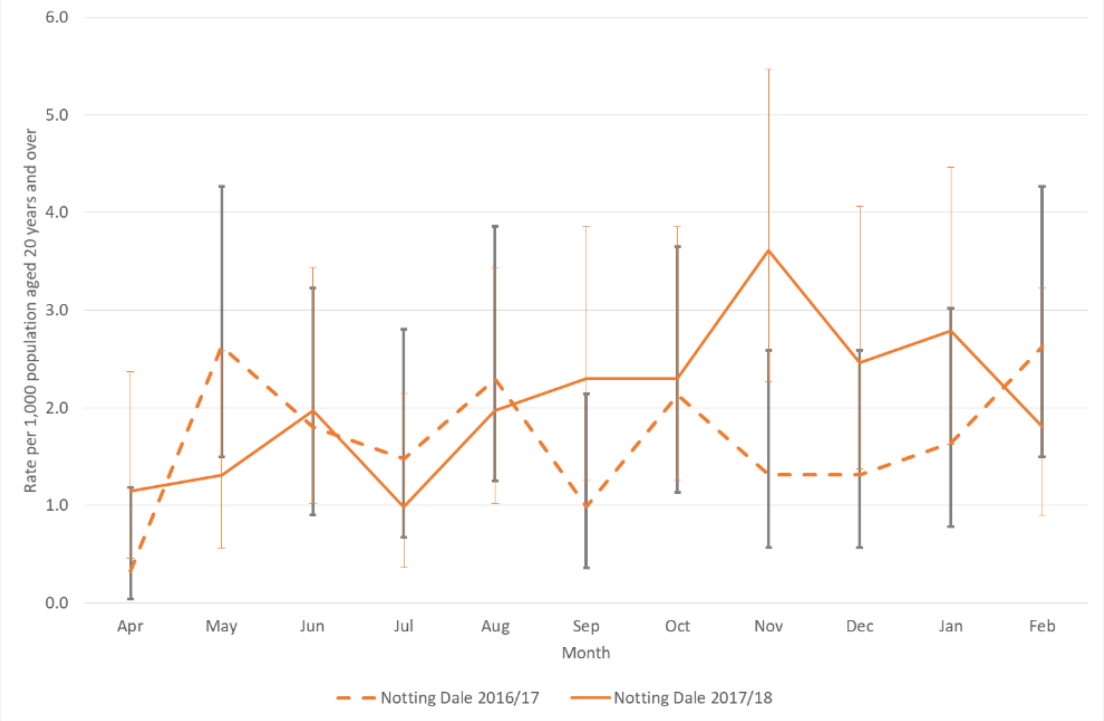


Queen's park – Comparator

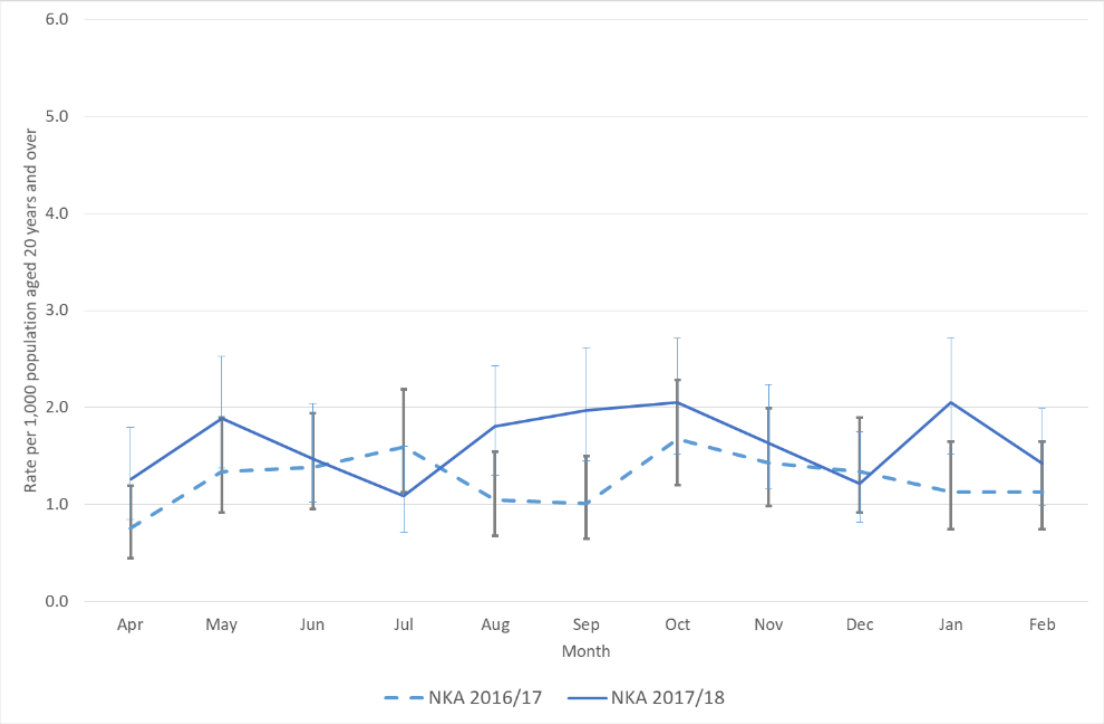


Outpatient first appointment activity – Respiratory