NIHR POLICY RESEARCH UNIT IN HEALTH AND SOCIAL CARE SYSTEMS AND COMMISSIONING

Exploration of the National Health Services COMMUNITY SERVICES DATA SET

REPORT

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Executive summary

This report describes and explores the newly publicly available aggregated national Community Services Data Set (CSDS). The data are available monthly from October 2017 and is reported at three levels, with the lowest level being 'provider', or as it is called in the dataset – 'Trust', the other two levels available are: area team and commissioning region. The CSDS is collected at an individual level, however, access to this data is subject to a Data Access Request Service application with NHS Digital. For this report we used the data between October 2017 and September 2019, with some initial insights made from the dataset between October 2017 and December 2018.

There is a mandatory requirement for all community services providers to report publicly funded services, however, the dataset does not include a full list of community services providers but the number of organisations submitting data to CSDS has been increasing over time. This makes it difficult to estimate the coverage and representability of CSDS in terms of all publicly funded community services provision in England. Of the providers submitting data, fewer than half consistently submitted data each month. Consequently, monthly trends of CSDS activities will vary by both: seasonality and number of providers reporting, resulting in large peaks and troughs in activity counts, which is unlikely to be an accurate representation of activity within the community.

Publicly available CSDS holds information on counts of: 1) a range of Care Activities provided; 2) Care Contacts by gender, age group, attendance status and medium, through which the care contact was conducted; 3) Patient Care Contacts, counting the number of patients who used care contacts, by gender for those under 19 years old and those over; 4) Immunisations by age group; 5) Patients with Referrals by gender and age group; and 6) Referrals to community services by gender and age group, source, reason and age group. These separate data strands are not linkable between themselves, apart from Care Contacts with Patient Care Contacts, and Referrals with Patients with Referrals. Within each data strand there is a high proportion of information reported as missing and/or not known.

This report also briefly assesses the data quality of publicly available CSDS. Main insights of that process could be summarised as: 1) data not being highly user nor access-friendly, 2) several challenges with linking it with any other publicly available data due to its aggregation and geography levels, 3) limited linking options within the dataset itself, and 4) relatively poor data coverage and reliability. However, it is the first national publicly available dataset on

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community services activities, which still offers important information to be taken into account for research and policy informing purposes, such as types of activities offered by community services, information about age of users, attendance, reasons etc., summary of which was not available at national level before.

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Introduction

There has been an increase in interest in Community Health Services and its data collection over the past few years due to an assumption that the improvement and expansion of care in the community could help ease increasing pressures on hospital services. However, so far there is little known if that is actually the case since up to recently there has been no publicly available national data on Community Services activities. This is the first dataset of its kind in England, meaning that even if there were data records on Community Services at different localities, it has never been collected at the national level and made publicly available at aggregated level before. Initially the dataset was called 'Community Services Statistics for Children, Young People and Adults' and in December 2018 it changed to simplified 'Community Services Statistics' downloadable data files, which are normally referred to as Community Services Data Set (CSDS). The data has started being collected and published nationally on a monthly basis in England since October 2017 and released with 8-9 months lag. This report is based on two snapshots of data: the period between October 2017 and December 2018, 15 months of data, for initial explorations; and the period between October 2017 and September 2019, 24 months of data, for further insights into each data strand.

All publicly funded community care providers were mandated to provide statistics, including NHS community service trusts, Local authorities, Clinical Commissioning Groups (CCGs) and independent providers. The public data aggregates are available at a few geographical levels, the smallest one being Community Services provider level (Provider now onwards), which is the level we base our analysis on, but in the dataset, it is referred to as 'NHS Trust'. In the absence of a complete list of community services' providers, it is difficult to claim with precision what percentage of them were successfully reporting the data. Out of those that submitted data for CSDS at any point within our data timeframe, just over half were submitting it consistently each month. This created significant concerns over data quality and reliability. However, the data is introduced as 'patient-level' on NHS digital website[6], and the documentation for the data is also for individual level, not its aggregates, e.g. NHS Trusts. Individual level information is only available through Data Access Request Service (DARS) by the NHS. We have applied for individual level CSDS data for further use within one of

[6] https://digital.nhs.uk/data-and-information/publications/statistical/community-services-statistics-for-children-young-people-and-adults

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PRUComm projects: 'Assessing the impact of Community Health Services on the utilisation of hospital care', but it comes at a price and the process was expected to be lengthy even prior to Covid-19 related delays. Until the end of 2018 this dataset included information from 132 different providers, and by September 2019 this number increased to 141.

This report was written with two aims: 1) to examine the coverage and quality of the newly available CSDS data to have some insight into the information offered there, and 2) to explore this information further by examining separate strands of CSDS data for their trends and broad description with the updated dataset. This report would be of interest for two main types of audiences: 1- researchers interested in using CSDS and NHSE/I and 2- policy makers. This is desirable firstly, for the research helping to understand the importance of community services' data, for instance, the links between hospital activity and community care (Lau et al. 2021[7]); secondly, for policy guidance regarding CSDS and its collection; and finally, for any other potential further research projects and questions. Due to the broad inspective nature of this report, we were mostly interested in different qualities of data. Special attention being paid to: geographic coverage and its levels, frequency and consistency of data reporting, and possible linkage of data. This report was not aimed at specific local inferences that could be made of available information.

Data organisation

Trust is named as the smallest available geographical level in CSDS, and was chosen for description and analysis presented in this report. However, some city councils and independent providers are included at this level in the data, but others (like Local Authorities) are not.

Period of time that data is provided for organisation submissions is different from the rest of the data, showing that additional 12 months of data is available, however, it is difficult to establish its meaning since no other data is available apart from the indication of which NHS Trusts submitted data. In addition, such organisation data prior to October 2017 is double-counted. Information on number of providers that submitted data for each month is available in Table 1, this number was increasing over time. Table 2 shows the frequency of reporting in

[7] Lau, Y.S., Malisauskaite, G., Brooks, N., Hussein, S., Sutton, M. (2021). Complements or Substitutes? Associations between volumes of care provided in the community and in hospitals (in press).

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months of the providers in data. The number of providers that submitted data each month over the 24 months is 66 out of 141 (46.8%). The information available in Table 1 suggests that none of the months offer information on all the Providers in data within this 2 year window. It is also not possible to know if the 141 Providers that submitted information on CSDS activities captures all community services providers.

Table 1: Number of Providers in data

Period	Number of Providers
1.Oct 17	98
2. Nov 17	99
3. Dec 17	102
4. Jan 18	110
5. Feb 18	111
6. Mar 18	109
7. Apr 18	114
8. May 18	112
9. Jun 18	109
10. Jul 18	114
11. Aug 18	113
12. Sep 18	118
13. Oct 18	114
14. Nov 18	115
15. Dec 18	114
16. Jan 19	123
17. Feb 19	123
18. Mar 19	124
19. Apr 19	125
20. May 19	129
21. Jun 19	130
22. Jul 19	131
23. Aug 19	132
24. Sep 19	132

Table 2: Frequency of reporting

Nr of months reported	Number of Providers
24	66
23	20
22	7
21	2
20	4
19	3
18	7
17	2
16	0
15	1
14	4
13	2
12	3
11	1
10	2
9	2
8	2
7	2
6	5
5	3
4	1
3	0
2	1
1	1
Total:	141

In most data series, information is available in two separate count categories: for those under 19 years of age and those over (apart from Immunisations). Gender identification is more than binary (Male/Female), and includes 'Indeterminate gender', 'Not Known gender', and 'Missing gender', however, there are few counts of activities in these categories and information is mostly missing. Most series of data also report 'Totals' in addition to other

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previously mentioned count categories, which tend to be higher than the sum of separate smaller categories. It is not clear if this relates to 'rounding' procedures undertaken before the data is made available or if it is due to errors in reporting by individual providers. A detailed list of available variables for the period between October 2017 and December 2018 is presented in Table A1 and further information on their descriptive statistics (e.g. how many counts are available) is given in Table A2 in the Appendix.

CSDS also offers a possibility of further aggregating the data at Commissioning Region (CR) and Area Team levels. However, the aggregation geography provided in CSDS was outdated. We have updated the geography classification (i.e. aggregation levels: Area Teams and Commissioning Regions) to 2018 classification. Some information on geography classification is available in Appendix Tables A3-A7 for the period until the end of 2018. Tables are based on an NHS Trusts list from 2014, but without a full list of community services providers they are just rough estimates. Table A3 shows the total number of NHS Trusts for each Commissioning Region, and Table A4 – the number of community services providers that submitted data and its coverage (in respect to totals in Table A3) for each month per CR. According to the available information, North CR has the best rate of reporting, which is mostly just over 50%, followed by South CR, with roughly around just over 40% submission rates on average. Table A5 presents the list of 8 Councils found in data and a number of months they submitted the data. Table A6 presents a number of Trusts per Area Team and Table A7 presents submission prevalence rates by month and Area Team. Two Area Teams from the North CR are leading in this: Yorkshire and Humber, and Cumbria and North East with over 70% and 57% average data submission rates respectively. However, most common submission rates per other Area Teams are around 30-40%.

For initial data explorations (October 2017 – December 2018, 15 months) we employed some graphical analysis for a small range of selected variables within each data strand, represented in Figures A1-A15 in the Appendix. Those are mainly different activity Totals and Totals by gender, and a few chosen activities with the largest number of observations within each strand. Total counts of each strand are mapped by Area Team and presented visually in a map of England at four separate snapshots in time: October 2017, February, July and December 2018. These totals do not account for population size, thus graphs depict total (reported) service use and not relative service use. Similar theme is visible in all presented maps – with mostly Northern and Eastern Area Teams having higher Total counts, which is

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likely a representation of data submission prevalence and quality rather than of actual counts of activities regionally.

Similar conclusion could be made of graphs showing changes over time in best reported counts within each data series. As graphs show, there are some large changes in activity counts in Area Teams, sometimes ranging from around 0 line to high peaks, e.g. Figure A2, counts of Care Activities for Cumbria and North East Area Team spike up to around 17,000, and then back to 0. Whereas activity counts for some other Area Teams are much more steady over time which is more credible, e.g. most of South East and South West Area Teams. Finally, there are some Area Teams reporting counts that are consistently close to 0.

Any graphs exploring gender differences show a very similar pattern between genders over time, with some sharp troughs, which could mean that any larger changes in counts are likely to be related to data quality rather than represent the true situation. However, it is noticeable that female counts of activities tend to be somewhat higher than those of males, possibly suggesting higher use of community services.

Descriptive findings by data strand

In this section we further explore the CSDS data for the period between October 2017 and September 2019 (24 months). There are seven series of data available in the publicly available CSDS, presented as counts of:

- Care Activities
- Care Contacts
- Immunisations
- Patients with Referrals
- Patient Care Contacts
- Referrals
- Organisations, which submitted data.

Care Activities

Each community care provider submits the volume of each of the following Care Activities performed:

- Administering Tests
- Assessment
- Clinical Intervention
- Counselling, Advice, Support

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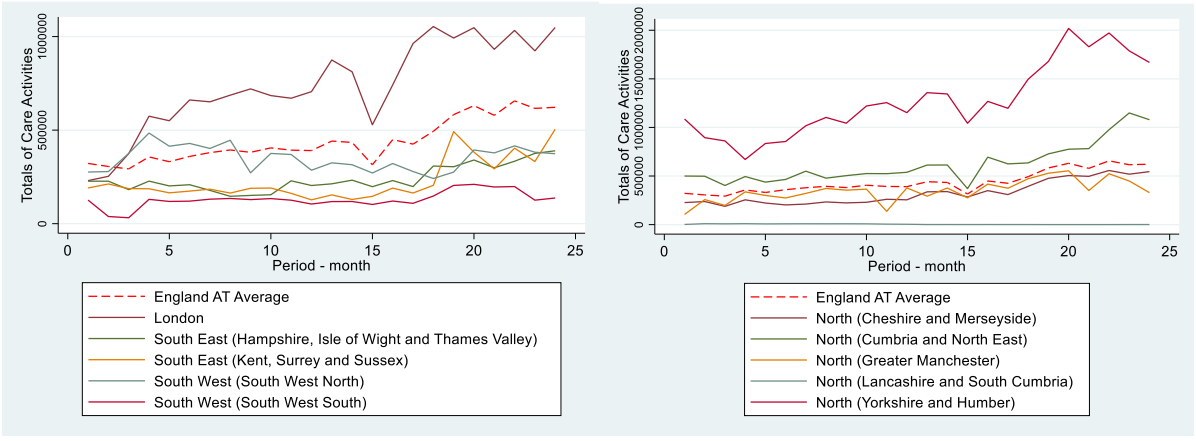
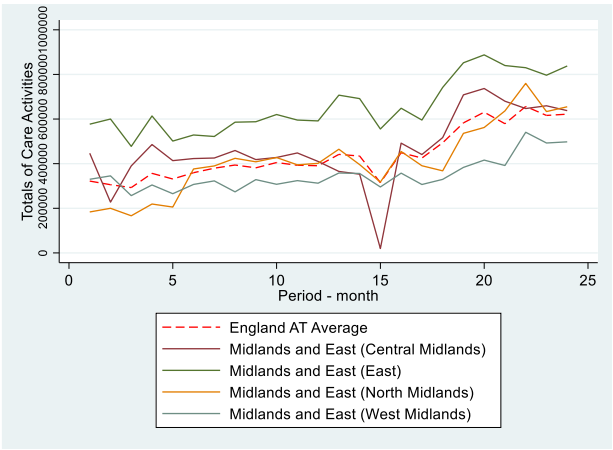
- Health Visitor Formal handover to School Nursing Service (4-5 years)
- Health Visitor Health Review (1 year)
- Health Visitor Health Review (2-2.5 years)
- Health Visitor Health Review (6-8 weeks)
- Health Visitor New Birth Visit
- Multidisciplinary Team Review
- Patient Specific Health Promotion
- Supporting Another Clinician
- Other
- **Totals**
- *Missing value/Value outside reporting parameters*

Counts for the same activities are also available for those under 19 years old and over. For simplicity, we looked into counts of totals and totals under 19 only.

Figures 1: Care Activities Totals by Area Team





Figures 1 depict changes in Care Activities totals over the 24-month period by 14 Area Teams in England. The Area Team average in England in represented by a red dash line showing a clear increase over the time, starting at below 400,000 Care Activities per month per Area Team at the end of 2017 and increasing to over 600,000 by the second half of 2019.

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However, it is not possible to say if this increase is due to more services provided by the Community or due to better data quality and more Trusts reporting back the data more consistently. Counts for London are significantly above the Area Team average also showing a sharp, roughly fourfold, increase in Care Activities counts over the 24 months, which seems easier to attribute to better reporting than an increase in services. There is a similar large increase in Care Activities counts in the Yorkshire and Humber Area Team as was observed in London, also significantly above Area Team average. The figure shows a near twice increase in its Care Activities' counts, which is also nearly twice the London counts for the second half of 2019. Most Area Teams show a clear increasing trend in Care Activities totals over time, though this trend is less distinctive for the Area Teams in the south of the country. The complete lack of totals reported for the Lancashire and South Cumbria Area Team is worrying, which points at data quality and consistency issues. It is also possible to observe a large dip in totals for the month 15 (December 2018), this potentially could be attributed to winter festive period lower demand and restrictions in access to Care Activities and consequently affected reporting. It is possible to find a similar pattern for December 2017 (month 3), but it is considerably less pronounced.

Table 3 lists all Care Activities reported as totals for all age groups and for those under 19 as a percentage of a total of Care Activities within each category. For the 2 year period a total sum of 147.8 mln. Care Activities reported for all age groups, and around 33 mln. of them (22.3%) for those under 19. Clinical intervention, Assessment and Counselling, advice, support and Other activities correspond to the largest proportions of all activities for both age groups. Clinical intervention accounts for 37.5% of all Care Activities, this proportion being more than twice lower for those under 19 (around 17%). The highest proportion of Care Activities for under 19 is recorder as 'Other' (almost 35%), and also is the second largest proportion for all ages (30.7%).

We observed a difference between reported Totals of activities and the sum of separate counts of activities throughout the different strands of data, the difference could be positive or negative and it is not possible to account for its reason, but potentially rounding up could be part of an explanation.

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Table 3: Care Activities proportions of Totals

Care Activity	All	Under 19
Clinical Intervention	37.54%	16.97%
Other	30.73%	34.96%
Assessment	19.07%	18.02%
Counselling, Advice, Support	6.27%	10.90%
Administering Tests	1.28%	0.78%
Health Visitor New Birth Visit	1.15%	4.05%
Health Visitor Health Review (1 year)	0.93%	4.01%
Health Visitor Health Review (2-2.5 years)	0.92%	3.97%
Patient Specific Health Promotion	0.79%	2.42%
Health Visitor Health Review (6-8 weeks)	0.77%	2.67%
Multidisciplinary Team Review	0.26%	0.82%
Supporting Another Clinician	0.21%	0.23%
Missing value/Value outside reporting parameters	0.05%	0.17%
Health Visitor Formal handover to School Nursing Service (4-5 years)	0.01%	0.03%
Total sum of Care Activities per 2 year period	147,815,560	33,098,615

Care Contacts:

Care Contacts' counts available by:

- Gender & age cohort
- Type and attendance status
- Medium

Gender groups available by 5 year interval age cohorts up to the age of 85+:

- Male
- Female
- Indeterminate
- Not Known
- *Missing*

Care contact type:

- Initial Consultation
- Follow-up Consultation
- *Missing*

Attendance status:

- Attended
- Health care provider cancellation
- Patient cancellation
- Patient did not attend or arrived late
- *Missing*

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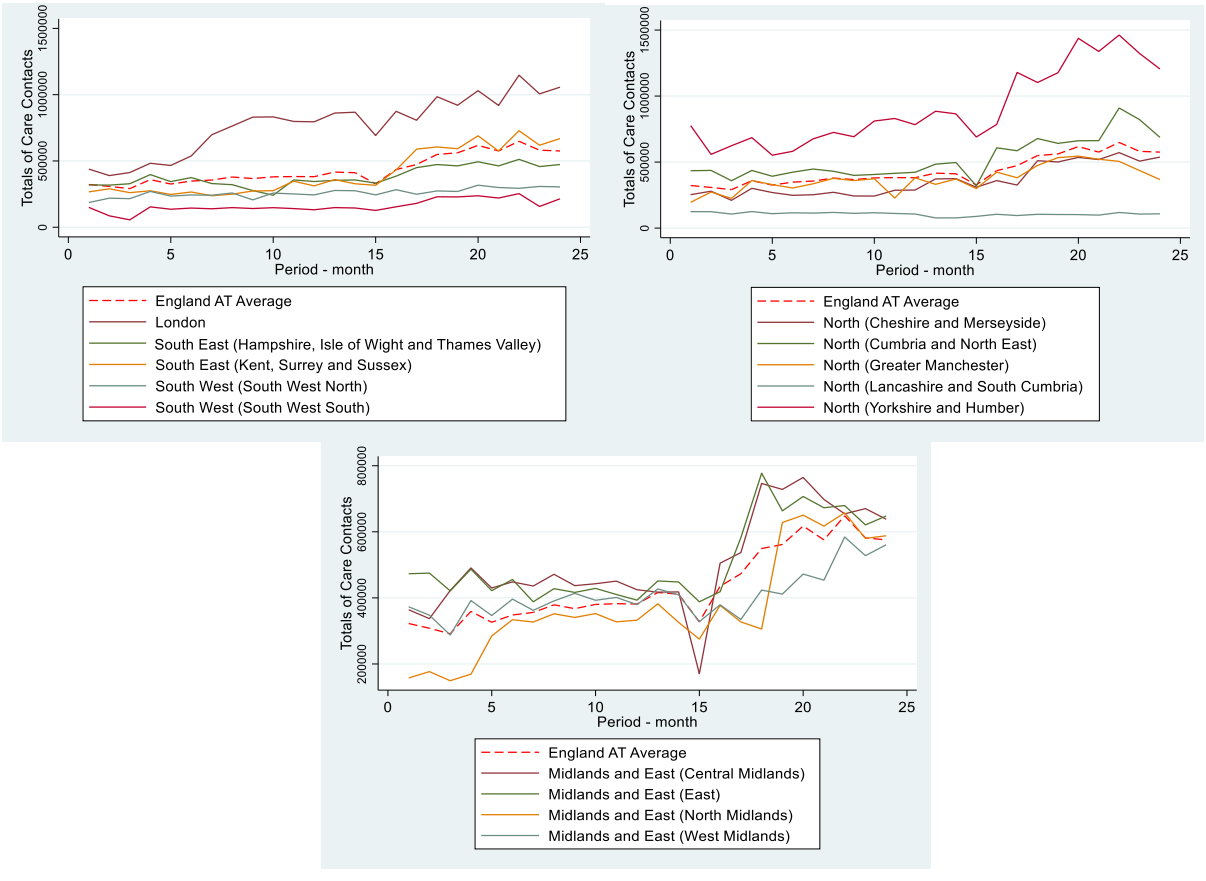
Medium:

- Email
- Face to face communication
- Short Message Service (SMS) – Text Messaging
- Talk type for a person unable to speak
- Telemedicine web camera
- Telephone
- Other
- *Missing value/Value outside reporting parameters*

Care Contacts' counts are available by the categories listed above, that are then split into a few subcategories. There is a distinction made between gender being not determined, not known and a missing value, making interpretation more difficult, though on the other hand, there is little data reported within these categories. Attendance status by Care Contact type and Care Contacts by medium are also available for those aged under 19 in the same listed subcategories. However, the three main Care Contacts counts' categories cannot be linked between themselves within publicly available data, e.g.: it is not possible to tell which medium type is best attended or which age category and gender is prevalent within each medium type or attended best, etc.

Figures 2: Care Contacts Totals by Area Team



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Figures 2 present Care Contacts totals for 24 months, and the patterns observed are similar to those of Care Activities: a noticeable increase in counts over time, London and Yorkshire and Humber being significantly above English average, Lancashire and Cumbria reporting lowest figures not far above 0 line, and some observable dips in data for month 15 (December 2018), with following similar conclusions as from Care Activities.

Figure 3 present numbers of Care Contacts split by contact type for all ages and those under 19 years old. Follow-up consultations take up the largest number of Care Contacts in both age groups. However, there a large number of Care Contacts are recorded as 'missing', which makes the second largest category for both age groups, with it being close to follow-up consultation numbers for those under 19. With the information available it is difficult to say if 'missing' category simply corresponds to a lack of record for contact type or has a different meaning, and if it is due to aggregation errors and issues dealing with individual data or an actual lack of record. Yet this 'missing' category is different from missing data, as it still reports counts of Care Contacts.

Figure 3: Care Contacts Totals by contact type

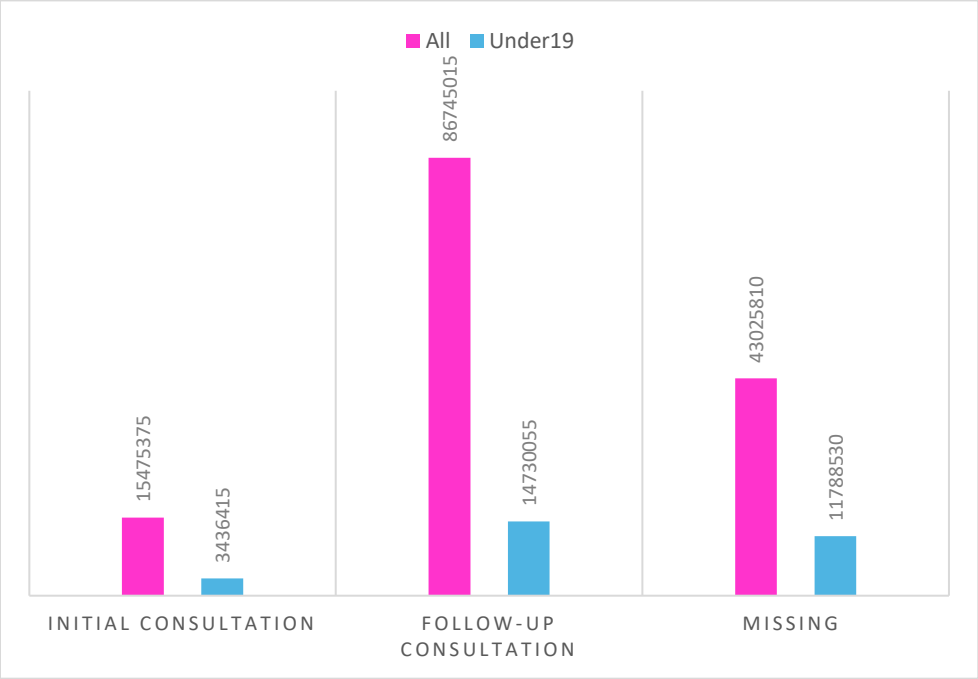

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Figure 4: Decomposition of Initial consultation by attendance status

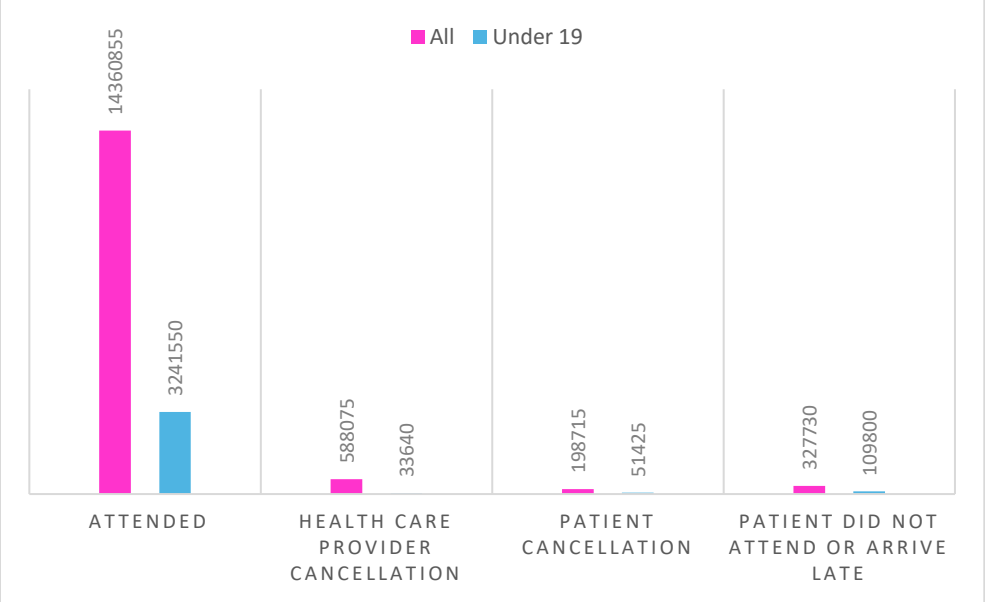
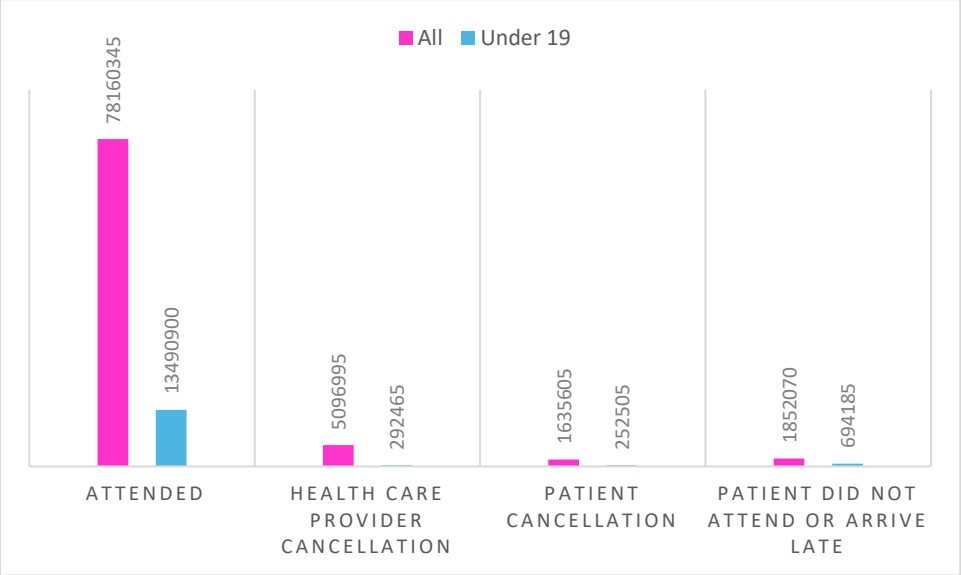


Figure 5: Decomposition of follow-up consultation by attendance status



Figures 4 and 5 decompose initial consultations and follow-up consultations by attendance status. Both figures show that most of Care Contacts are attended for both age groups. Second most numerous attendance category for both contact types and all ages is healthcare provider cancellation, while for those under 19 it is patient not attending or arriving late. Patient cancellation is least likely for all ages and those under 19 for follow-up consultations, and health care provider cancellation is least likely for those under 19 for initial consultations.

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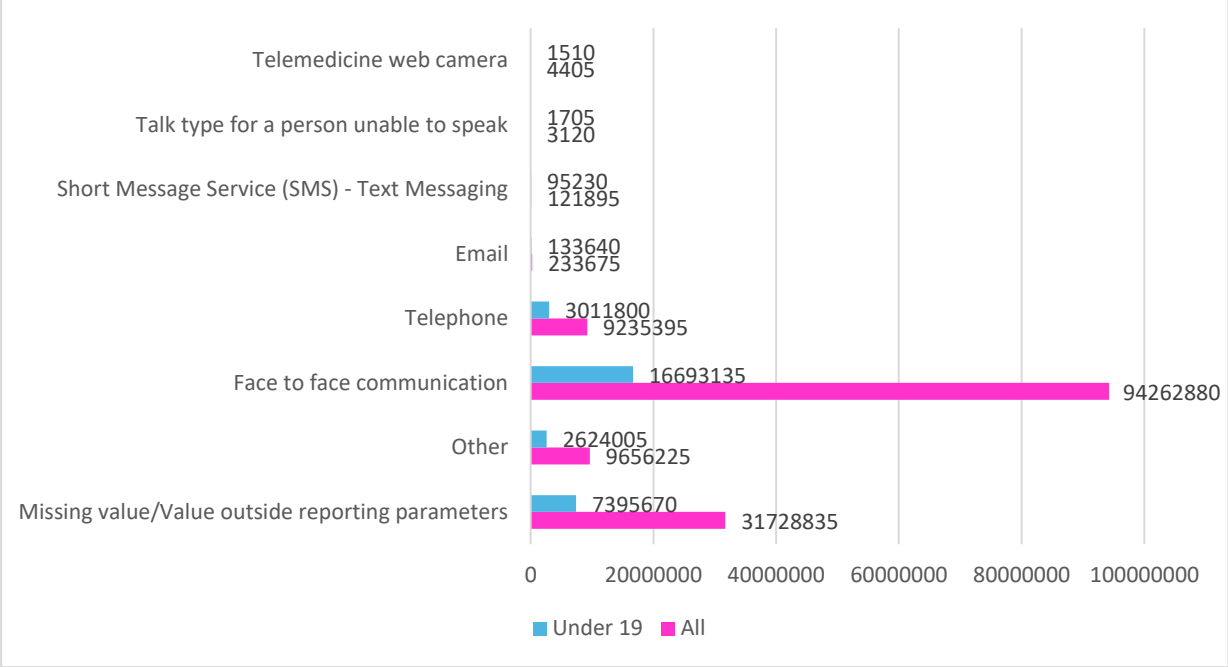
Figure 6: Care Contacts Totals by medium



Decomposition of Care Contacts by medium is presented in Figure 6. The majority of all Care Contacts are face-to-face, that is a recorded sum of 94.3mln. for the 2 year period, out of which 16.7mln. (17.7%) are for those under 19 years old. Second most numerous category is 'Missing value or value outside of reporting parameters', which is almost a third of face to face Care Contacts for all ages and nearly half for those under 19. This is followed by telephone medium and 'Other' medium category, with very similar numbers in each. Telemedicine web camera is the least likely medium for those under 19 and 'Talk type for a person unable to speak' in general.

Figure 7 shows Care Contacts totals decomposed by age categories and reveal that in general throughout the life cycle women account for a much higher proportion of Care Contacts, which is especially true for age groups over 80. This is likely to be related to women having a longer life expectancy in comparison to men. Only amongst children under the age of 15, boys account for more community Care Contacts than girls. In general, we observe a familiar healthcare utilisation pattern where the total Care Contacts in respect to age, with youngest and oldest individuals accounting for highest counts of Care Contacts.

Since people aged 85+ account for the largest number of Care Contacts and females of this age had more than twice the number of Care Contacts in comparison to females aged 80-84, the counts by gender over time are plotted in Figure 8. The figure clearly depicts the gap between men and women, but overall exhibit similar upwards trend and slope and a pattern over time.

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Figure 7: Care Contacts Totals by gender and age

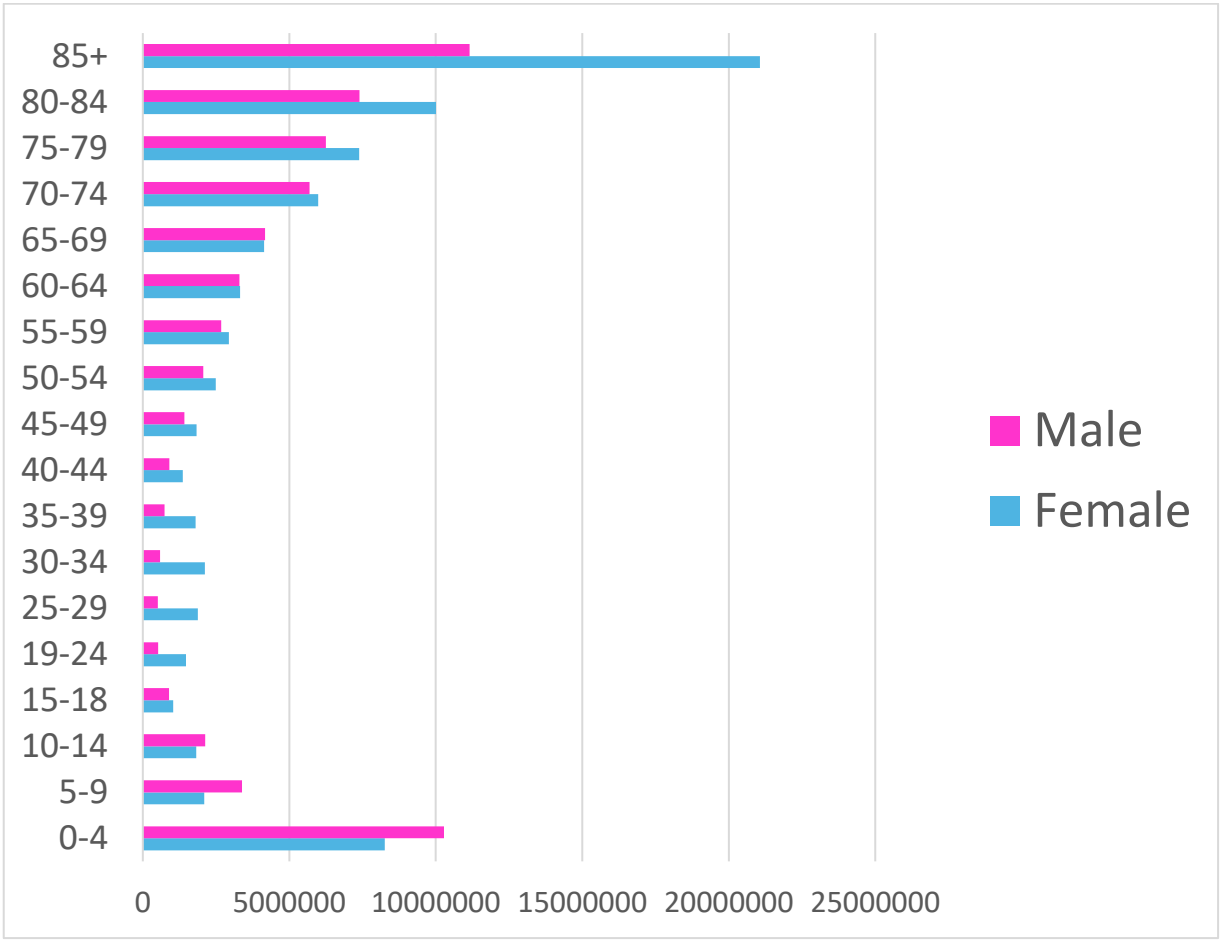
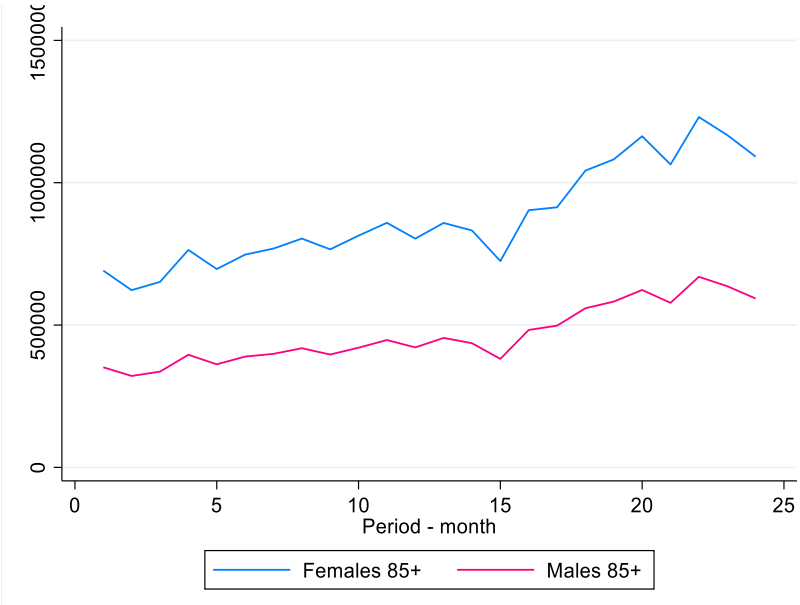


Figure 8: Care Contacts Totals by gender for people aged 85+



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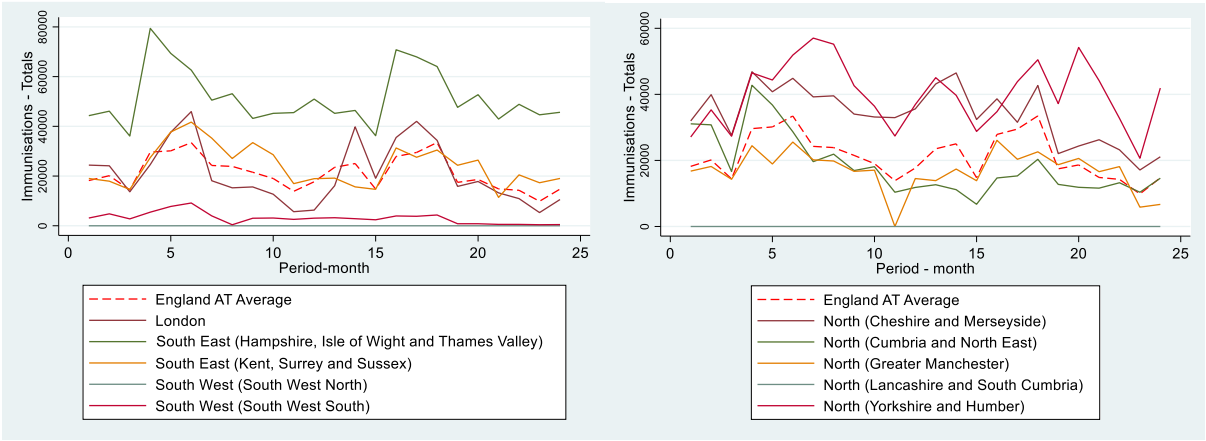
Immunisations:

Immunisations counts data is available in these categories:

- Less than 1 year
- 1 to 2 years
- 3 to 10 years
- 11 to 18 years
- **Total**
- *Missing*

Figures 9 present the Immunisation totals over time by Area Team and the patterns in data are somewhat different form Care Activities and Contacts. There are a few Area Teams which display counts above English average: Hampshire, Isle of Wight and Thames Valley in the South, Cheshire and Merseyside, and Yorkshire and Humber in the North, and Central Midlands in Midlands. There are a few Area Teams which counts are very close or completely matching the zero line: South West North, South West South, and Lancashire and South Cumbria. There is no clear trend and a lot of volatility in data, all of which indicate further problems with data and reporting.

Figures 9: Immunisations Totals by Area Team



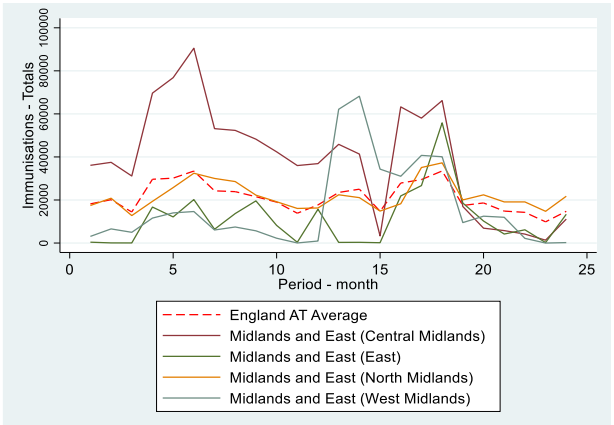


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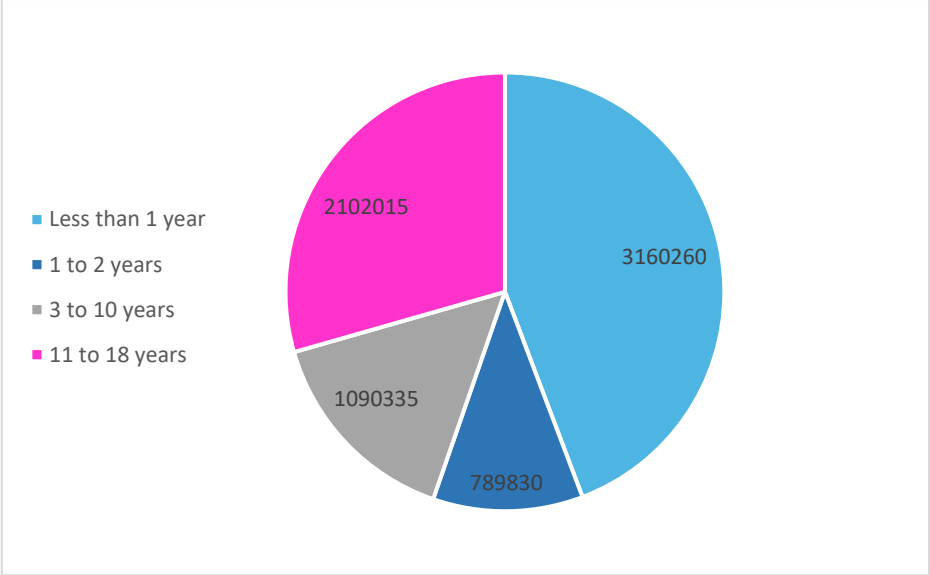
Figure 10 shows how the numbers of Immunisations for the 2 year period are split between different age groups of children. Nearly half of Immunisations are for children less than 1 year old. Second largest proportion, nearly a third of all Immunisations, is for children between ages 11 and 18. Least numerous category is children aged 1 to 2.

Immunisations data is different from other strands since there are no missing values counts reported, i.e. this data category is present in data, but it has no observations. This could be interpreted as a positive, yet it is difficult to explain why in comparison to other data strands where this category is very numerous.

Figure 10: Immunisations Totals by child's age



Patients with Referrals:

Counts of number of Patients with Referrals can be split by:

- Gender: Male, Female, Indeterminate, Not Known, *Missing*;
- Age cohort – available in 5 year intervals up to 85+.

Figures 11 depict totals of number of Patient with Referrals by Area Team across England over time. The English average for an Area Team is around 50,000 Patients with Referrals a month, there is a small upwards trend but overall it is fairly constant. Numbers of total Patients with Referrals for London, Yorkshire an Humber and East Midlands Area Teams are significantly above the national average. London is exhibiting an upwards trend with Patient with Referrals counts around 100,000 mark; Yorkshire and Humber is around a similar number with a single sharp

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increase in month 12 (September 2018), which was over 150,000 Patients with Referrals; East Midlands vary around the 100,000 mark also, reaching around 130,000 for month 8 (May 2018). A couple of Area Teams show much lower Patients with Referrals counts: South West South and Lancashire and South Cumbria. There is a large dip in Patients with Referrals numbers for the month 15 for the national average and separate Area Teams as seen previously in other data strands.

Figures 11: Patients with Referrals Totals by Area Team

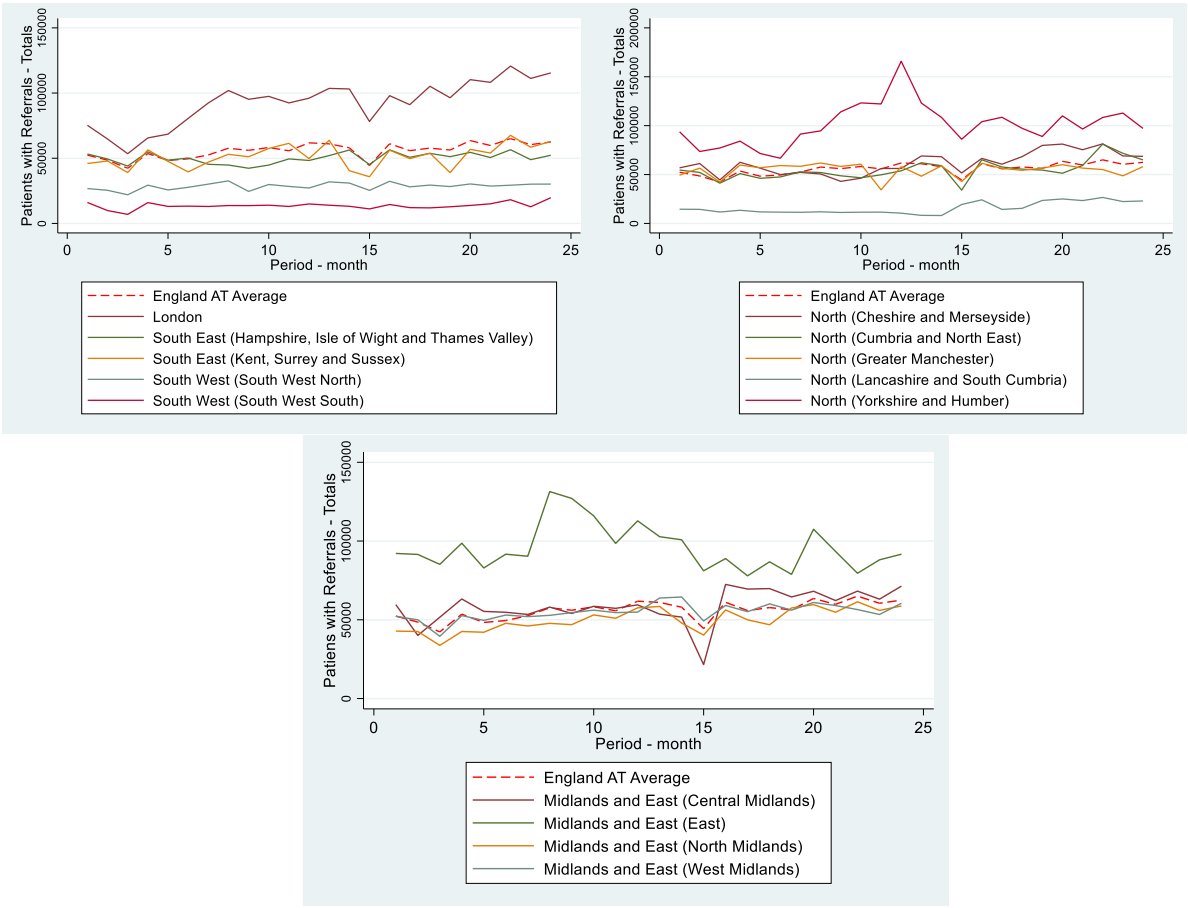

Figure 12 shows the numbers of Patients with Referrals for the given gender categories. There are 5 different gender categories available, with most counts recorded under Male and Female. There are around 10.7mln female Patients with Referrals and 8.1mln Male. Indeterminate and not known gender categories have relatively few Patients counts (25 and 1205 respectively), but there are around 37.7 thousand Patients with Referrals in the 'missing' category, no explanation is available what is the difference between the three categories.