Medicine, Paediatric Respiratory Medicine and Respiratory Physiology

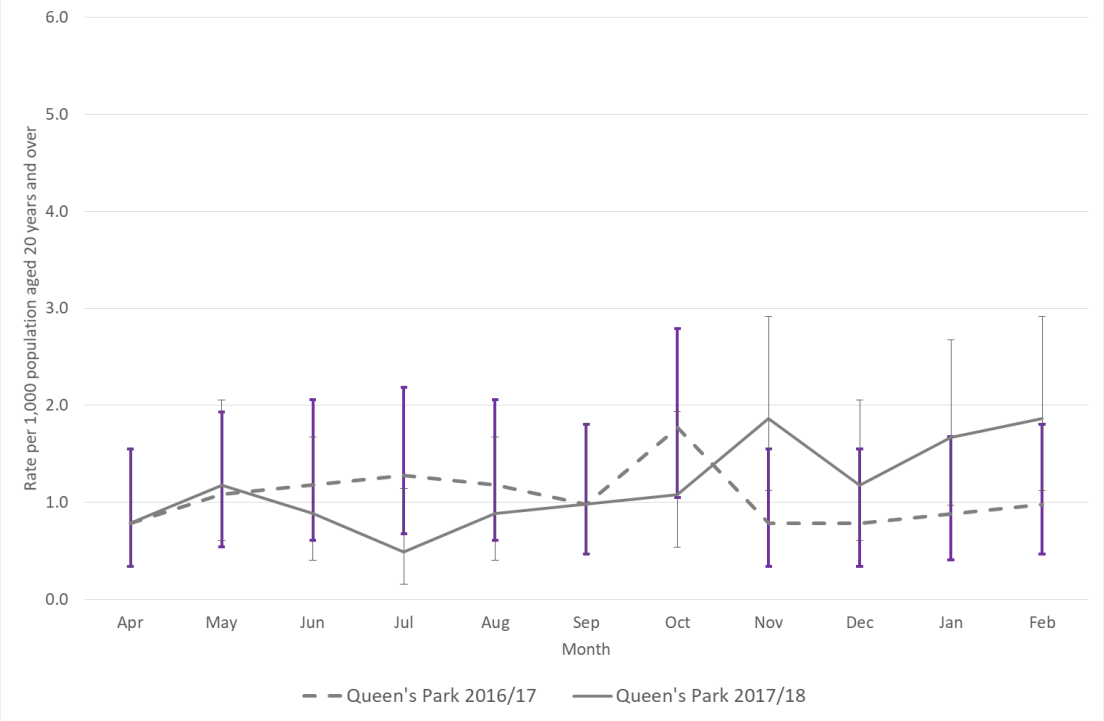
Notting Dale



North Kensington Area (Excl. Notting Dale)