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Figure 12: Patients with Referrals Totals by gender

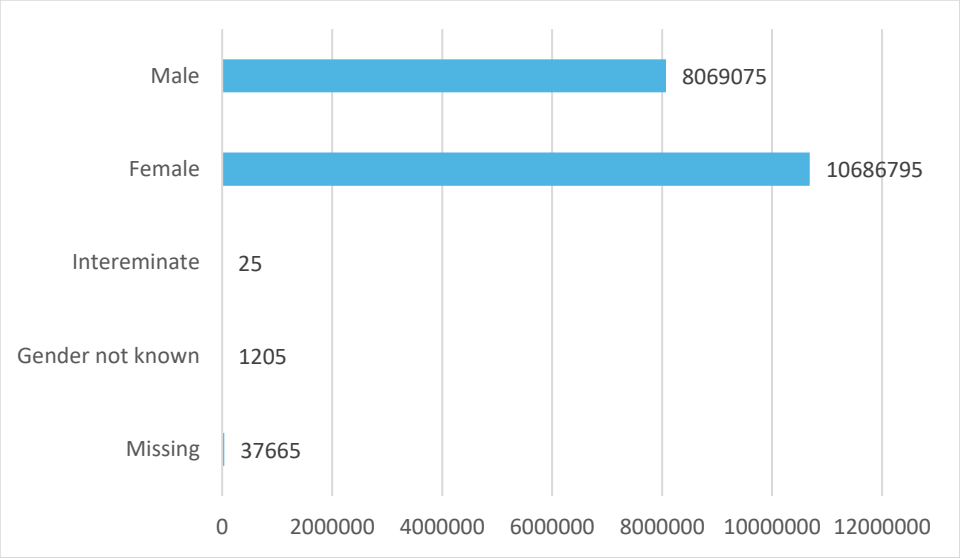

Figure 13: Patients with Referrals Totals by gender and age

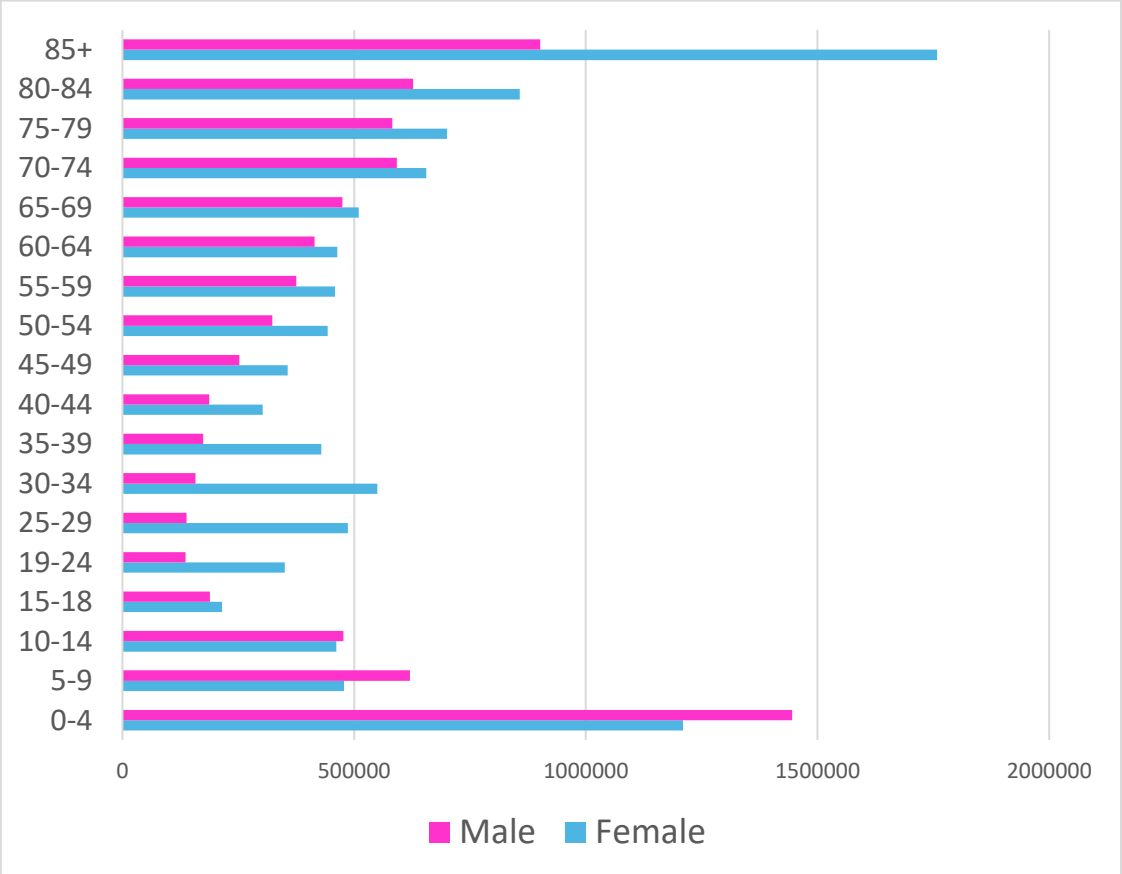

Figure 13 presents a similar pattern as seen earlier in Care Contacts Totals by age and gender. Most Patients with Referrals are for individuals aged 0-4 and 85+, with both being above 1 million mark for the 2 years period. Females aged 85+ reach up to 1.75 million Patients with Referrals in

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total, with the figure for males of the same age being nearly twice smaller, while figures for both boys and girls aged 0-4 are relatively similar, with boys reaching close to 1.5 million Patients with Referrals over the 2 years period. Females account for higher numbers of Patients with Referrals than males after the age of 15, and the opposite is true for younger ages. The two age groups: 0-4 and 85+ are depicted separately by gender over time in Figures 14 and 15. The trend is gently upwards sloping but overall showing consistent numbers of Patients with Referrals over time for the patients aged 85+, with the dip in numbers for month 15 and sustained nearly twice larger counts for females. While the pattern for children between the ages of 0-4 is different, with males consistently accounting for higher numbers of Patients with Referrals over time, but there is more variation in the data, with highest peak reaching up to 75,000 Patients with Referrals for boys and lowest trough being less than 40,000 for girls in month 15.

Figure 14: Patients with Referrals Totals by gender for adults aged 85+

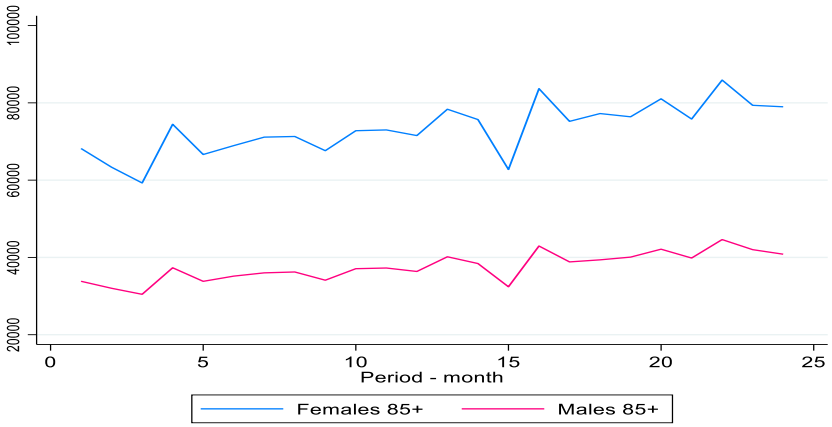
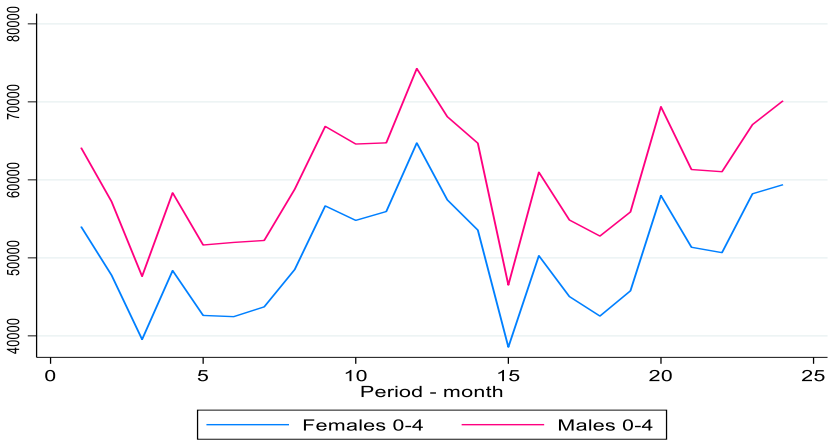


Figure 15: Patients with Referrals Totals by gender for children aged 0-4



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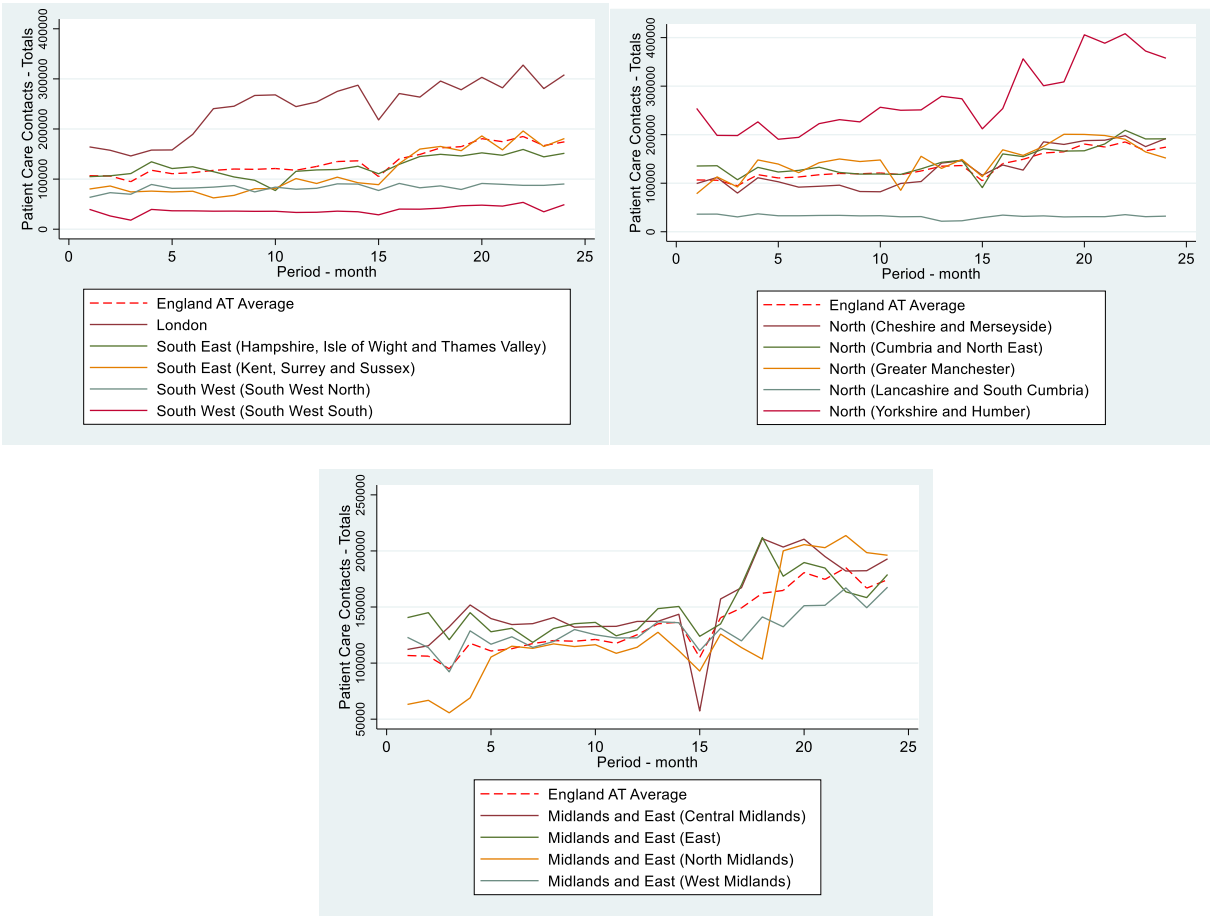
Patient Care Contacts:

Counts of numbers of Patient Care Contacts are available by:

- Gender: Male, Female, Indeterminate, Not Known, *Missing;*
- Two age groups: under 19 and over 19.

Figures 16 present totals for Patient Care Contacts by Area Team over time. National Area Team average starts around 100,000 Patient Care Contacts and increases up to around 180,000. A couple of Area Teams are significantly above this average: London, reaching up to 300,000 Patient Care Contacts, and Yorkshire and Humber, going as high as 400,000 Patient Care Contacts. These trends are similar to other data strands discussed earlier. A couple of Area Teams are significantly below the national average: South West South and Lancashire and West Cumbria, also similar to what was mentioned about the other data strands. There is higher variation in numbers for Midlands Area Teams from dips as low as 50,000 Patient Care Contacts to highs of 200,000.

Figures 16: Patient Care Contacts Totals by Area Team



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Patient Care Contacts totals are depicted by gender categories in Figure 17. Similar conclusions can be drawn as from counts of Patients with Referrals: most patients are recorded under male and female gender categories. Overall, there were 25.3mln. female and 20.1mln. male Patient Care Contacts recorded within the 2 year period. There are fewer female compared to male Patient Care Contacts for those under 19 (7.1mln and 8.6mln respectively). There are more individuals recorded under the 'Indeterminate' gender category in comparison to Patients with Referrals, but as previously, there are patients recorded in all three other gender categories. Figure 18 shows how Patient Care Contact numbers were changing over the 2 year period by gender and age group. Figure shows a clear upwards trend in numbers over time and a familiar dip in month 15. There is a sustained gap between male and female Patient Care Contact numbers with females accounting for more of them in general, but the opposite is true for males under 19 years old with higher numbers of Patient Care Contacts.

Figure 17: Patient Care Contacts Totals by gender

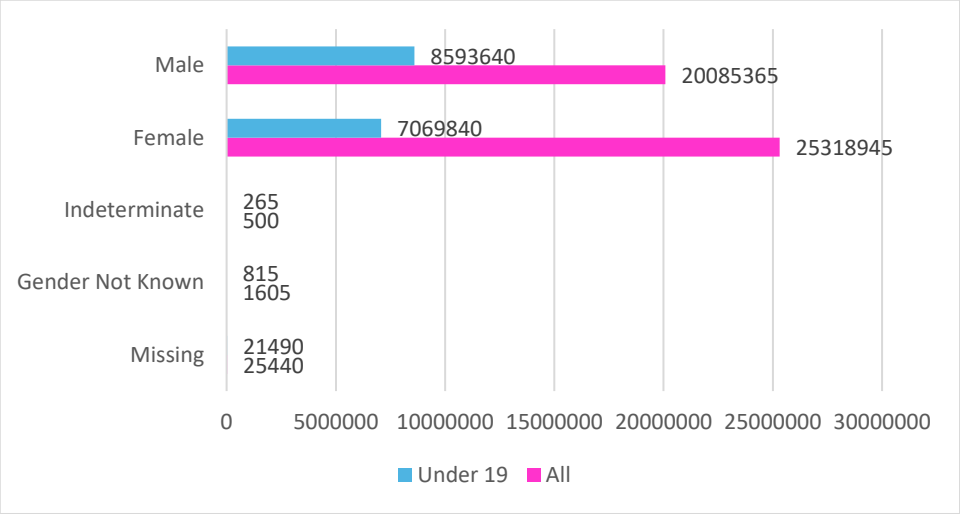

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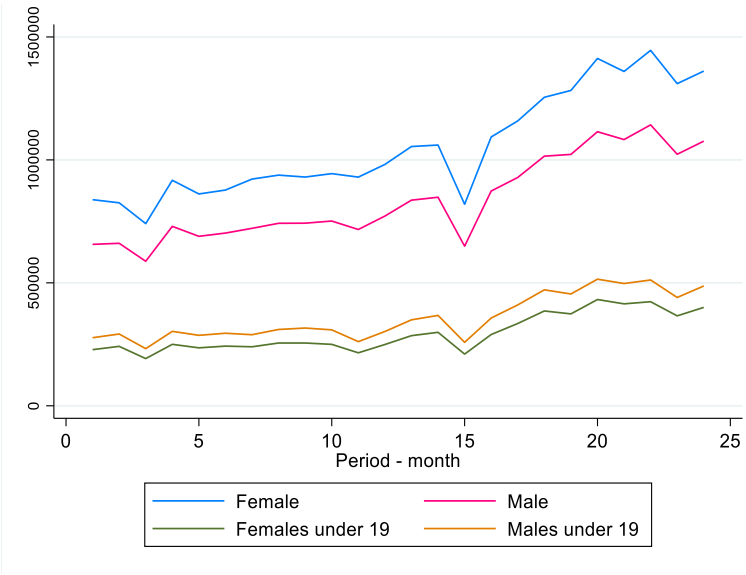
Figure 18: Patient Care Contacts Totals by gender and age group over time



Referrals:

Referrals, a way through which Community Health Services are accessed, is one of the richest data strands in CSDS data in terms of information offered. Counts of Referrals are presented by:

- Gender (Male, Female, Indeterminate, Not Known, *Missing*) & age cohort (in 5 year intervals up to 85+);
- Source;
- Reason & age;

Both source and reason have numerous categories available. Referral source categories:

- Accident and Emergency Department (including Minor Injuries Units and Walk In Centres)
- Acute Hospital Inpatient/Outpatient Department
- Ambulance Service
- Asylum Service
- Care Home
- Carer/Relative
- Community Health Service (same or other Health Care Provider)
- Courts
- Dental Practice
- Educational Establishment
- Employer
- General Medical Practitioner Practice
- Hospice
- Independent Sector
- Local Authority Social Services
- Mental Health Service
- National Screening Programme
- Police
- Prison Health Service
- Probation Service

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- Self-Referral
- Telephone or Electronic Access Service
- Voluntary Sector
- *Not Known*
- *Missing value/Value outside reporting parameters*

Reason categories:

- Accident/Trauma
- Alopecia
- Antenatal Care
- Bereavement
- Bladder Care
- Blood Disorders
- Blood Pressure
- Bowel Problems
- Cancer
- Cardiac Conditions
- Care of the Next Infant (CONI) Pathway
- Catheter Problems
- Cerebral Palsy
- Chronic Allergy/Immunological Problem
- Chronic Fatigue Syndrome/Myalgic Encephalopathy
- Cleft Palate
- Cognitive Problems
- Colostomy Care
- Complex Social Factors
- Condition(s) Requiring Respite Care
- Continence Problems
- Deep Vein Thrombosis
- Dental Care/Problems
- Developmental Problems
- Diabetes
- Diarrhoea and Vomiting
- Dizziness/Balance Problems
- Downs Syndrome
- Ear Infections/Problems
- Eating Disorder
- Emotional/Behavioural Problems
- End of Life Support
- Epilepsy
- Equipment Provision
- Eustachian Tube Dysfunction
- Failure to Thrive
- Falls Risk
- Family Support
- Feeding/Swallowing Problems
- Foot Care/Problems
- Gastrostomy Management/Care
- Genetic Disorders
- Haematology/Phlebotomy
- Head Injury
- Healthy Child Pathway
- Hearing Problems/Loss
- Immunisation
- Laryngectomy
- Leg Ulcer
- Looked After Children
- Low Muscle Tone
- Lymphoedema Management
- Maternal Mood Problems
- Metabolic/Endocrine Disorders
- Minor Surgery
- Mobility Problems
- Multiple Complex Communication Difficulties
- Musculoskeletal Problems
- Neonatal Abstinence Syndrome
- Neurological Problems

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- Nutrition and Dietetics
- Ophthalmic Problems
- Other Congenital Conditions
- Over 75 Assessment
- Pain/Symptom Control
- Parkinsons Disease
- Personal Hygiene
- Post Operative Care
- Pressure Ulcer
- Problems with Activities of Daily Living
- Psychological Conditions
- Rehabilitation
- Renal Problems
- Respiratory Conditions
- Safeguarding
- Skin Problems
- Sleep Problems
- Smoking Cessation
- Speech and Language Problems
- Stoma Care
- Structural/Functional Impairment
- Substance Misuse
- Trismus/Restricted Mouth Opening
- Tuberculosis
- Vascular Problems
- Vomiting/Nausea
- Wound Care
- *Not known*
- *Missing value/Value outside reporting parameters*

Referrals Totals by Area Team over time are depicted in Figures 19, with similar trends present as in previously discussed data strands. London, Yorkshire and Humber and East of Midlands stand out with numbers of Referrals significantly above the national average. There is a clear upwards trend in number of Referrals for London, but less visible for most other Area Teams. The previously identified Area Teams with very low numbers of activities, their Referrals' counts are significantly below the national average, yet are further from the zero line. However, it is not possible to conclude if that signifies better reporting for Referrals or just in general higher numbers for this strand.

Figure 20 shows the Referrals totals by gender and age, with a similar pattern displayed, as observed previously: individuals between ages 0-4 and 85+ accounting for highest numbers of Referrals. Males of both age groups reach around 1.5 million Referrals over 2 year period, this number is somewhat lower for females aged 0-4 and nearly twice higher for women aged 85+. Figure 21 displays Referral totals for individuals aged 85+ over time, showing a slight upward trend and a clear gap between genders.

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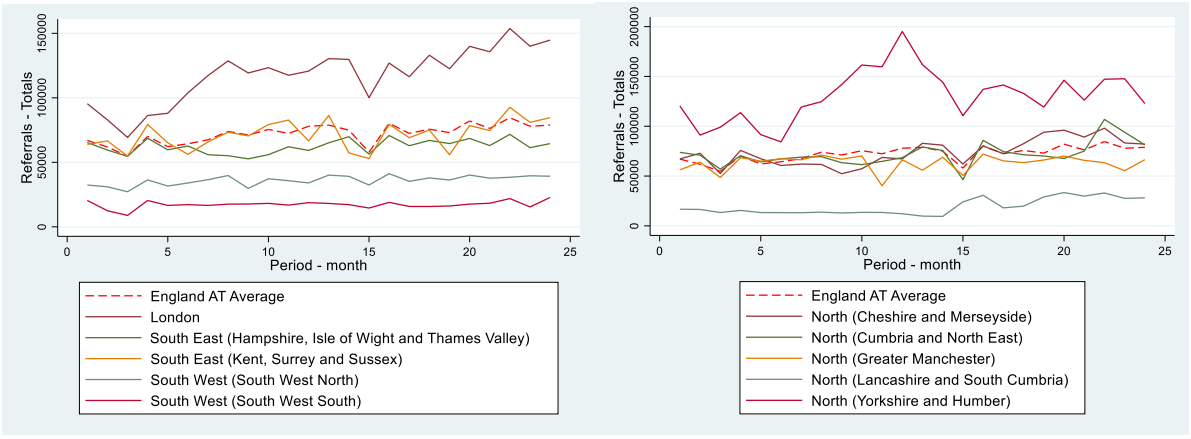
Figures 19: Referrals Totals by Area Team



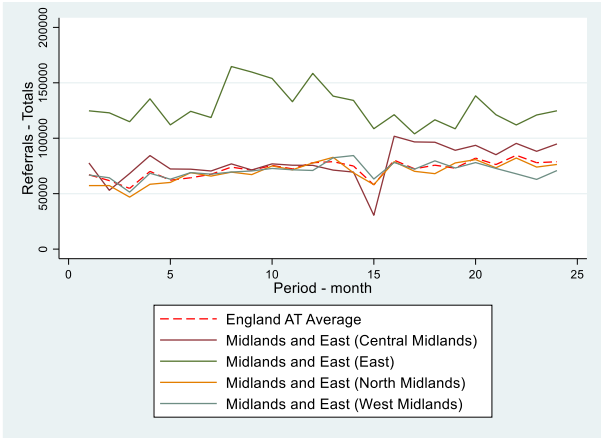


Figure 20: Referrals Totals by gender and age

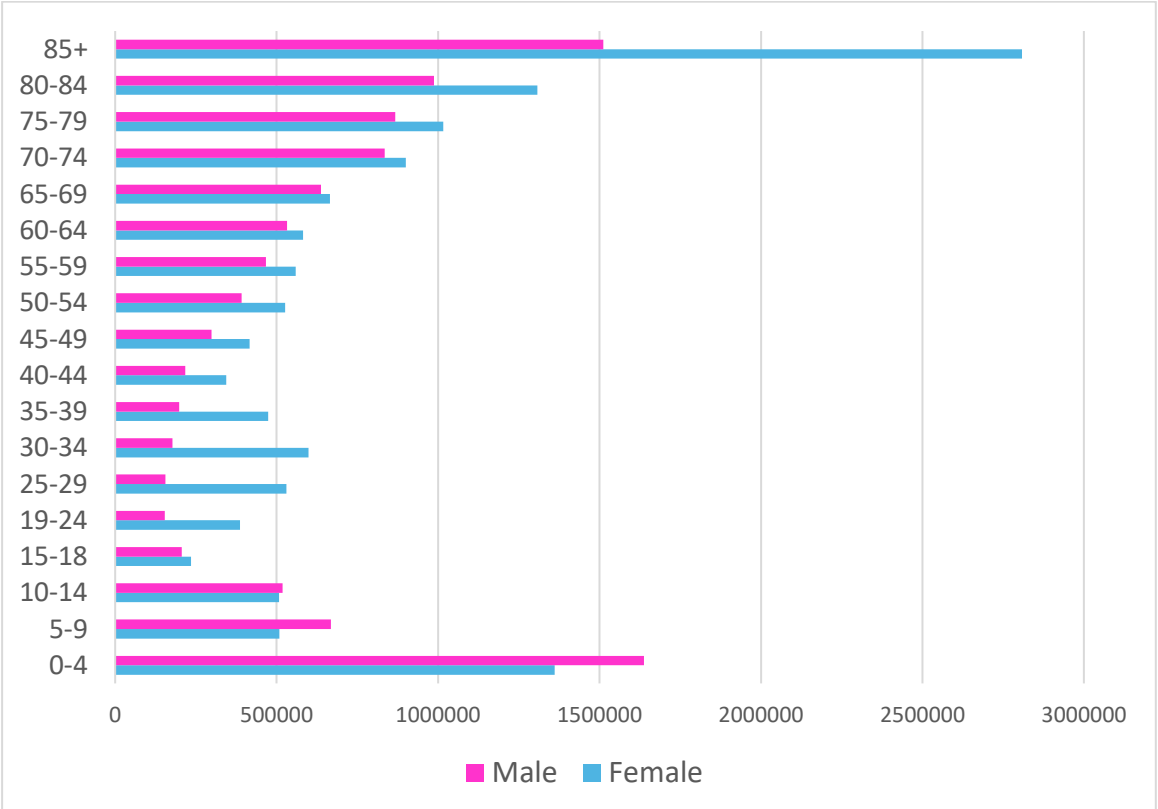


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Figure 21: Referrals Totals by gender for adults aged 85+

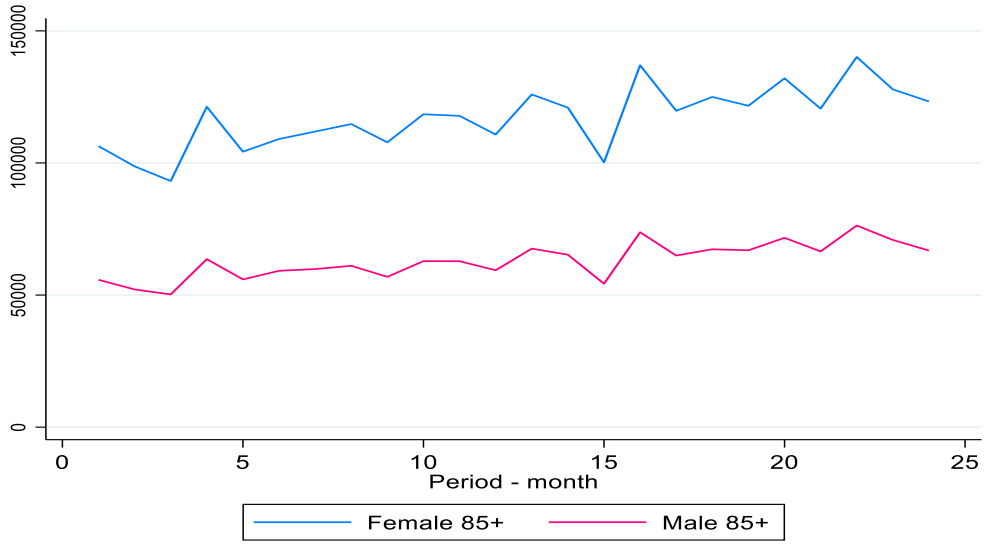
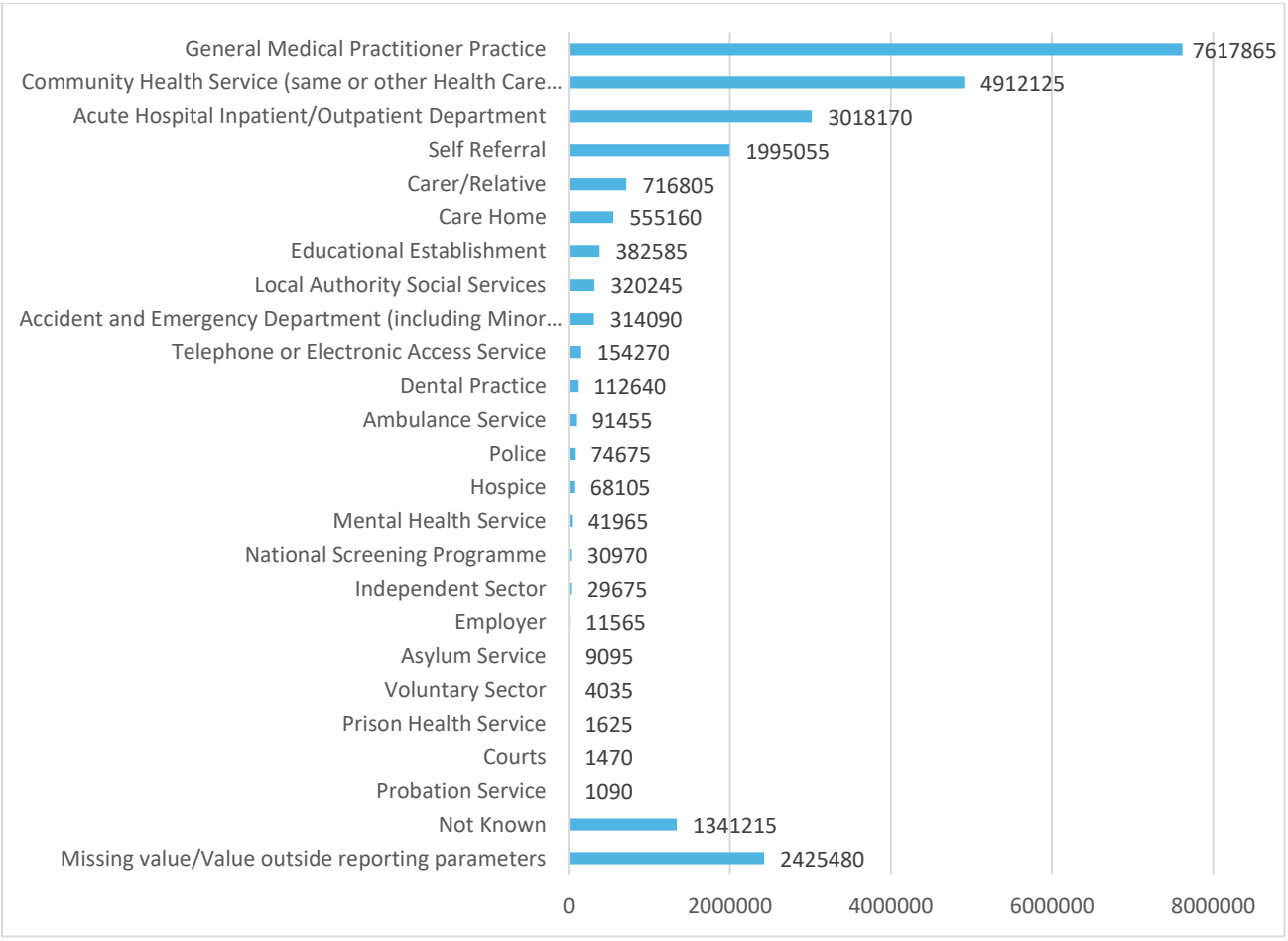


Figure 22: Referrals – Source



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Numbers of Referrals by source are shown in Figure 22. General Medical Practitioner Practice is the main source of Referrals, with 7.6mln. recorded over the two year period. Community Health Service is second largest source for Referrals (4.9mln.), followed by Acute hospital inpatient/outpatient department (3mln.). The next largest category is 'Missing value' (2.4mln.), there is a large proportion of Referrals with source being not known as well (1.3mln.), this distinction is difficult to explain. Self-referral is also a large category with nearly 2mln. Referrals, numbers of all other categories on the list are below a million mark.

Top 20 reasons for Referrals Totals and their relative percentages of the total sum of Referrals are shown in Table 4. The column for All shows that about a quarter of all Referrals recorded in the past 2 years are for unknown reason, and another quarter is recorded as a 'missing value', with the total number of Referrals being 47.9mln. Table also presents information for the 5 age groups and relative importance of the top 20 reasons within each group. There are two things that stand out: (a) 'missing value' not being recorded as a reason in separate age groups; (b) the total sum of all Referrals between all age categories is over 17mln., which is around 30mln. less than the Totals number. This signifies differences in reporting or aggregation issues, which likely suggests use of Totals as including more data and making the reliability of information within separate age brackets more questionable in regards to representation, yet for any academic research purposes more detailed information about the age groups would be preferable. In addition, most of the top 20 reasons are quite important in all age groups with a few exceptions, that are logically plausible it terms of what would be expected for each age group. For example, such reasons as: Haematology/Phlebotomy, Wound Care, Rehabilitation, Problems with Activities of Daily Living, Continence Problems, Speech and Language Problems, Mobility Problems and Falls Risk increase in importance with age, while Healthy Child Pathway reason becomes less important with age, or Antenatal Care and Family Support are not very numerous for people older than 44.

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Table 4: Referrals – Top 20 reasons and proportions by age categories

	Reason	All	85+	65-84	45-64	19-44	0-18
1.	Not known	25.03%	38.41%	36.76%	33.74%	29.02%	28.07%
2.	Missing value/Value outside reporting parameters	24.93%	0%	0%	0%	0%	0%
3.	Musculoskeletal Problems	7.16%	1.73%	8.46%	23.29%	20.27%	2.03%
4.	Healthy Child Pathway	5.46%	0%	0%	0.02%	10.41%	29.03%
5.	Haematology/Phlebotomy	4.57%	10.08%	8.02%	6.07%	3.22%	1.54%
6.	Wound Care	3.56%	8.96%	6.20%	4.62%	2.53%	0.22%
7.	Rehabilitation	2.28%	4.88%	4.43%	2.99%	1.38%	0.27%
8.	Foot Care/Problems	2.26%	1.51%	3.60%	5.66%	3.48%	1.29%
9.	Problems with Activities of Daily Living	2.11%	5.01%	3.83%	1.99%	0.72%	1.17%
10.	Continence Problems	1.72%	3.80%	3.03%	1.85%	0.72%	0.92%
11.	Speech and Language Problems	1.57%	1.63%	1.44%	1.05%	0.43%	5.18%
12.	Immunisation	1.48%	0.45%	0.26%	0.08%	0.01%	8.66%
13.	Diabetes	1.42%	1.00%	2.41%	4.11%	1.85%	0.22%
14.	Antenatal Care	1.37%	0.01%	0.02%	0.03%	12.45%	1.14%
15.	Family Support	1.17%	0.03%	0.02%	0.06%	4.99%	4.35%
16.	Nutrition and Dietetics	1.14%	1.44%	1.48%	1.75%	1.49%	1.37%
17.	Mobility Problems	0.98%	2.46%	1.95%	0.79%	0.12%	0.28%
18.	Respiratory Conditions	0.88%	0.99%	2.09%	1.32%	0.09%	0.36%
19.	Falls Risk	0.87%	2.71%	1.82%	0.31%	0.00%	0.00%
20.	Emotional/Behavioural Problems	0.80%	0.86%	0.88%	0.88%	0.65%	1.96%
	Total number of Referrals	47,871,920	3,409,955	5,572,210	2,776,310	2,259,670	3,684,455

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Data quality summary for users

Presentation: in general, the CSDS is not organised in the way that facilitates analysis and is not presented in a user-friendly manner. CSDS appears to be the result of stacking many different datasets together, all of which represent separate data strands. Thus, in order to use the data, even for basic analysis, extensive rearranging is required. Dates stored in the dataset also lack a consistent format, which makes it more difficult to merge data between different months.

Aggregation: data is available as counts of activities with limited information available about patients behind these activities, which makes it no longer individual level, as presented by the NHS website. If the data is collected at the individual level, most information is lost after the aggregation in the publicly available data.

Linking data: all the data strands in CSDS are stand-alone type of counts and different parts of the dataset cannot be linked, with the exceptions of data strands with counts of patients (Care Contacts and Referrals), offering limited use after linking. This means, for instance, Care Activities cannot be linked to Referrals making it not possible to follow the underlying processes of Community Services use.

Geographical mapping: the lowest level of aggregation being a publicly funded community care Provider (or Trust, as indicated in data), makes it difficult to link it to any other geographical data. The only other available geography units are Area Teams (14) and Commissioning Regions (4), which are far too aggregated to allow any in-depth research using the data.

Missing data and non-reporting: data exploration indicates that not all of the providers are submitting data regularly, at least for the information which is publicly available, and that they could be using different principles for reporting the data (i.e. information included, aggregation, rounding up, etc.). This creates considerable amount of missing values with associated difficulties when attempting to interpret the results: for example, is the dip in care contacts for a specific region and specific month an indication of fewer services provided, fewer providers reporting or any errors in provided information?

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Recommendations for data-holders and policymakers

Presentation: the information in the dataset is presented in a way that is difficult to access and extract by public users. It may be helpful to have these data in a modular configuration, for instance, a section on care contacts could be separate and available for download as a separate series of data akin to household surveys like Understanding Society, instead of it being stacked together. It would be useful if date format was consistent throughout the dataset.

Aggregation: it would be very useful, and indeed essential, to have more individual level information, for most research questions.

Linking data: it would be beneficial for research purposes to introduce more information about the patients allowing linking between different parts of the dataset.

Geographical mapping: having a lower unit of aggregation, such as Local Authority District, in combination to the service provider (NHS Trust etc.) would greatly improve the usefulness of the data. This would allow, for instance, calculating proportions of services delivered to each geographic unit for a given provider. Ideally, smallest geographical unit would be a Lower Layer Super Output Area (LSOA). It appears that the most recent data, starting with July 2020, offers more geographical information, like Local Authority, but this change does not impact the data already released prior, however, it is a commendable step in the right direction.

Missing data and non-reporting: in addition to the list of providers that submitted data each month, it would be useful for the monthly reports to include a full list of providers mandated to report their community services activities (for instance, GP Appointments data includes the total number of providers), including new providers and mergers and dates when the change happened. Furthermore, a summary of data reporting and handling principles employed, with a clear distinction made between zero values and missing values, is necessary. These changes would be particularly useful for assessing the completeness and quality of the CSDS data each month and being able to draw more adequate and meaningful conclusions.

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Utilising CSDS within PRUComm projects

In one of the PRUComm[8] projects, 'Understanding the impact of services in the community on hospital care' led by Prof. Hussein and Prof. Sutton, CSDS data is currently being used to assess whether activity in the community is a complement or a substitute for activity provided in hospitals. For this purpose, CSDS data is used to include information for the period between October 2017 to April 2019. Community Care Contacts' counts and GP Appointments data[9] were linked to the numbers of Accident and Emergency attendances, outpatient visits, and elective and hospital admissions from Hospital Episode Statistics using gravity weighting method. Initial results show that community care contacts and hospital activity are weak substitutes: to achieve reduction of 1 hospital admission in A&E requires 138 Community Care Contacts (signf. 5%); as an outpatient: 1352; and as an inpatient: 481 (signf. 5% per); GP appointments and hospital admission and outpatient visits are weak complements: 81 Community Care Contacts are associated with and increase of 1 outpatient visit (signf. 1%); and 146 to 1 inpatient visit. Thus, the expansion of community care services may not be associated with substantive reductions in hospital services as both services are estimated to be weakly related. However, the findings suggest the potential value of community care contacts in addressing newly identified needs for patients.

Further details of methodology, analyses and results are discussed in a draft paper titled '*Complements or Substitutes: Associations between Volumes of Care Provided in the Community and in Hospitals'*[10]. The paper was discussed in Health Economics Study Group (HESG) conference in Newcastle and the 3rd National Primary Care Dataset Workshop in Manchester, February 2020.

Further planned analyses for publicly available CSDS include examining the relationship between community services care provision and unmet needs. Unmet needs are broadly defined as a) not seeking help from health care services before their condition worsens, one of the reasons for which could be access limitations; b) health care needs being only partially met; c) health care needs being inappropriately met. Assessing unmet needs across England is an important issue, since not seeking health care services before their health condition worsens leads to an overall more expensive service use when health conditions over time. There is some evidence that symptom

[8] More information about PRUComm projects available at: https://prucomm.ac.uk/
[9]GP Appointments data: Report. Lau, Y.S., Malisauskaite, G., Hussein, S., Brooks, N., Sutton, M. (2020). Initial exploration of the Appointments in General Practice dataset. Report (forthcoming).
[10] Lau, Y.S., Malisauskaite, G., Brooks, N., Hussein, S., Sutton, M. (2019). Complements or Substitutes? Associations between volumes of care provided in the community and in hospitals (in press).

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duration may also lower potential health benefits from health care services. Therefore, there is a health and cost detriment due to unmet need. The provision of community services care is assumed to address unmet needs by providing more localised health care services and has been expanding in the UK. Using provision of community services care contacts from the CSDS data and unmet need measures from the General Practitioner Patient Survey (GPPS) data we are aiming to estimate whether there is any association between historical provision of care by community services and unmet needs at a Primary Care Network level.

Presenting the paper about the link between community services and hospital activity helped identify a demand for more descriptive analysis on Community Services Data Set. A descriptive paper about how Covid-19 affected Community Health Services Referrals is forthcoming.

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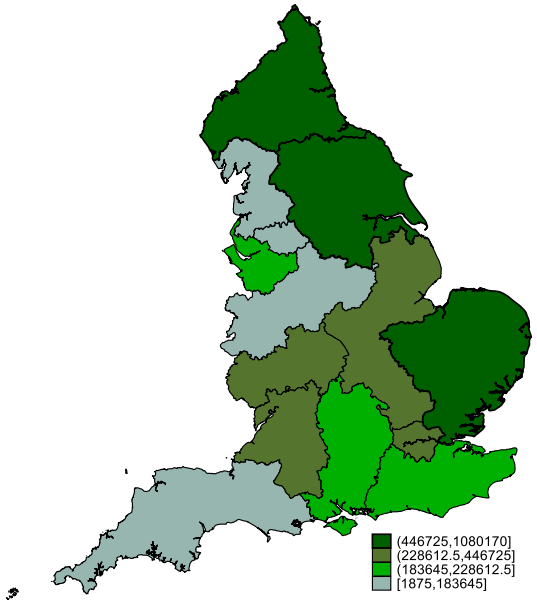
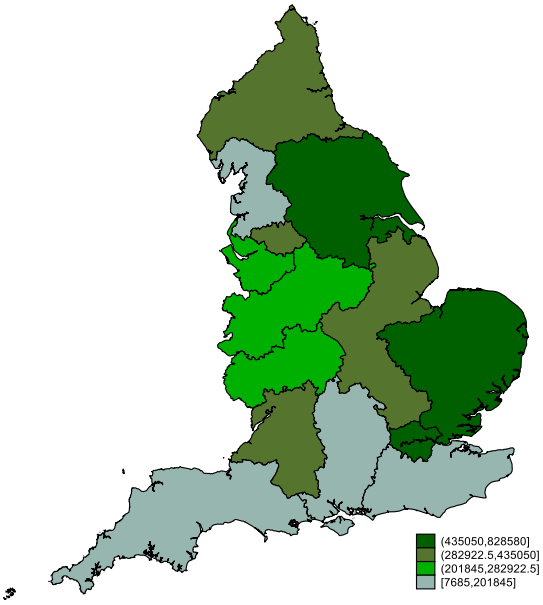
Appendix

Figures A1: Care Activities - Totals by Area Team

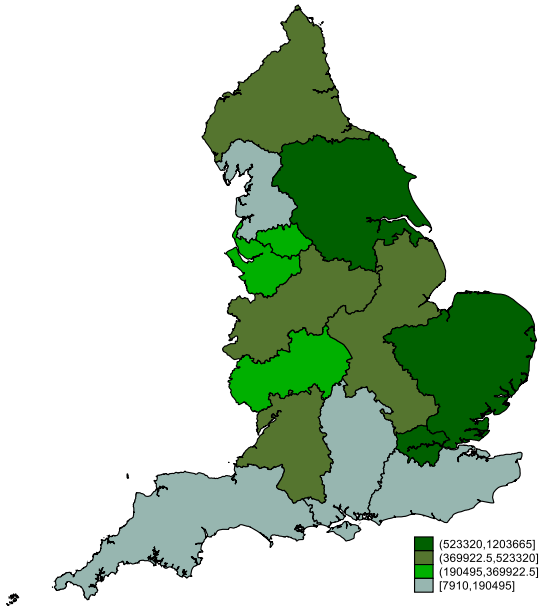
Care Activities - Totals, October 2017



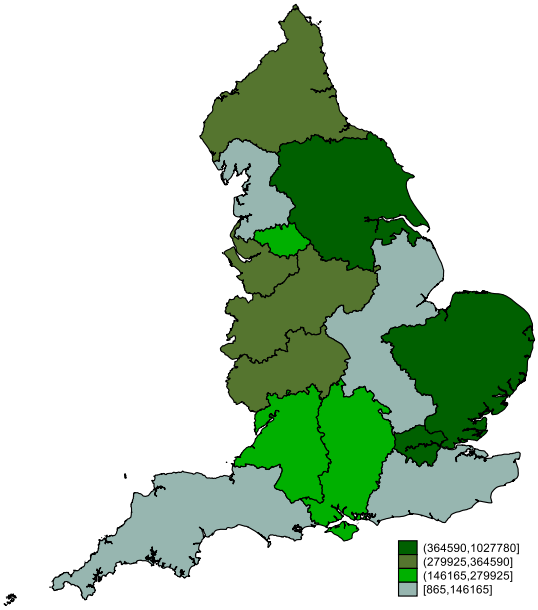
Care Activities - Totals, February 2018



Care Activities - Totals, July 2018



Care Activities - Totals, December 2018



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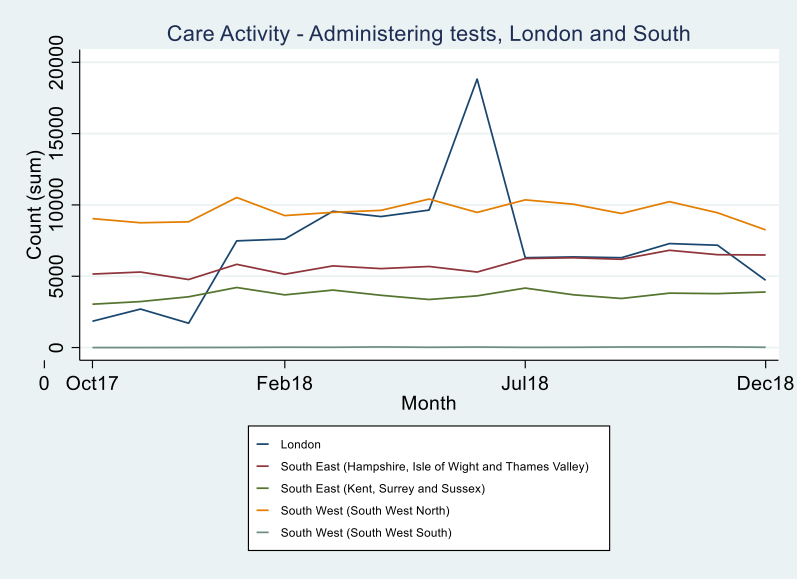
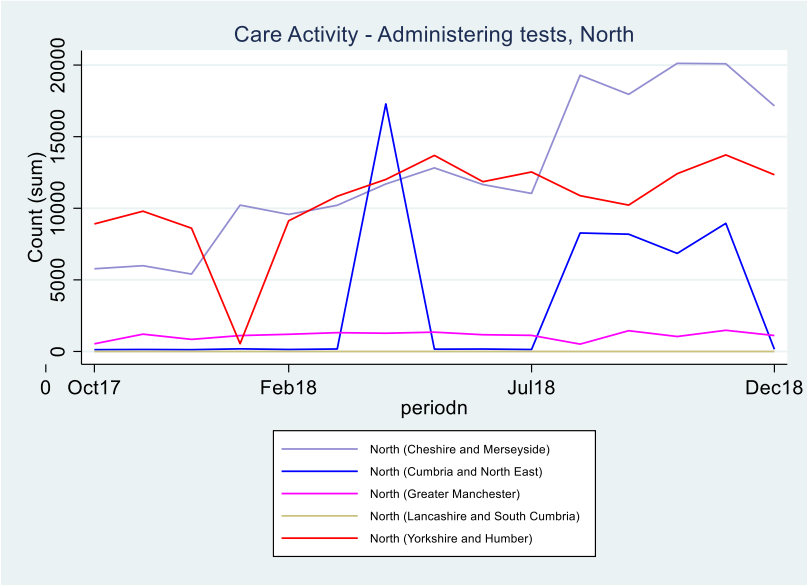
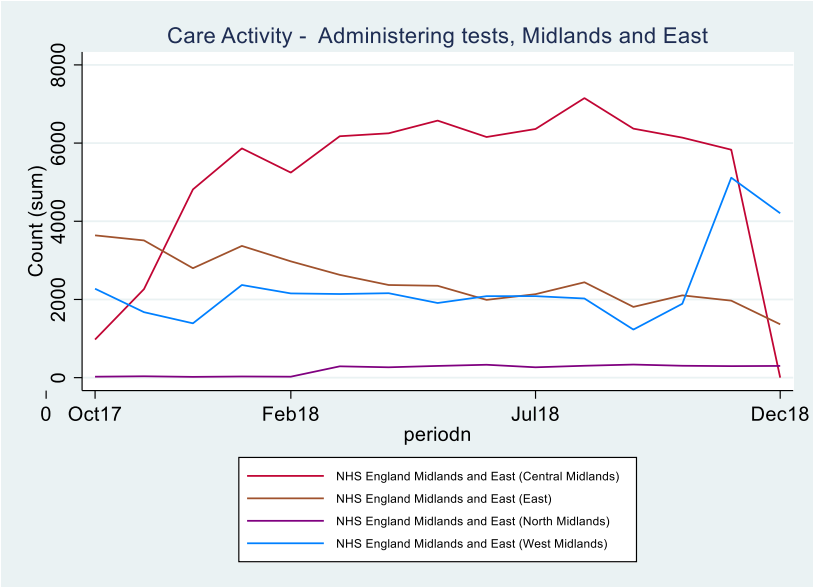
Figures A2: Care Activities over time by Area Team