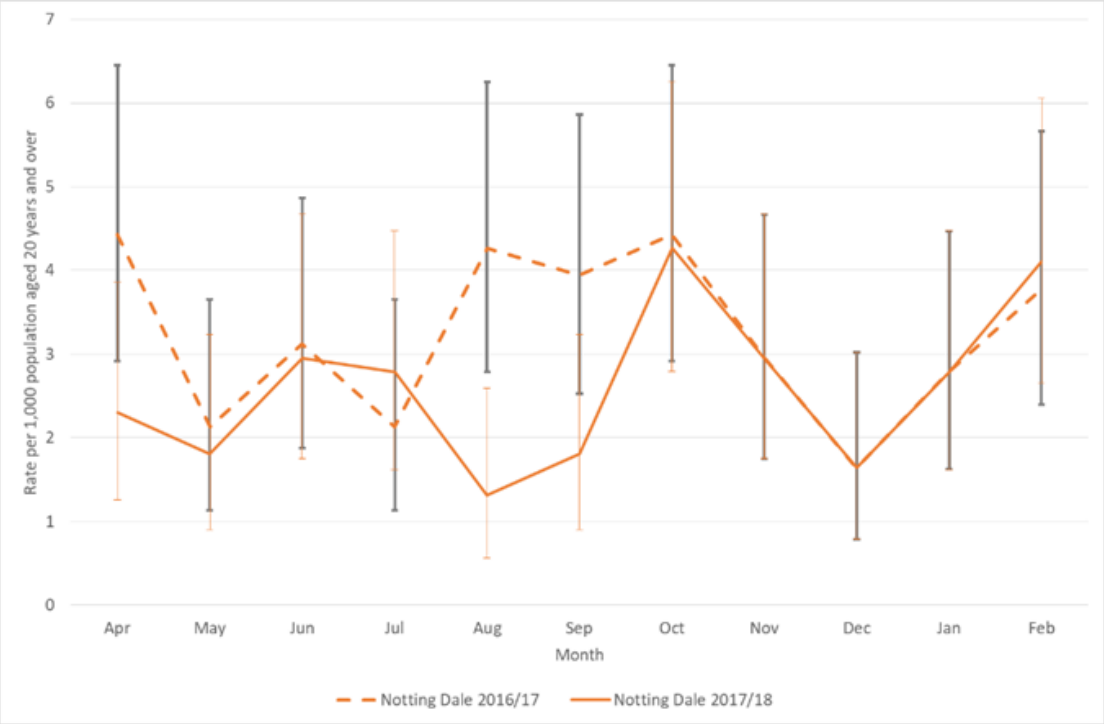


Queen's park – Comparator

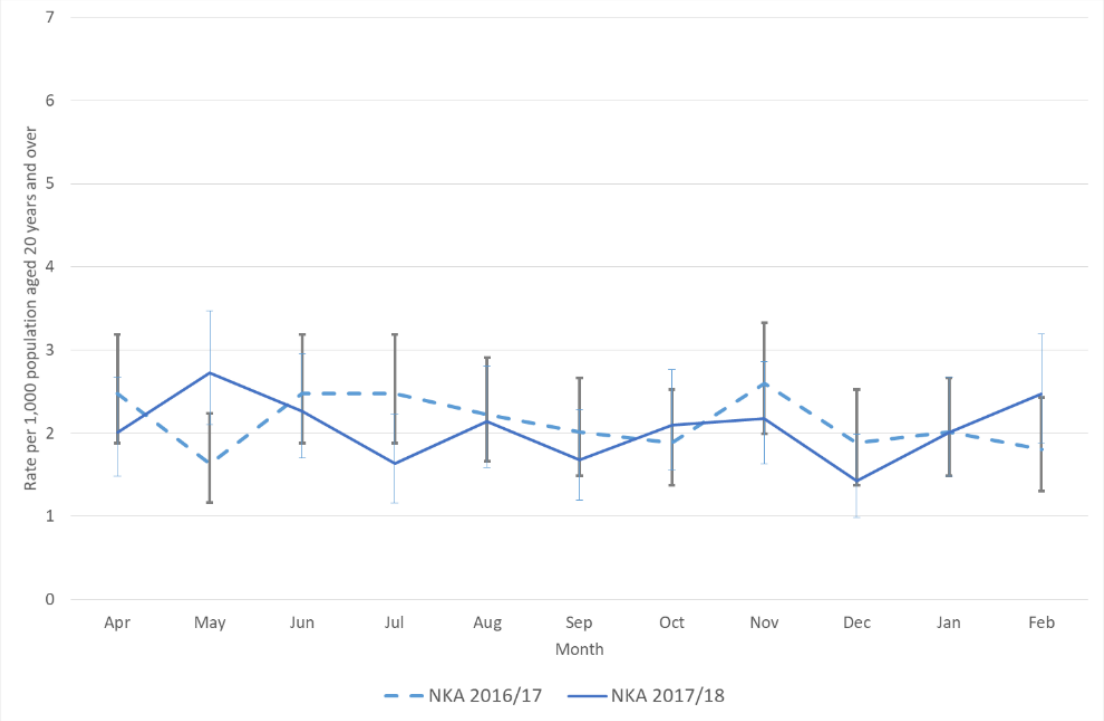
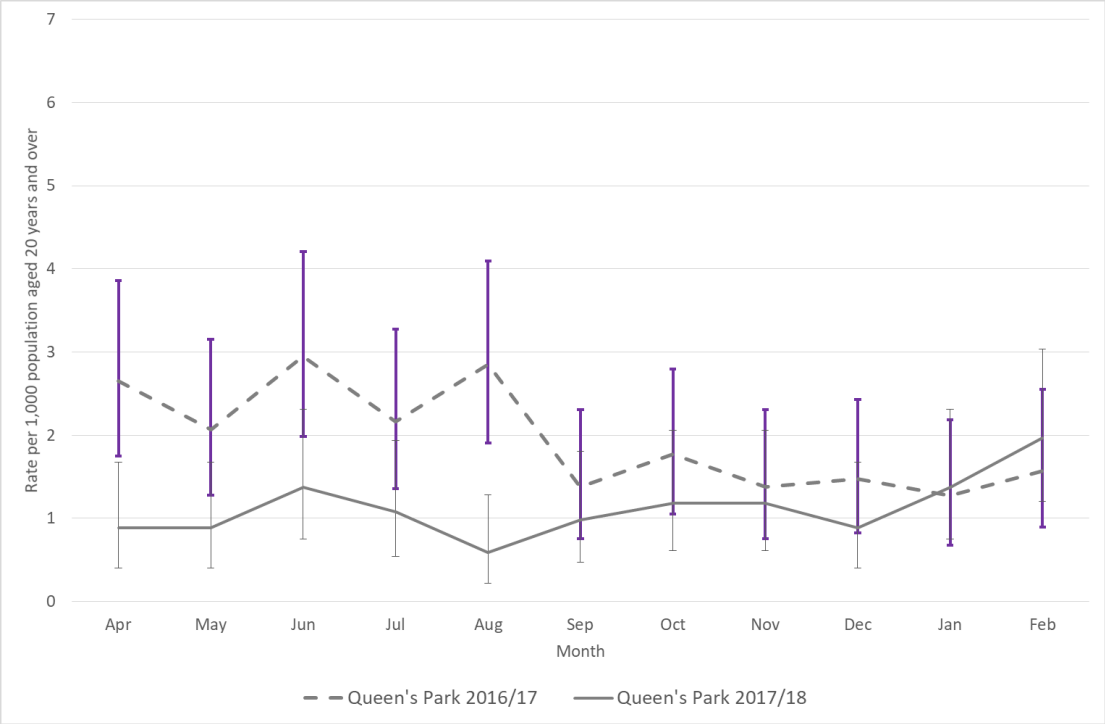


Outpatient follow-up appointment activity – Respiratory Medicine, Paediatric Respiratory Medicine and Respiratory Physiology

Notting Dale



North Kensington Area (Excl. Notting Dale)



Queen's park – Comparator