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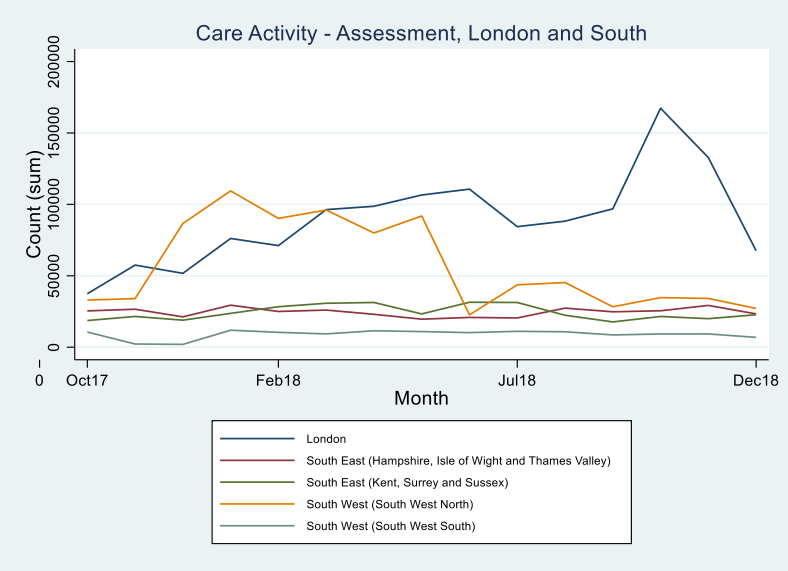
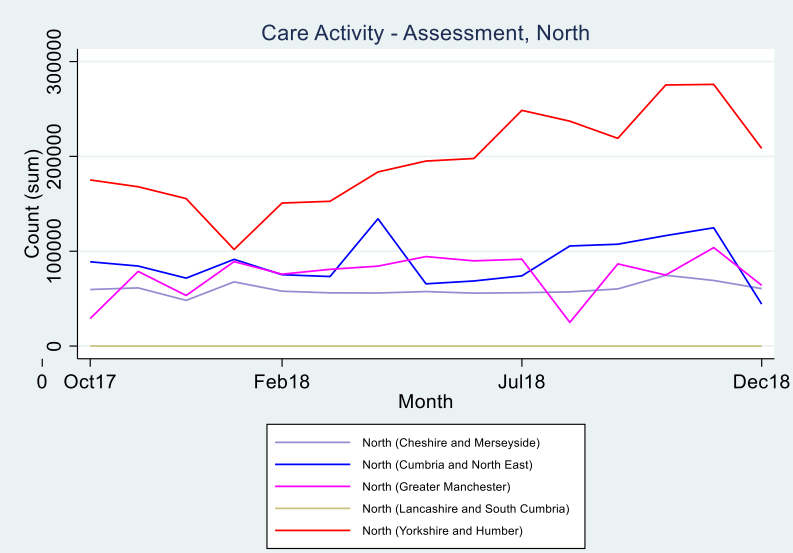
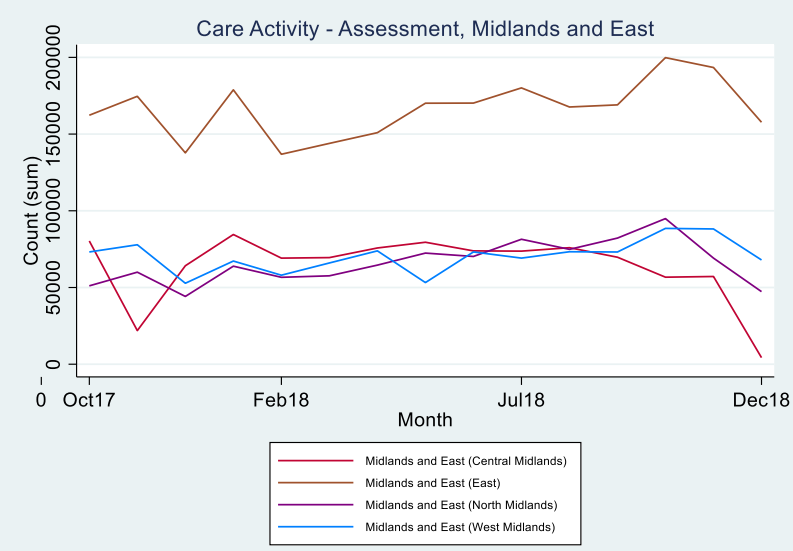
Figures A3: Care Activity - Assessment over time by Area Team







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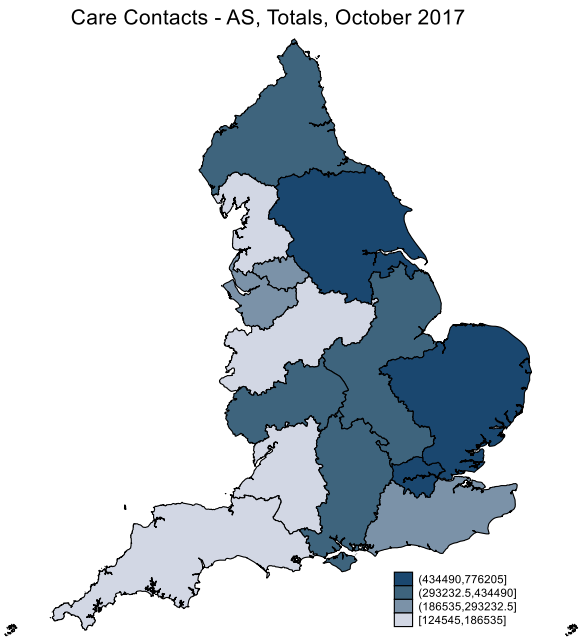
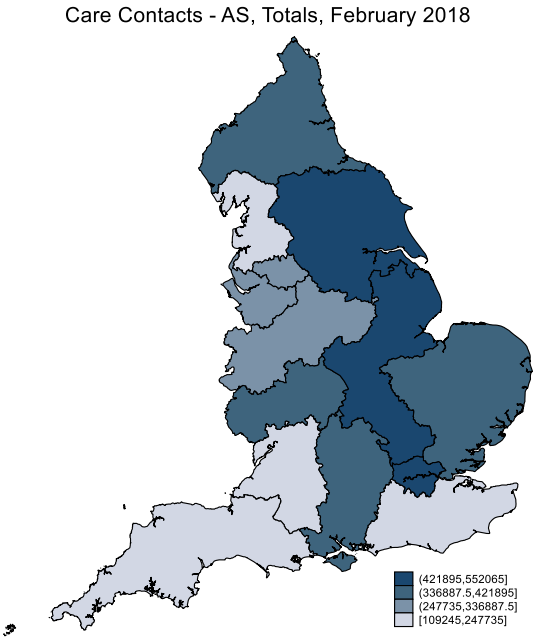
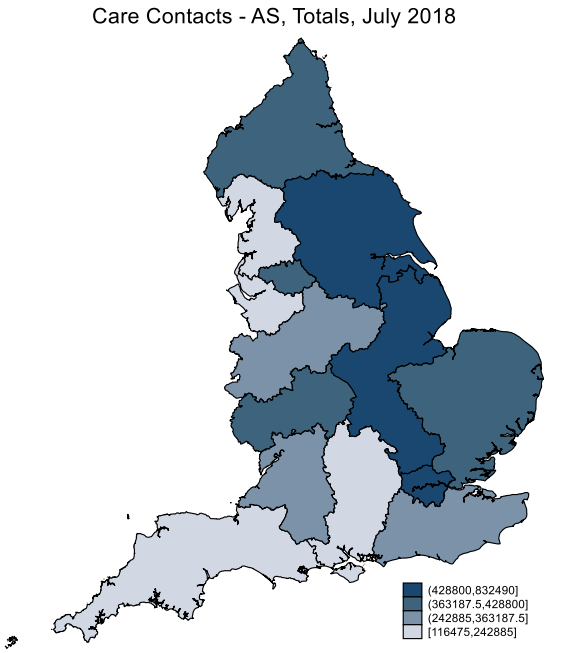
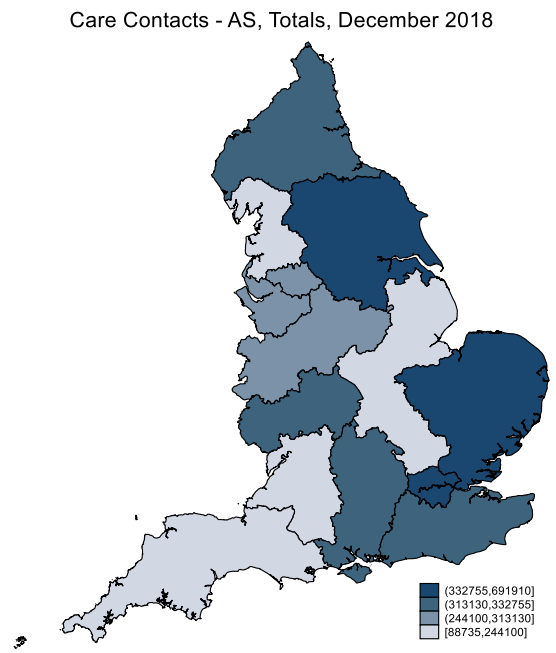
Figures A4: Care Contacts - Totals by Area Team









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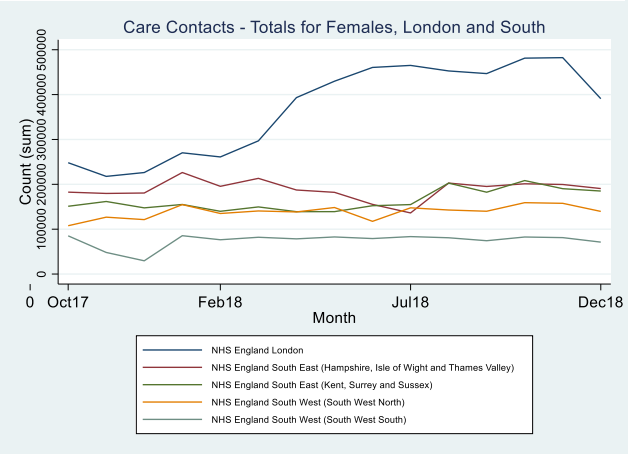
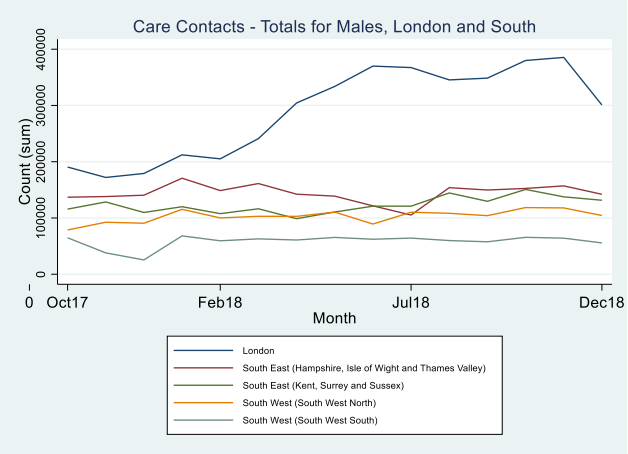
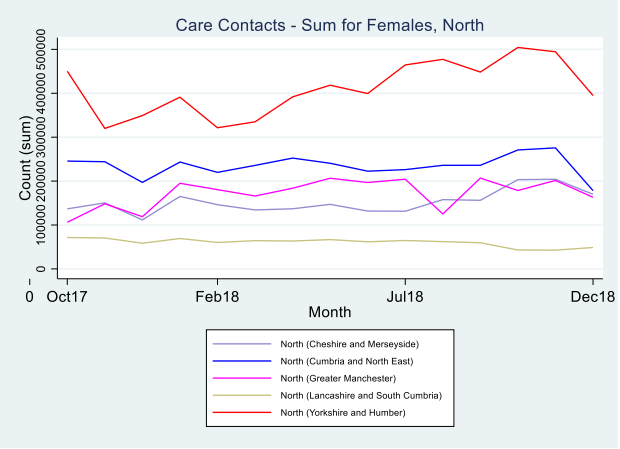
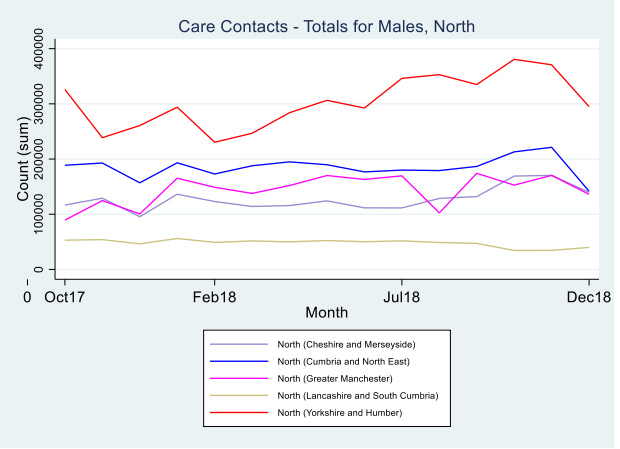
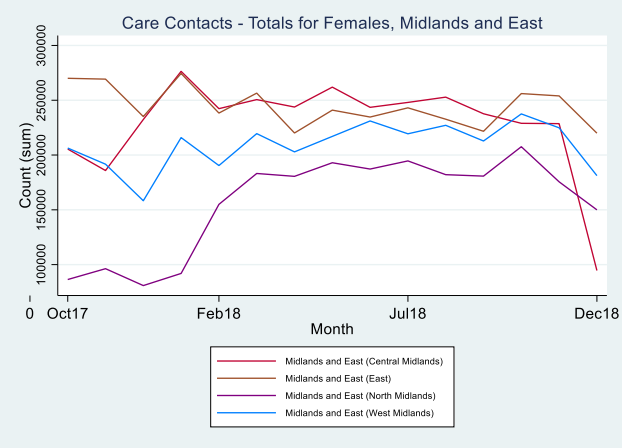
Figures A5: Care Contacts - Totals over time by gender and Area Team

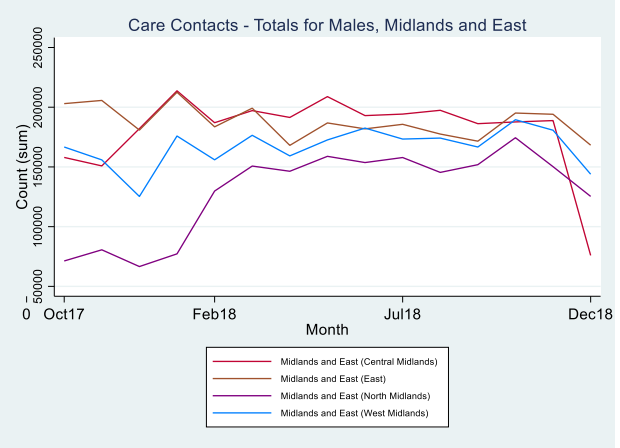












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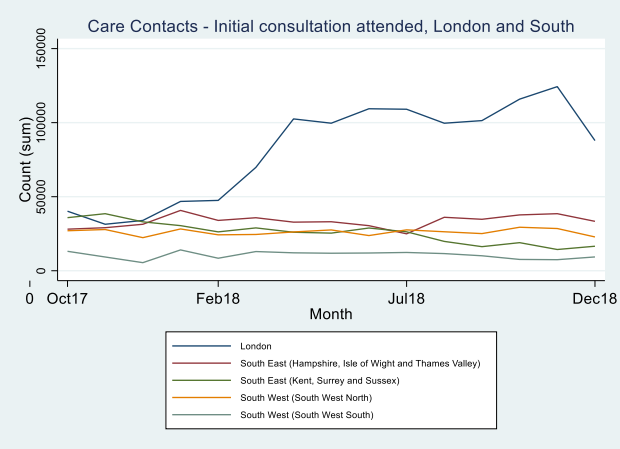
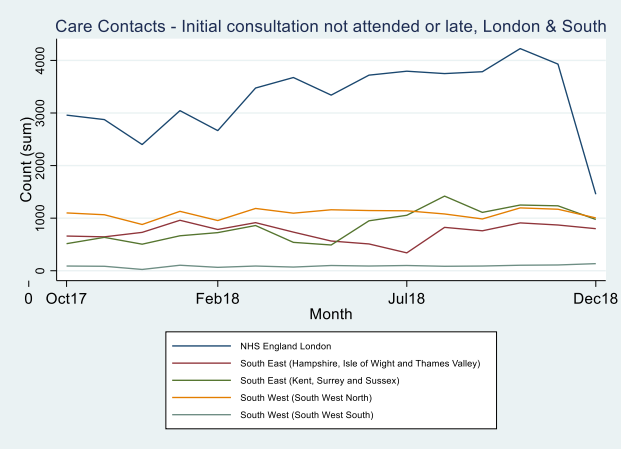
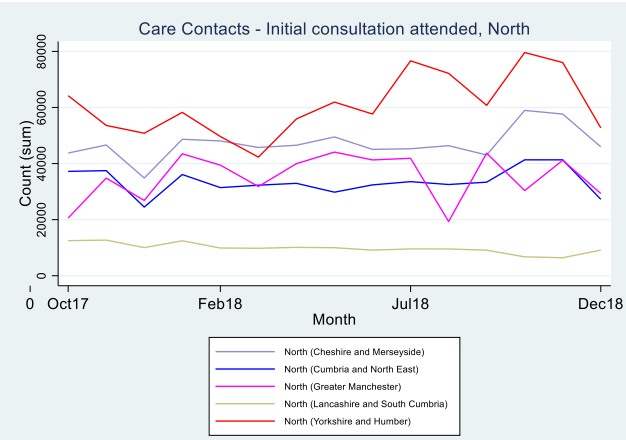
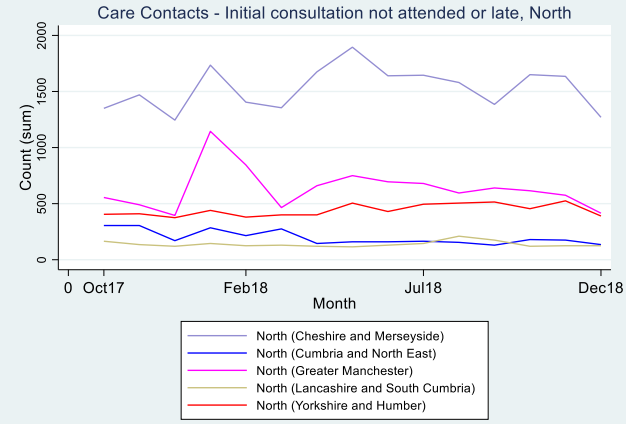
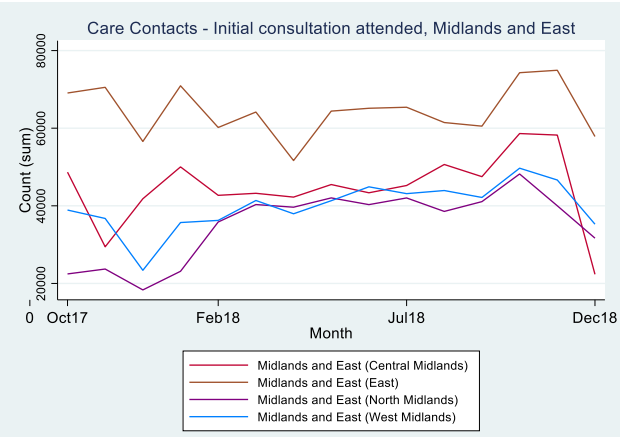
Figures A6: Care Contacts – Attendance status over time by Area Team

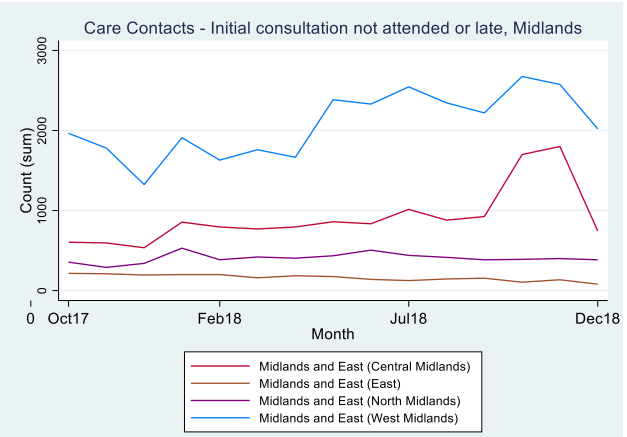












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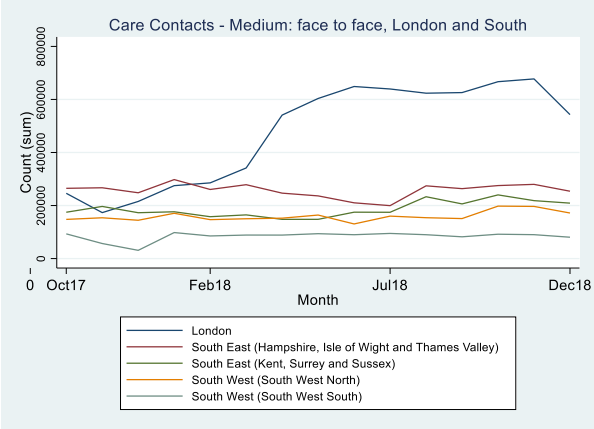
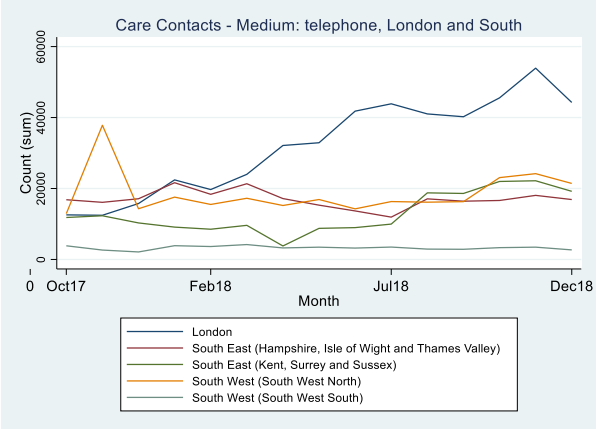
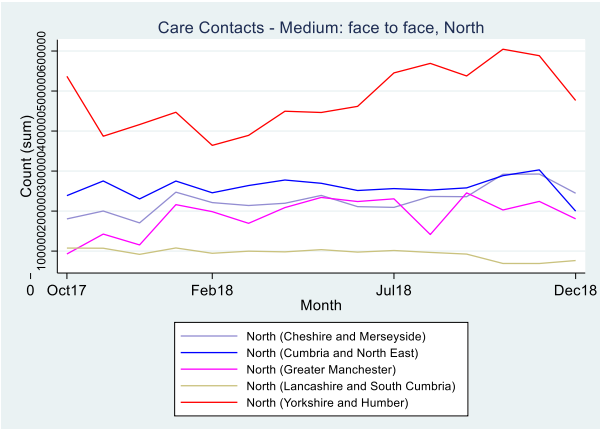
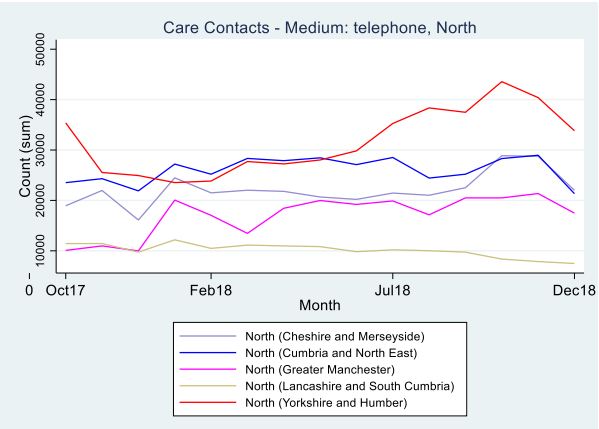
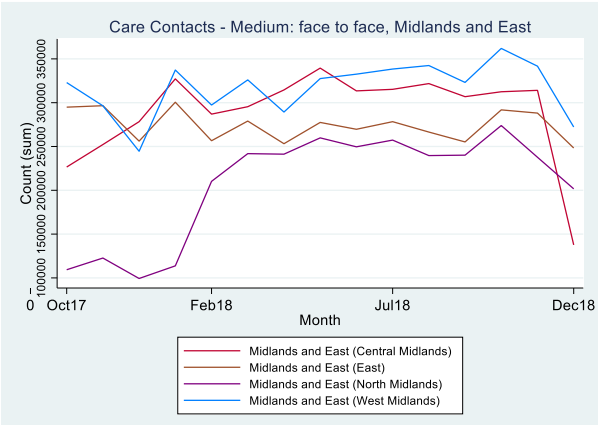
Figures A7: Care Contacts – Medium over time by Area Team

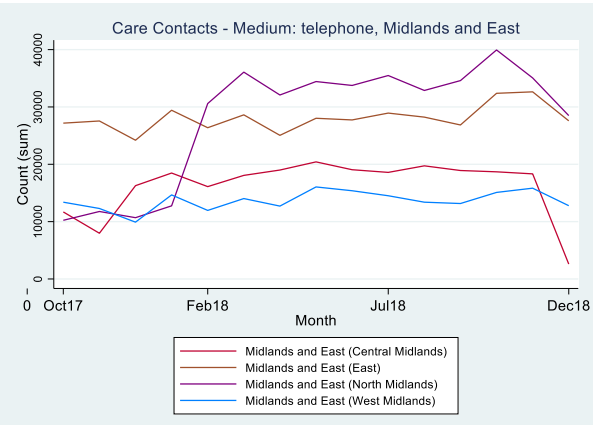












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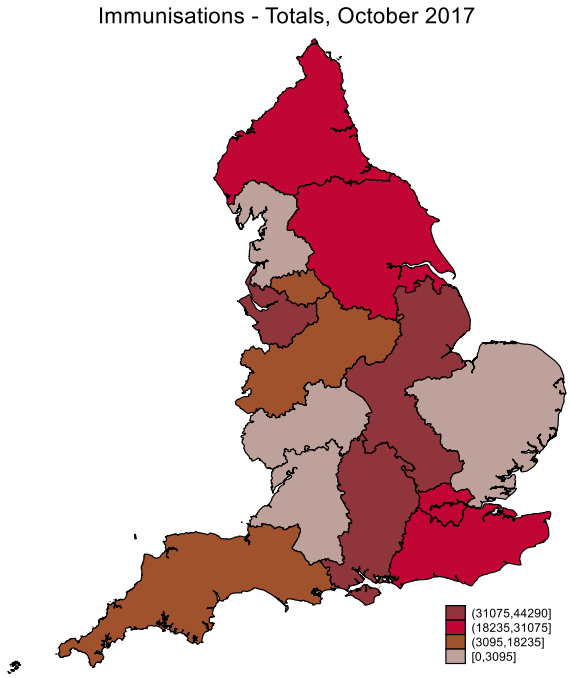
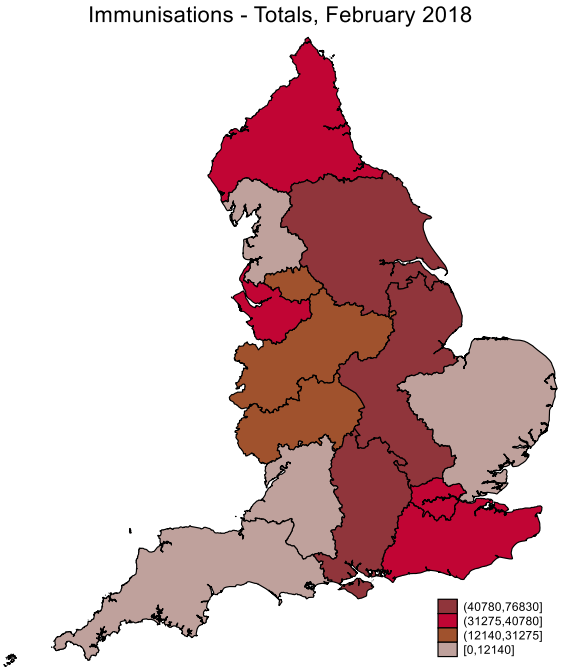
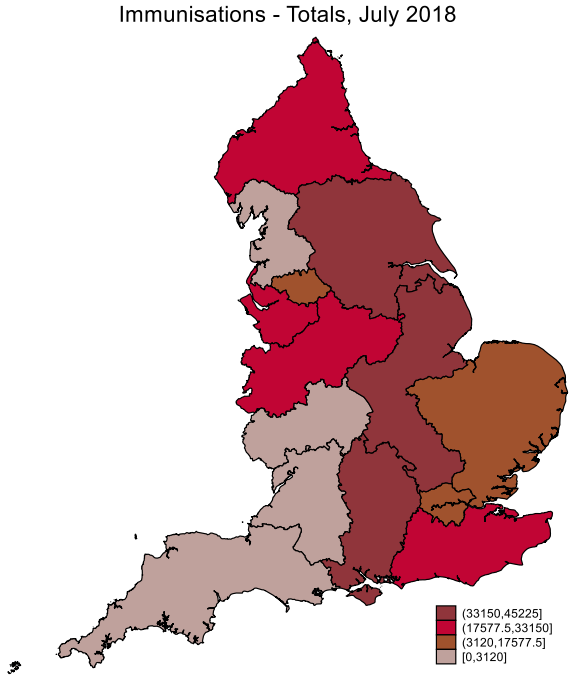
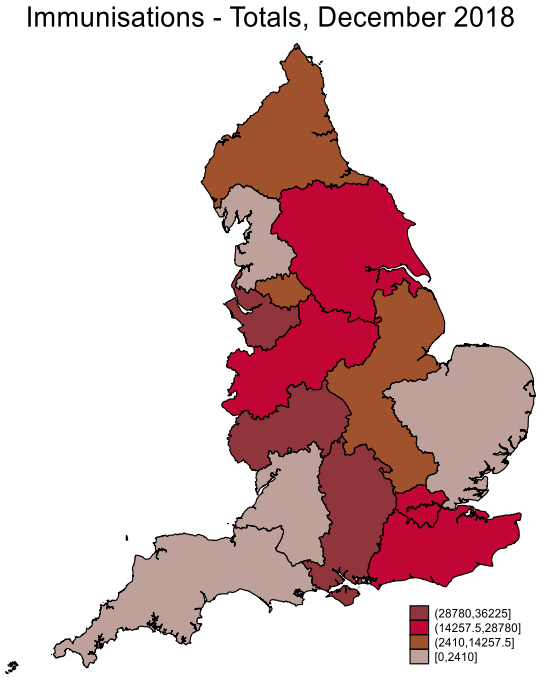
Figures A8: Immunisations - Totals by Area Team









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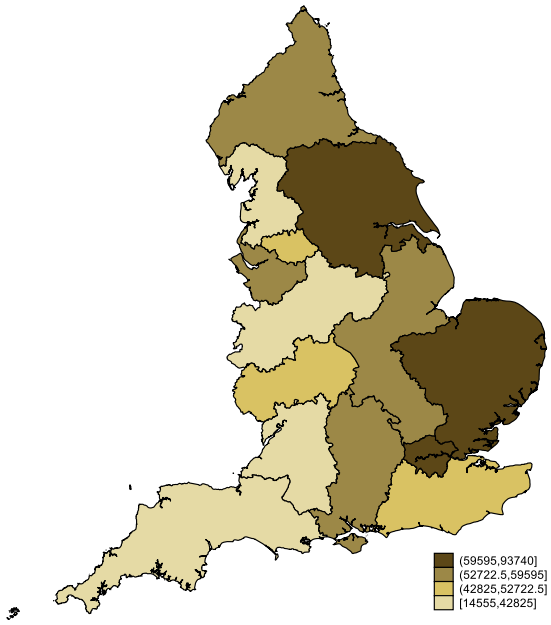
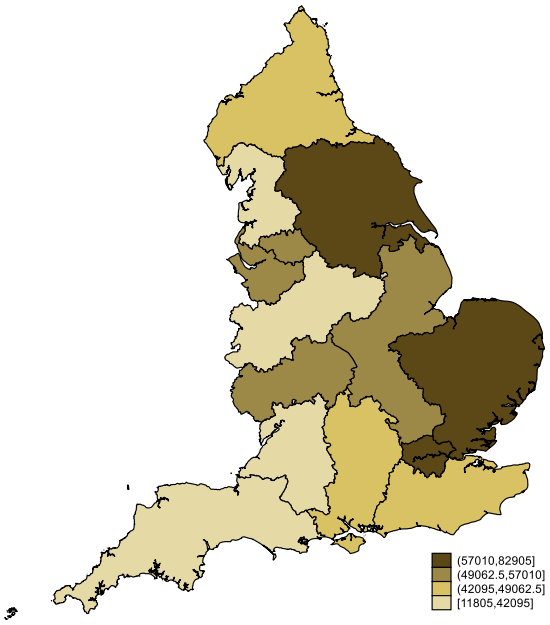
Figures A9: Patients with Referrals - Totals by Area Team

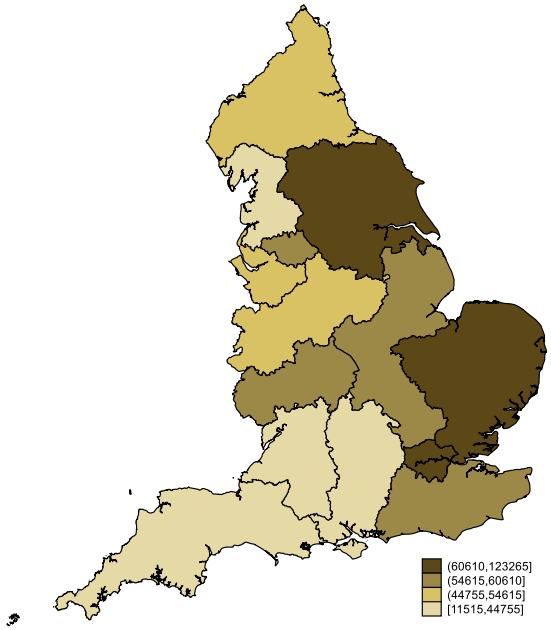
Patients with referrals - Totals, October 2017



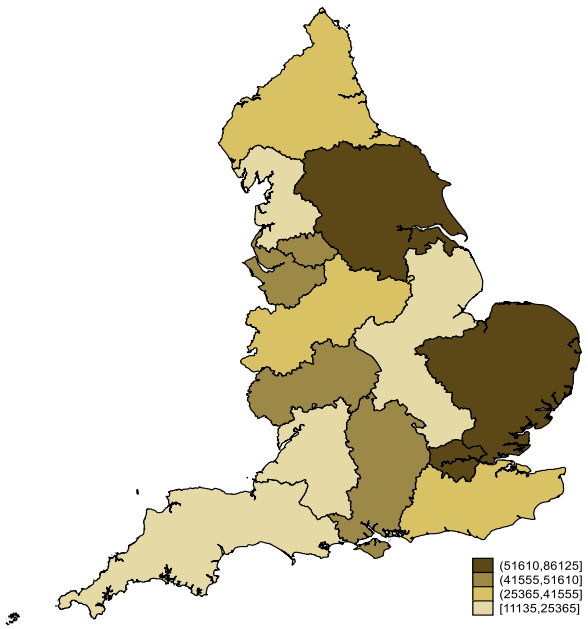
Patients with referrals - Totals, February 2018



Patients with referrals - Totals, July 2018



Patients with referrals - Totals, December 2018



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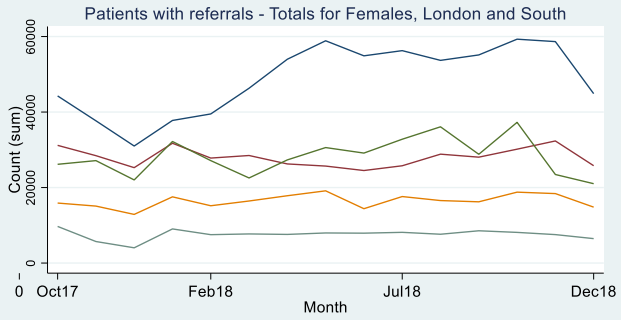
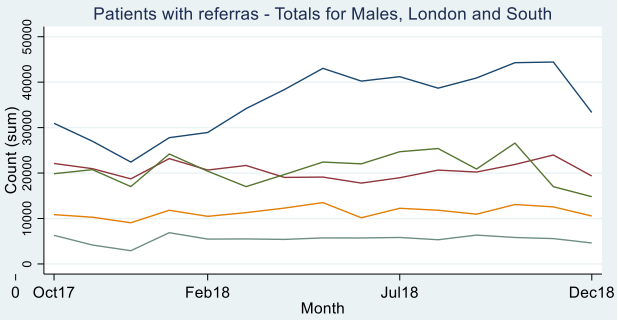
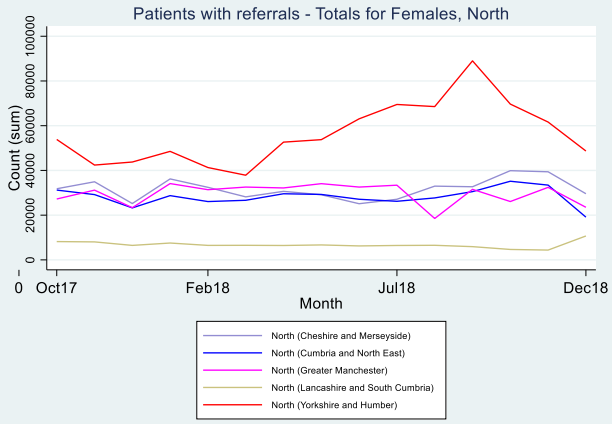
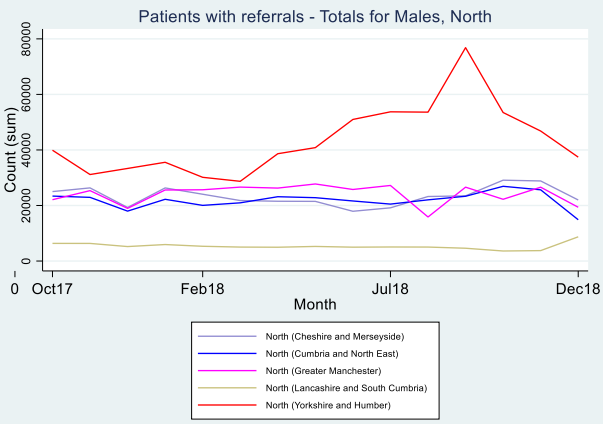
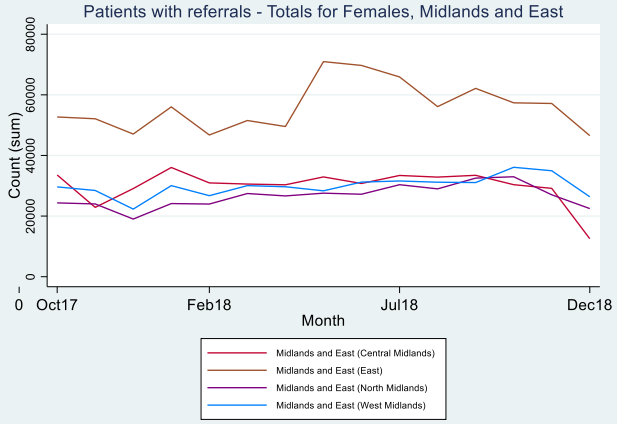
Figures A10: Patients with Referrals - Totals over time by gender and Area Team

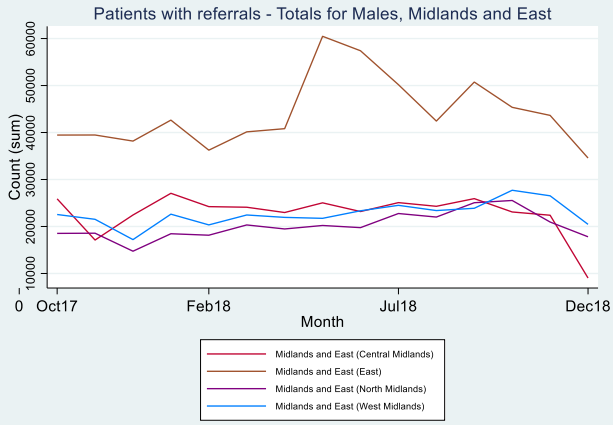












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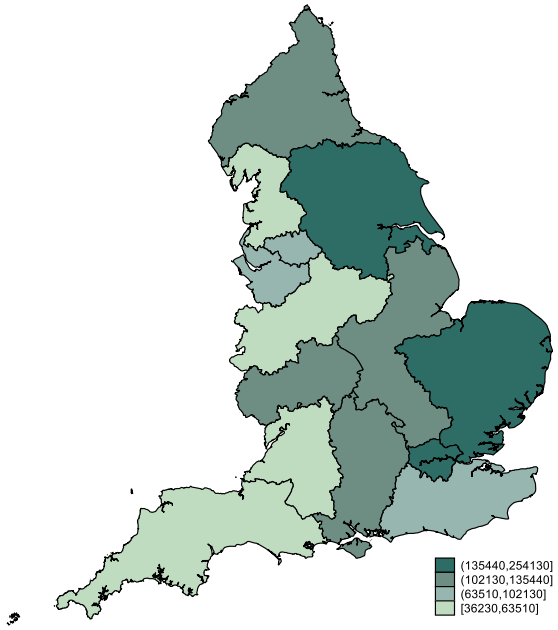
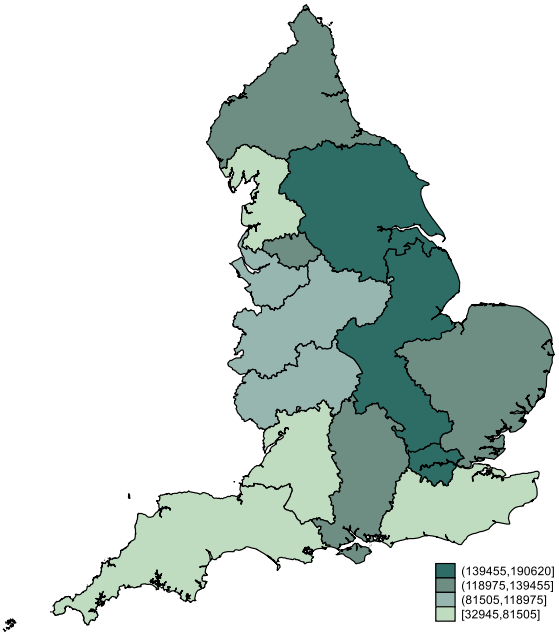
Figures A11: Patient Care Contacts – Totals by Area Team

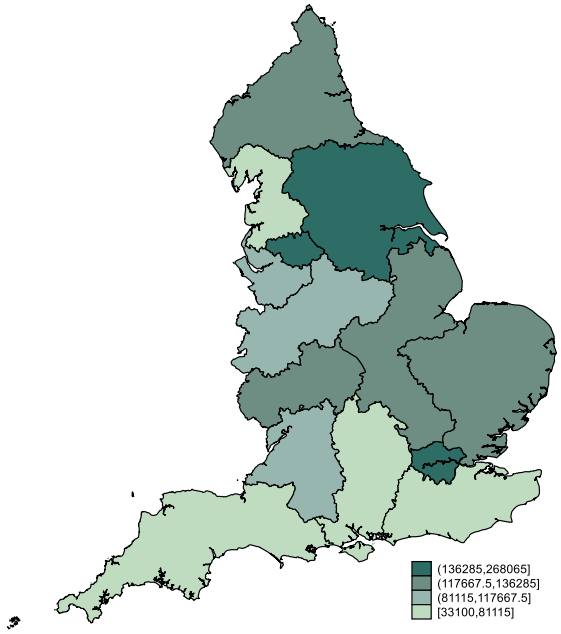
Patient Care Contacts - Totals, October 2017



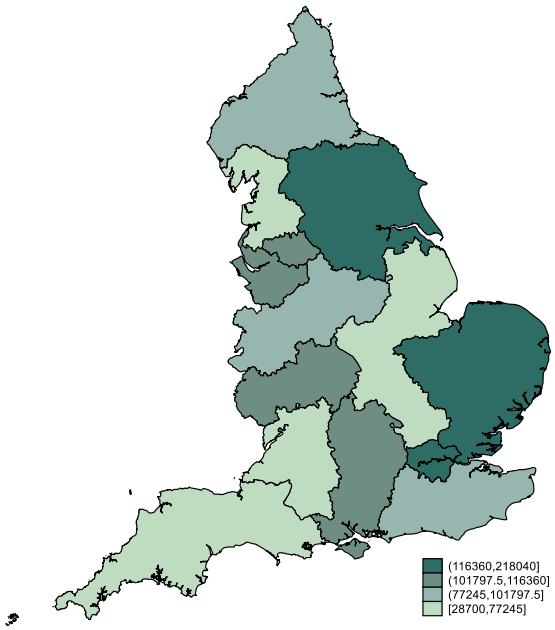
Patient care contacts - Totals, February 2018



Patient care contacts - Totals, July 2018



Patient care contacts - Totals, December 2018



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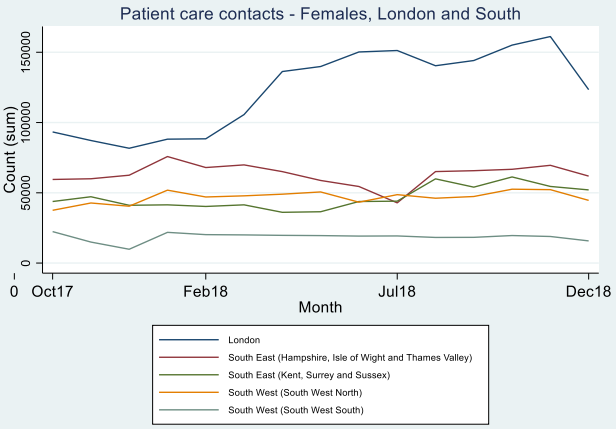
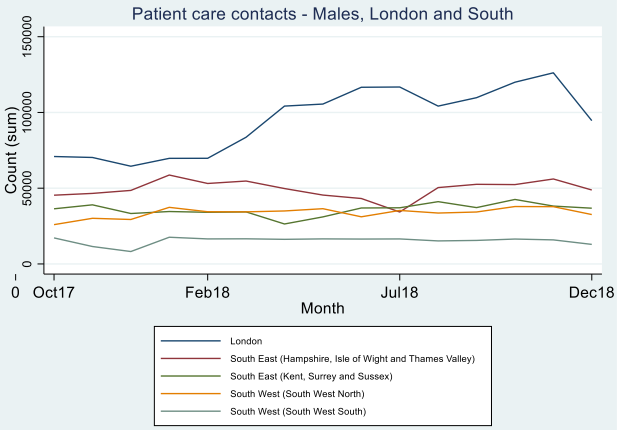
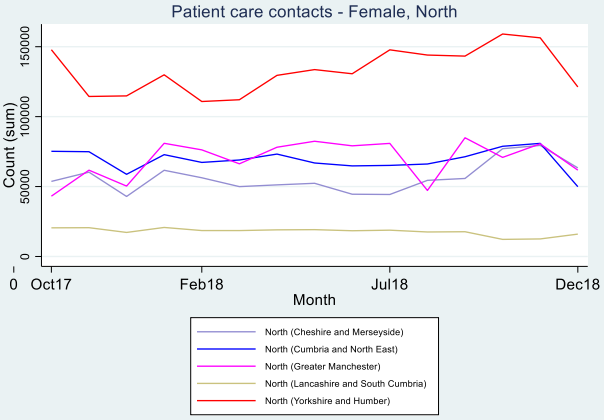
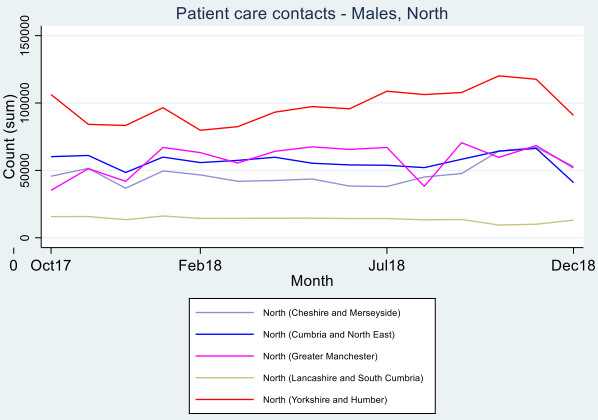
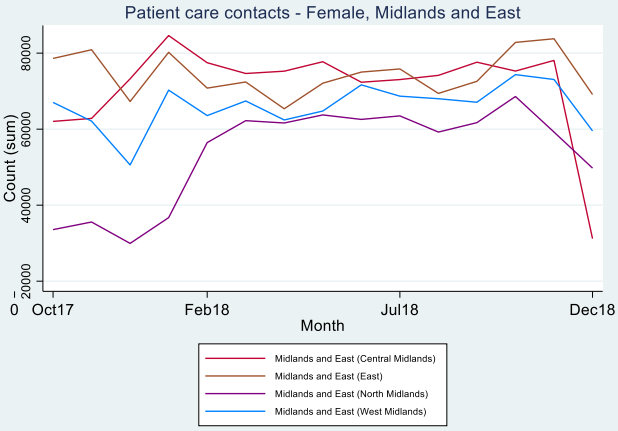
Figures A12: Patient Care Contacts – Totals over time by gender and Area Team

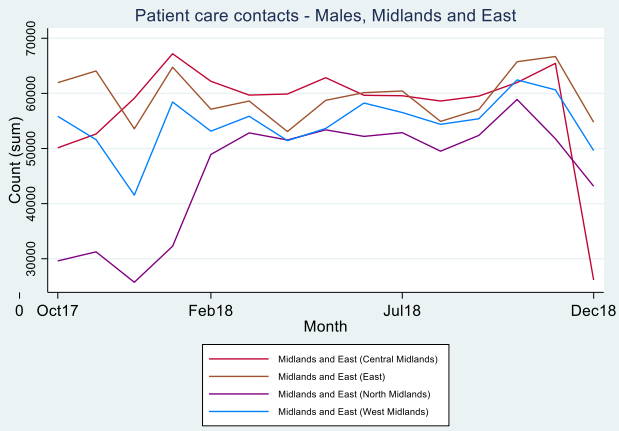












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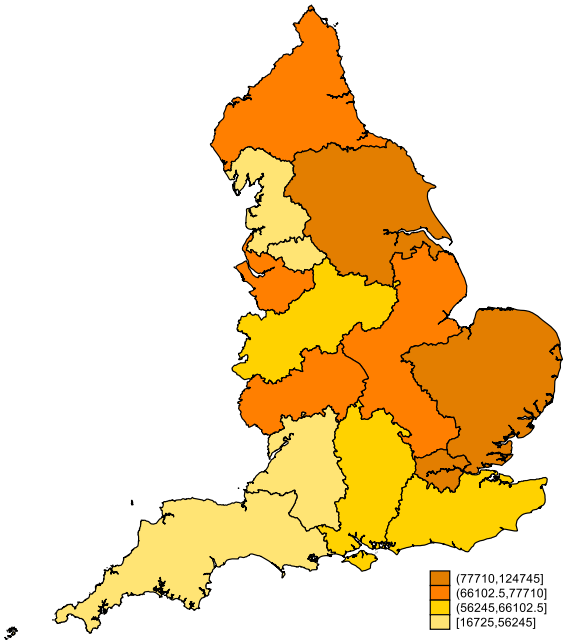
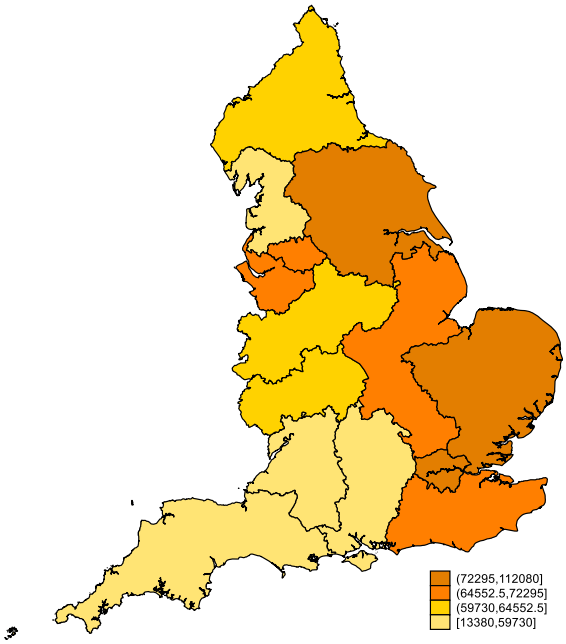
Figures A13: Referrals – Totals by Area Team

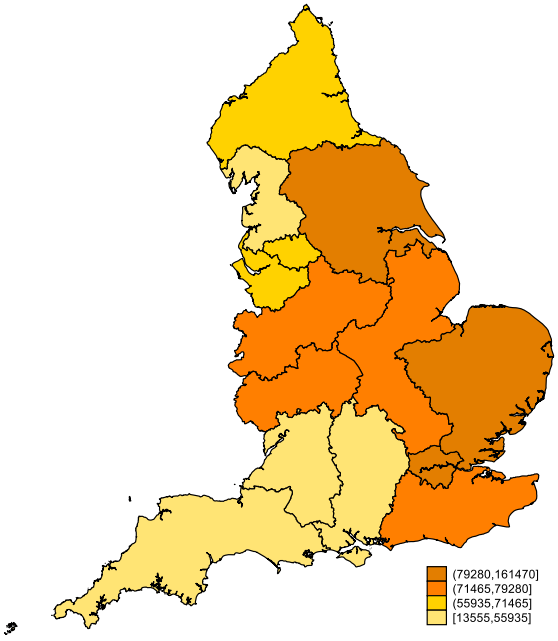
Referrals - Totals, October 2017



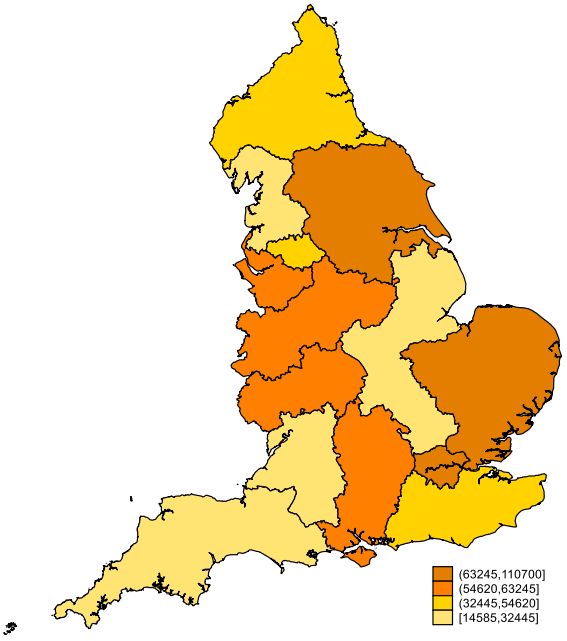
Referrals - Totals, February 2018



Referrals - Totals, July 2018



Referrals - Totals, December 2018



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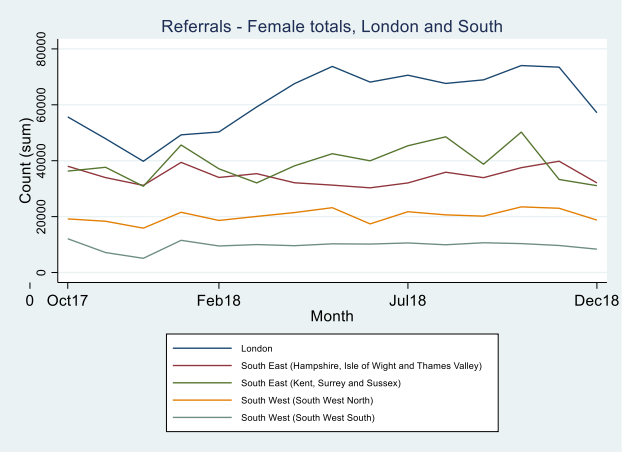
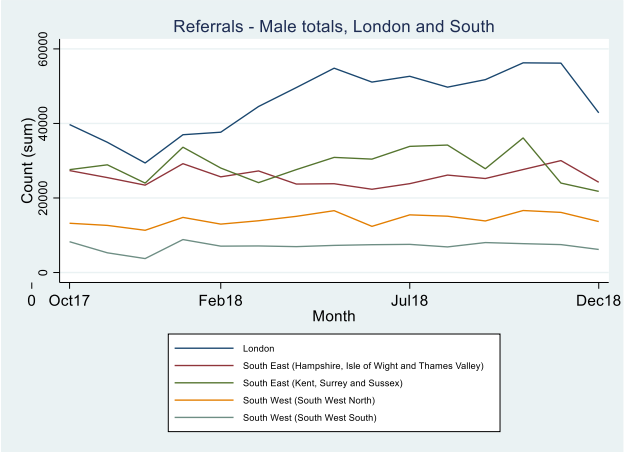
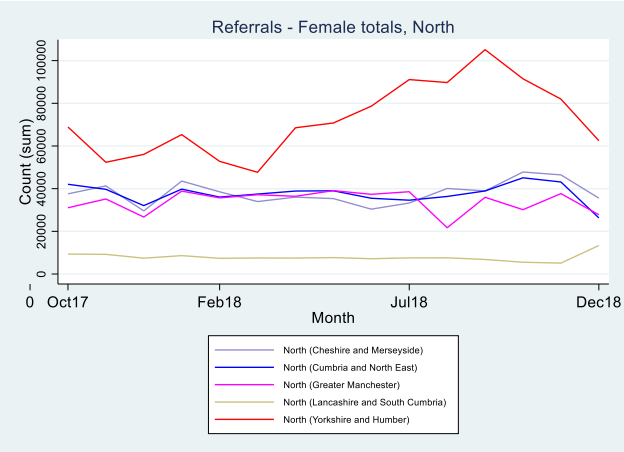
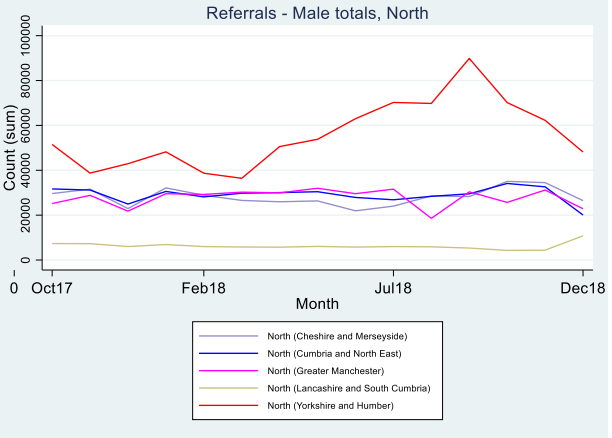
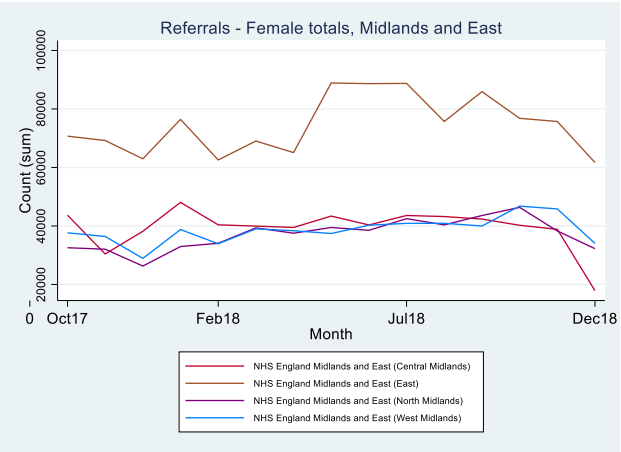
Figures A14: Referrals – Totals over time by gender and Area Team

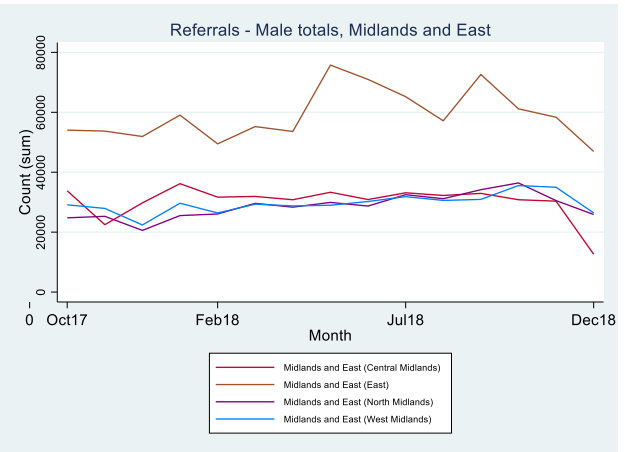












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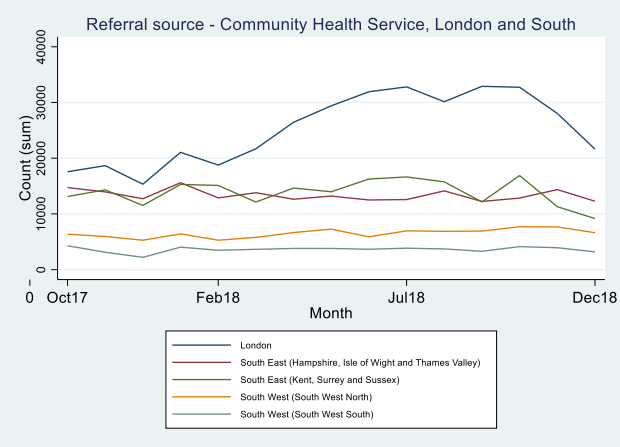
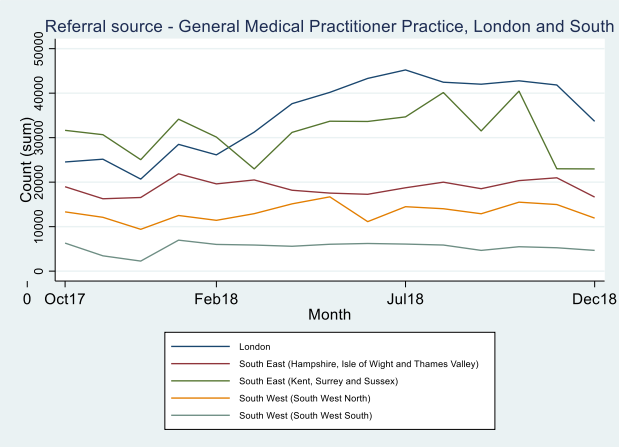
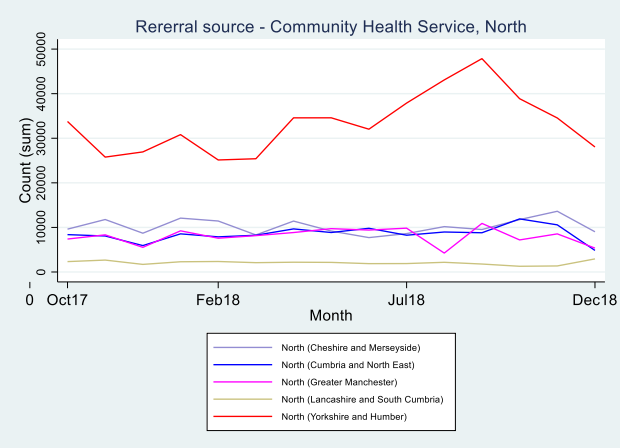
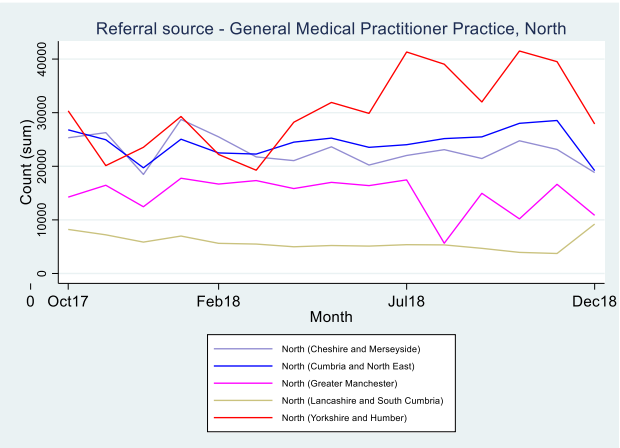
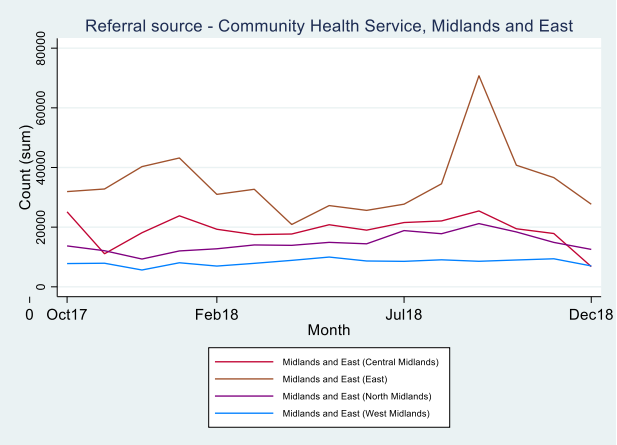
Figures A15: Referrals – Source over time by Area Team











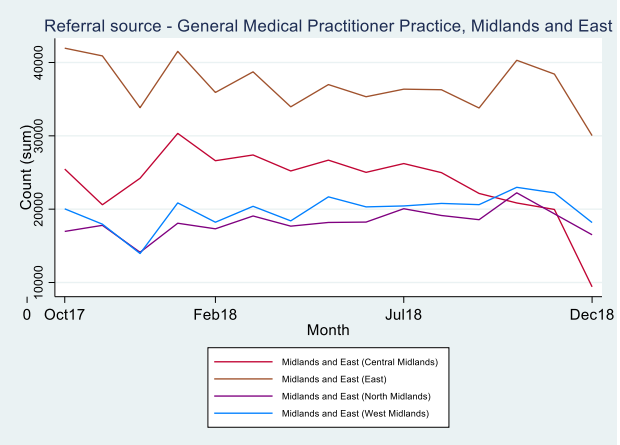


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Table A1: CSDS Variable information

Variable	Label
ID	
period	Period (month)
organisationcode	Organisation Code
orgname	Org Name
organisationlevel	Organisation Level
geographycode	Geography Code
org2	Organisation Code
periodn	Number of period
Care Activities	
act1	Administering Tests
act2	Assessment
act3	Clinical Intervention
act4	Counselling, Advice, Support
act5	Health Visitor Formal handover to School Nursing Service
act6	Health Visitor Health Review (1 year)
act7	Health Visitor Health Review (2-2.5 years)
act8	Health Visitor Health Review (6-8 weeks)
act9	Health Visitor New Birth Visit
act10	Missing value/Value outside reporting parameters
act11	Multidisciplinary Team Review
act12	Other
act13	Patient Specific Health Promotion
act14	Supporting Another Clinician
act0181	Administering Tests -18 and under
act0182	Assessment -18 and under
act0183	Clinical Intervention -18 and under
act0184	Counselling, Advice, Support -18 and under
act0185	Health Visitor Formal handover to School Nursing Service
act0186	Health Visitor Health Review (1 year) -18 and under
act0187	Health Visitor Health Review (2-2.5 years) -18 and under
act0188	Health Visitor Health Review (6-8 weeks) -18 and under
act0189	Health Visitor New Birth Visit -18 and under
act01810	Missing value/Value outside reporting parameters -18 and under
act01811	Multidisciplinary Team Review -18 and under
act01812	Other -18 and under
act01813	Patient Specific Health Promotion -18 and under
act01814	Supporting Another Clinician -18 and under
act15	Care activities Totals
act01815	Care activities Totals age 0-18
Care Contacts – AS:	
ascontact1	Count of Care Contacts Female - Missing
ascontact2	Count of Care Contacts Female - 0-4
ascontact3	Count of Care Contacts Female - 05-09

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ascontact4	Count of Care Contacts Female - 10-14
ascontact5	Count of Care Contacts Female - 15-18
ascontact6	Count of Care Contacts Female - 19-24
ascontact7	Count of Care Contacts Female - 25-29
ascontact8	Count of Care Contacts Female - 30-34
ascontact9	Count of Care Contacts Female - 35-39
ascontact10	Count of Care Contacts Female - 40-44
ascontact11	Count of Care Contacts Female - 45-49
ascontact12	Count of Care Contacts Female - 50-54
ascontact13	Count of Care Contacts Female - 55-59
ascontact14	Count of Care Contacts Female - 60-64
ascontact15	Count of Care Contacts Female - 65-69
ascontact16	Count of Care Contacts Female - 70-74
ascontact17	Count of Care Contacts Female - 75-79
ascontact18	Count of Care Contacts Female - 80-84
ascontact19	Count of Care Contacts Female - 85+
ascontact20	Count of Care Contacts Indetgender - 0-4
ascontact25	Count of Care Contacts Indetgender - 25-29
ascontact27	Count of Care Contacts Indetgender - 35-39
ascontact29	Count of Care Contacts Indetgender - 45-49
ascontact30	Count of Care Contacts Indetgender - 50-54
ascontact31	Count of Care Contacts Indetgender - 55-59
ascontact34	Count of Care Contacts Indetgender - 70-74
ascontact36	Count of Care Contacts Indetgender - 80-84
ascontact37	Count of Care Contacts Indetgender - 85+
ascontact39	Count of Care Contacts Male - Missing
ascontact40	Count of Care Contacts Male - 0-4
ascontact41	Count of Care Contacts Male - 05-09
ascontact42	Count of Care Contacts Male - 10-14
ascontact43	Count of Care Contacts Male - 15-18
ascontact44	Count of Care Contacts Male - 19-24
ascontact45	Count of Care Contacts Male - 25-29
ascontact46	Count of Care Contacts Male - 30-34
ascontact47	Count of Care Contacts Male - 35-39
ascontact48	Count of Care Contacts Male - 40-44
ascontact49	Count of Care Contacts Male - 45-49
ascontact50	Count of Care Contacts Male - 50-54
ascontact51	Count of Care Contacts Male - 55-59
ascontact52	Count of Care Contacts Male - 60-64
ascontact53	Count of Care Contacts Male - 65-69
ascontact54	Count of Care Contacts Male - 70-74
ascontact55	Count of Care Contacts Male - 75-79
ascontact56	Count of Care Contacts Male - 80-84
ascontact57	Count of Care Contacts Male - 85+
ascontact59	Count of Care Contacts NKgen - 0-4
ascontact61	Count of Care Contacts NKgen - 10-14
ascontact62	Count of Care Contacts NKgen - 15-18

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ascontact64	Count of Care Contacts NKgen - 25-29
ascontact65	Count of Care Contacts NKgen - 30-34
ascontact66	Count of Care Contacts NKgen - 35-39
ascontact67	Count of Care Contacts NKgen - 40-44
ascontact69	Count of Care Contacts NKgen - 50-54
ascontact70	Count of Care Contacts NKgen - 55-59
ascontact71	Count of Care Contacts NKgen - 60-64
ascontact72	Count of Care Contacts NKgen - 65-69
ascontact74	Count of Care Contacts NKgen - 75-79
ascontact75	Count of Care Contacts NKgen - 80-84
ascontact76	Count of Care Contacts NKgen - 85+
ascontact78	Count of Care Contacts Indetgender - 15-18
ascontact79	Count of Care Contacts Indetgender - 19-24
ascontact80	Count of Care Contacts NKgen - 05-09
ascontact81	Count of Care Contacts NKgen - 19-24
ascontact82	Count of Care Contacts missgender - Missing
ascontact84	Care Contacts Totals
ascontact01884	Care Contacts Totals age 0-18
Care Contacts – Attend status:	
con_at1	Care contacts - Follow-up Consultation - Attended
con_at2	Care contacts - Follow-up Consultation - Health care provider cancella
con_at3	Care contacts - Follow-up Consultation - Patient cancellation
con_at4	Care contacts - Follow-up Consultation - Patient did not attend or arr
con_at5	Care contacts - Initial Consultation - Attended
con_at6	Care contacts - Initial Consultation - Health care provider cancellati
con_at7	Care contacts - Initial Consultation - Patient cancellation
con_at8	Care contacts - Initial Consultation - Patient did not attend or arriv
con_at9	Care contacts- Missing - Missing
con_at0181	Care contacts under 19 - Follow-up Consultation - Attended
con_at0182	Care contacts under 19 - Follow-up Consultation - Health care provider
con_at0183	Care contacts under 19 - Follow-up Consultation - Patient cancellation
con_at0184	Care contacts under 19 - Follow-up Consultation - Patient did not atte
con_at0185	Care contacts under 19 - Initial Consultation - Attended
con_at0186	Care contacts under 19 - Initial Consultation - Health care provider c
con_at0187	Care contacts under 19 - Initial Consultation - Patient cancellation
con_at0188	Care contacts under 19 - Initial Consultation - Patient did not attend
con_at0189	Care contacts under 19 - Missing - Missing
Care Contacts –Medium:	
con_med1	Care medium - Email
con_med2	Care medium - Face to Face communication
con_med3	Care medium - Missing value/value outside reporting parameters
con_med4	Care medium - Other
con_med5	Care medium - Short Message Service (SMS) - Text Messaging
con_med6	Care medium - Talk type for a person unable to speak
con_med7	Care medium - Telemedicine web camera
con_med8	Care medium - Telephone
con_med0181	Care medium under 19 - Email

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con_med0182	Care medium under 19 - Face to face communication
con_med0183	Care medium under 19 - Missing value/Value outside reporting parameter
con_med0184	Care medium under 19 - Other
con_med0185	Care medium under 19 - Short Message Service (SMS) - Text Messaging
con_med0186	Care medium under 19 - Talk type for a person unable to speak
con_med0187	Care medium under 19 - Telemedicine web camera
con_med0188	Care medium under 19 - Telephone
Immunisations:	
immune1	Immunisations - 1 to 2 years
immune2	Immunisations - 11 to 18 years
immune3	Immunisations - 3 to 10 years
immune4	Immunisations - Less than 1 year
immune6	Immunisations - Total
Patients with Referrals:	
pref1	Patients referrals - Total
pref2	Patients referrals - Female - 0-4
pref3	Patients referrals - Female - 05-09
pref4	Patients referrals - Female - 10-14
pref5	Patients referrals - Female - 15-18
pref6	Patients referrals - Female - 19-24
pref7	Patients referrals - Female - 25-29
pref8	Patients referrals - Female - 30-34
pref9	Patients referrals - Female - 35-39
pref10	Patients referrals - Female - 40-44
pref11	Patients referrals - Female - 45-49
pref12	Patients referrals - Female - 50-54
pref13	Patients referrals - Female - 55-59
pref14	Patients referrals - Female - 60-64
pref15	Patients referrals - Female - 65-69
pref16	Patients referrals - Female - 70-74
pref17	Patients referrals - Female - 75-79
pref18	Patients referrals - Female - 80-84
pref19	Patients referrals - Female - 85+
pref20	Patients referrals - Indetgender - 0-4
pref21	Patients referrals - Indetgender - 05-09
pref39	Patients referrals - Male - 0-4
pref40	Patients referrals - Male - 05-09
pref41	Patients referrals - Male - 10-14
pref42	Patients referrals - Male - 15-18
pref43	Patients referrals - Male - 19-24
pref44	Patients referrals - Male - 25-29
pref45	Patients referrals - Male - 30-34
pref46	Patients referrals - Male - 35-39
pref47	Patients referrals - Male - 40-44
pref48	Patients referrals - Male - 45-49
pref49	Patients referrals - Male - 50-54

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pref50	Patients referrals - Male - 55-59
pref51	Patients referrals - Male - 60-64
pref52	Patients referrals - Male - 65-69
pref53	Patients referrals - Male - 70-74
pref54	Patients referrals - Male - 75-79
pref55	Patients referrals - Male - 80-84
pref56	Patients referrals - Male - 85+
pref57	Patients referrals - NKgen - 0-4
pref59	Patients referrals - NKgen - 10-14
pref60	Patients referrals - NKgen - 15-18
pref62	Patients referrals - NKgen - 25-29
pref63	Patients referrals - NKgen - 30-34
pref64	Patients referrals - NKgen - 35-39
pref65	Patients referrals - NKgen - 40-44
pref66	Patients referrals - NKgen - 45-49
pref78	Patients referrals - NKgen - 05-09
pref79	Patients referrals - NKgen - 19-24
pref80	Patients referrals - missgender - Missing
pref01881	Patient with Referral Totals age 0-18
Patient Care Contacts:	
pcc1	Patient care contacts- Total
pcc2	Patient care contacts- Female
pcc3	Patient care contacts- Male
pcc4	Patient care contacts- NKgen
pcc5	Patient care contacts- indetgender
pcc6	Patient care contacts- missgender
pcc0181	Patient care contacts under 19- Total
pcc0182	Patient care contacts under 19- Female
pcc0183	Patient care contacts under 19- Male
pcc0184	Patient care contacts under 19- NKgen
pcc0185	Patient care contacts under 19- indetgender
pcc0186	Patient care contacts under 19- missgender
Referrals – AS:	
refas1	Referrals - Total
refas0181	Referrals - Total under19
refas2	Referrals - Female - 0-4
refas3	Referrals - Female - 05-09
refas4	Referrals - Female - 10-14
refas5	Referrals - Female - 15-18
refas6	Referrals - Female - 19-24
refas7	Referrals - Female - 25-29
refas8	Referrals - Female - 30-34
refas9	Referrals - Female - 35-39
refas10	Referrals - Female - 40-44
refas11	Referrals - Female - 45-49
refas12	Referrals - Female - 50-54
refas13	Referrals - Female - 55-59

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refas14	Referrals - Female - 60-64
refas15	Referrals - Female - 65-69
refas16	Referrals - Female - 70-74
refas17	Referrals - Female - 75-79
refas18	Referrals - Female - 80-84
refas19	Referrals - Female - 85+
refas20	Referrals - Indetgender - 0-4
refas21	Referrals - Indetgender - 05-09
refas31	Referrals - Indetgender - 55-59
refas36	Referrals - Indetgender - 80-84
refas39	Referrals - Male - 0-4
refas40	Referrals - Male - 05-09
refas41	Referrals - Male - 10-14
refas42	Referrals - Male - 15-18
refas43	Referrals - Male - 19-24
refas44	Referrals - Male - 25-29
refas45	Referrals - Male - 30-34
refas46	Referrals - Male - 35-39
refas47	Referrals - Male - 40-44
refas48	Referrals - Male - 45-49
refas49	Referrals - Male - 50-54
refas50	Referrals - Male - 55-59
refas51	Referrals - Male - 60-64
refas52	Referrals - Male - 65-69
refas53	Referrals - Male - 70-74
refas54	Referrals - Male - 75-79
refas55	Referrals - Male - 80-84
refas56	Referrals - Male - 85+
refas57	Referrals - NKgen - 0-4
refas59	Referrals - NKgen - 10-14
refas60	Referrals - NKgen - 15-18
refas62	Referrals - NKgen - 25-29
refas63	Referrals - NKgen - 30-34
refas64	Referrals - NKgen - 35-39
refas65	Referrals - NKgen - 40-44
refas66	Referrals - NKgen - 45-49
refas67	Referrals - NKgen - 50-54
refas69	Referrals - NKgen - 60-64
refas72	Referrals - NKgen - 75-79
refas78	Referrals - NKgen - 05-09
refas79	Referrals - NKgen - 19-24
refas80	Referrals - missgender - Missing
Referrals – age and reason:	
age	Age
ref1	Referrals - Accident/Trauma
ref2	Referrals - Alopecia
ref3	Referrals - Antenatal Care

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ref4	Referrals - Bereavement
ref5	Referrals - Bladder Care
ref6	Referrals - Blood Disorders
ref7	Referrals - Blood Pressure
ref8	Referrals - Bowel Problems
ref9	Referrals - Cancer
ref10	Referrals - Cardiac Conditions
ref11	Referrals - Care of the Next Infant (CONI) Pathway
ref12	Referrals - Catheter Problems
ref13	Referrals - Cerebral Palsy
ref14	Referrals - Chronic Allergy/Immunological Problem
ref15	Referrals - Chronic Fatigue Syndrome/Myalgic Ence..
ref16	Referrals - Cleft Palate
ref17	Referrals - Cognitive Problems
ref18	Referrals - Colostomy Care
ref19	Referrals - Complex Social Factors
ref20	Referrals - Condition(s) Requiring Respite Care
ref21	Referrals - Continence Problems
ref22	Referrals - Deep Vein Thrombosis
ref23	Referrals - Dental Care/Problems
ref24	Referrals - Developmental Problems
ref25	Referrals - Diabetes
ref26	Referrals - Diarrhoea and Vomiting
ref27	Referrals - Dizziness/Balance Problems
ref28	Referrals - Downs Syndrome
ref29	Referrals - Ear Infections/Problems
ref30	Referrals - Eating Disorder
ref31	Referrals - Emotional/Behavioural Problems
ref32	Referrals - End of Life Support
ref33	Referrals - Epilepsy
ref34	Referrals - Equipment Provision
ref35	Referrals - Eustachian Tube Dysfunction
ref36	Referrals - Failure to Thrive
ref37	Referrals - Falls Risk
ref38	Referrals - Family Support
ref39	Referrals - Feeding/Swallowing Problems
ref40	Referrals - Foot Care/Problems
ref41	Referrals - Gastrostomy Management/Care
ref42	Referrals - Genetic Disorders
ref43	Referrals - Haematology/Phlebotomy
ref44	Referrals - Head Injury
ref45	Referrals - Healthy Child Pathway
ref46	Referrals - Hearing Problems/Loss
ref47	Referrals - Immunisation
ref48	Referrals - Laryngectomy
ref49	Referrals - Leg Ulcer
ref50	Referrals - Looked After Children

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ref51	Referrals - Low Muscle Tone
ref52	Referrals - Lymphoedema Management
ref53	Referrals - Maternal Mood Problems
ref54	Referrals - Metabolic/Endocrine Disorders
ref55	Referrals - Minor Surgery
ref56	Referrals - Missing value/Value outside reporting..
ref57	Referrals - Mobility Problems
ref58	Referrals - Multiple Complex Communication Diffic..
ref59	Referrals - Musculoskeletal Problems
ref60	Referrals - Neonatal Abstinence Syndrome
ref61	Referrals - Neurological Problems
ref62	Referrals - Not known
ref63	Referrals - Nutrition and Dietetics
ref64	Referrals - Ophthalmic Problems
ref65	Referrals - Other Congenital Conditions
ref66	Referrals - Over 75 Assessment
ref67	Referrals - Pain/Symptom Control
ref68	Referrals - Parkinsons Disease
ref69	Referrals - Personal Hygiene
ref70	Referrals - Post Operative Care
ref71	Referrals - Pressure Ulcer
ref72	Referrals - Problems with Activities of Daily Liv..
ref73	Referrals - Psychological Conditions
ref74	Referrals - Rehabilitation
ref75	Referrals - Renal Problems
ref76	Referrals - Respiratory Conditions
ref77	Referrals - Safeguarding
ref78	Referrals - Skin Problems
ref79	Referrals - Sleep Problems
ref80	Referrals - Smoking Cessation
ref81	Referrals - Speech and Language Problems
ref82	Referrals - Stoma Care
ref83	Referrals - Structural/Functional Impairment
ref84	Referrals - Substance Misuse
ref86	Referrals - Tuberculosis
ref87	Referrals - Vascular Problems
ref88	Referrals - Vomiting/Nausea
ref89	Referrals - Wound Care
Referrals – source:	
refsour1	Referral source - Accident and Emergency Department (including Minor Injuries Unit)
refsour2	Referral source - Acute Hospital Inpatient/Outpatient Department
refsour3	Referral source - Ambulance Service
refsour4	Referral source - Asylum Service
refsour5	Referral source - Care Home
refsour6	Referral source - Carer/Relative

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refsour7	Referral source - Community Health Service (same or other Health Care Provider)
refsour8	Referral source - Courts
refsour9	Referral source - Dental Practice
refsour10	Referral source - Educational Establishment
refsour11	Referral source - Employer
refsour12	Referral source - General Medical Practitioner Practice
refsour13	Referral source - Hospice
refsour14	Referral source - Independent Sector
refsour15	Referral source - Local Authority Social Services
refsour16	Referral source - Mental Health Service
refsour17	Referral source - Missing value/Value outside reporting parameters
refsour18	Referral source - National Screening Programme
refsour19	Referral source - Not Known
refsour20	Referral source - Police
refsour21	Referral source - Prison Health Service
refsour22	Referral source - Probation Service
refsour23	Referral source - Self Referral
refsour24	Referral source - Telephone or Electronic Access Service
refsour25	Referral source - Voluntary Sector
refsour018_1	Referral source under 19 - Accident and Emergency Department (including Minor Injuries Unit)
refsour018_2	Referral source under 19 - Acute Hospital Inpatient/Outpatient Department
refsour018_3	Referral source under 19 - Ambulance Service
refsour018_4	Referral source under 19 - Asylum Service
refsour018_5	Referral source under 19 - Care Home
refsour018_6	Referral source under 19 - Carer/Relative
refsour018_7	Referral source under 19 - Community Health Service (same or other Health Care Provider)
refsour018_8	Referral source under 19 - Courts
refsour018_9	Referral source under 19 - Dental Practice
refsour018_10	Referral source under 19 - Educational Establishment
refsour018_11	Referral source under 19 - Employer
refsour018_12	Referral source under 19 - General Medical Practitioner Practice
refsour018_13	Referral source under 19 - Hospice
refsour018_14	Referral source under 19 - Independent Sector
refsour018_15	Referral source under 19 - Local Authority Social Services
refsour018_16	Referral source under 19 - Mental Health Service
refsour018_17	Referral source under 19 - Missing value/Value outside reporting parameters
refsour018_18	Referral source under 19 - National Screening Programme
refsour018_19	Referral source under 19 - Not Known
refsour018_20	Referral source under 19 - Police
refsour018_22	Referral source under 19 - Probation Service
refsour018_23	Referral source under 19 - Self Referral
refsour018_24	Referral source under 19 - Telephone or Electronic Access Service

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refsour018_25	Referral source under 19 - Voluntary Sector

Organisations:

sub1	Submissions- Referrals_Adults_Only
sub2	Submissions- Referrals_Children_Only
sub3	Submissions- SuccessfulSubmissions
sub4	Submissions- SuccessfulSubmissions101 - Count of organisations that have submitted CSDS data to table CYP101 for the current month
sub5	Submissions- SuccessfulSubmissions201 - Count of organisations that have submitted CSDS data to table CYP201 for the current month

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Table A2: Descriptive information of available variables

Variable	Obs	Mean	St. Dev.	Min	Max
Care Activities:					
act1	529	1811.087	3186.817	5	17265
act2	1,190	12569.32	19417.15	5	136720
act3	1,054	29371.76	39470.56	5	269430
act4	1,110	4500.099	8821.736	5	84730
act5	55	71	96.56316	5	435
act6	640	957.125	1366.771	5	12050
act7	662	990.8006	1542.802	5	9635
act8	608	926.1513	1776.037	5	25130
act9	602	1066.545	1444.521	5	14040
act10	46	975.6522	1199.955	15	3610
act11	603	284.6352	706.826	5	6470
act12	1,219	17745.61	21602.91	5	102610
act13	650	1031.631	3191.961	5	37540
act14	425	408.3059	651.1388	5	3025
act0181	321	486.4019	1063.465	5	12125
act0182	1,144	2708.58	5090.747	5	86685
act0183	996	3058.072	5506.279	5	67900
act0184	1,015	1878.049	3308.531	5	35190
act0185	54	65.64815	89.76408	5	435
act0186	640	931.0469	1360.9	5	11990
act0187	643	979.3701	1563.412	5	9635
act0188	604	712.0447	890.2116	5	5310
act0189	598	892.801	1195.081	5	8215
act01810	45	714.2222	960.4899	10	2930
act01811	523	223.6902	506.8299	5	4230
act01812	1,161	4280.646	6787.503	5	54600
act01813	469	1009.915	3167.165	5	33960
act01814	226	191.1947	321.9177	5	1775
act15	1,355	56855.73	71904.38	10	517175
act01815	1,321	12139.89	17726.65	5	222980
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Care Contacts AS:					
ascontact1	83	644.4578	566.2602	5	2295
ascontact2	1,459	2729.243	2862.851	5	21590

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ascontact3	1,418	676.1107	898.2099	5	11785
ascontact4	1,420	550.3732	653.995	5	5975
ascontact5	1,446	322.4965	319.6345	5	1840
ascontact6	1,407	502.452	479.3544	5	2770
ascontact7	1,404	635.438	632.1773	5	3665
ascontact8	1,321	746.321	764.6279	5	5950
ascontact9	1,405	626.3274	595.5128	5	4970
ascontact10	1,395	495.8459	432.6759	5	2590
ascontact11	1,298	737.9122	576.5181	5	2745
ascontact12	1,265	1026.004	758.4308	5	3645
ascontact13	1,262	1207.809	897.9185	10	4650
ascontact14	1,266	1380.557	1016.075	5	5035
ascontact15	1,263	1759.719	1318.528	5	6755
ascontact16	1,268	2500.915	1812.942	5	9190
ascontact17	1,264	3147.971	2277.49	5	12600
ascontact18	1,262	4276.68	3164.257	5	16600
ascontact19	1,256	9080.518	7293.798	5	41140
ascontact20	17	16.47059	8.972999	5	40
ascontact25	1	10	.	10	10
ascontact27	3	11.66667	7.637626	5	20
ascontact29	1	5	.	5	5
ascontact30	3	5	0	5	5
ascontact31	3	18.33333	12.58306	5	30
ascontact34	4	20	19.14854	5	45
ascontact36	6	7.5	2.738613	5	10
ascontact37	5	21	6.519202	15	30
ascontact39	74	222.5676	178.7806	5	820
ascontact40	1,466	3368.741	3444.872	5	24700
ascontact41	1,424	1098.922	1237.697	5	12885
ascontact42	1,424	641.8048	709.9425	5	6315
ascontact43	1,415	278.5442	269.7131	5	1705
ascontact44	1,259	209.4202	165.8696	5	1055
ascontact45	1,251	206.4668	164.7373	5	955
ascontact46	1,168	248.643	200.2513	5	1150
ascontact47	1,239	303.2082	231.5739	5	1255
ascontact48	1,239	382.7684	290.6001	5	1580
ascontact49	1,243	600.3741	432.4496	5	2190
ascontact50	1,240	867.879	623.003	5	3105
ascontact51	1,245	1123.353	812.5592	5	4260
ascontact52	1,245	1388.378	1000.613	5	5065

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ascontact53	1,246	1796.493	1318.208	10	6585
ascontact54	1,250	2402.06	1723.236	5	8130
ascontact55	1,250	2659.148	1919.707	5	9745
ascontact56	1,245	3162.988	2334.222	5	11655
ascontact57	1,250	4745.696	3782.639	5	19305
ascontact59	22	10	5.345225	5	25
ascontact61	4	10	7.071068	5	20
ascontact62	3	5	0	5	5
ascontact64	1	5	.	5	5
ascontact65	8	7.5	3.779645	5	15
ascontact66	5	5	0	5	5
ascontact67	6	15.83333	9.174239	10	30
ascontact69	2	5	0	5	5
ascontact70	5	53	67.50926	5	160
ascontact71	2	7.5	3.535534	5	10
ascontact72	2	5	0	5	5
ascontact74	1	5	.	5	5
ascontact75	8	13.75	9.910312	5	35
ascontact76	2	15	7.071068	10	20
ascontact78	1	5	.	5	5
ascontact79	3	5	0	5	5
ascontact80	12	7.083333	2.574643	5	10
ascontact81	2	10	0	10	10
ascontact82	50	336.2	698.9625	5	3865
ascontact84	1,561	48045.34	42835.48	5	251445
ascontact01884	1,528	9169.218	9694.393	5	80135
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Care Contacts - Attend status:					
con_at1	1,331	33501.81	30190.15	10	166455
con_at2	930	3243.129	4688.577	5	28075
con_at3	963	963.1464	1581.445	5	11320
con_at4	1,070	967.2991	1455.822	5	10545
con_at5	1,335	6152.648	6199.049	5	57765
con_at6	755	487.1258	889.8438	5	6275
con_at7	735	159.1429	231.3087	5	990
con_at8	819	229.7253	359.7698	5	2505
con_at9	1,264	13086.59	24449.11	5	174065

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con_at0181	1,287	6036.255	6400.524	5	50505
con_at0182	643	261.0575	348.1344	5	2385
con_at0183	630	223.9206	243.6995	5	1350
con_at0184	745	520.7919	683.4272	5	4875
con_at0185	1,300	1461.319	1900.721	5	23320
con_at0186	389	50.46272	57.77928	5	255
con_at0187	423	72.37589	106.6902	5	630
con_at0188	557	116.93	165.5835	5	995
con_at0189	1,195	2952.025	6166.221	5	59120
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Care Contacts - Medium:					
con_med1	587	132.5043	211.6846	5	1575
con_med2	1,441	36416.73	32434.24	5	240365
con_med3	1,020	13408.19	16887.59	5	134860
con_med4	949	4806.423	10413.04	5	69195
con_med5	541	88.23475	105.1026	5	700
con_med6	57	32.80702	26.49153	5	105
con_med7	128	17.65625	14.70092	5	80
con_med8	1,357	3061.043	3875.411	5	24840
con_med0181	469	88.78465	120.9538	5	640
con_med0182	1,405	6520.637	7496.042	5	73735
con_med0183	981	2393.165	3443.177	5	50380
con_med0184	830	1327.247	2358.137	5	13770
con_med0185	516	73.62403	93.92285	5	605
con_med0186	37	29.45946	25.94823	5	105
con_med0187	61	13.93443	13.60499	5	70
con_med0188	1,233	1068.143	1609.127	5	12405
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Immunisations:					
immune1	508	1061.89	1307.744	5	7025
immune2	612	1744.91	3623.998	5	34105
immune3	544	1571.801	4662.135	5	68175
immune4	550	3911.3	5590.788	5	29770
immune6	682	6765.257	9734.218	5	70705
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15

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Patients with Referrals:

pref1	1,645	6810.267	7000.727	5	75445
pref2	1,539	486.4815	733.833	5	12610
pref3	1,442	232.8259	979.8539	5	24860
pref4	1,457	191.9973	539.7301	5	11740
pref5	1,414	93.82956	256.4776	5	8960
pref6	1,378	151.3099	141.7084	5	940
pref7	1,385	206.4224	204.0527	5	1265
pref8	1,405	227.573	234.7047	5	1545
pref9	1,400	177.2714	171.6379	5	1015
pref10	1,371	127.4654	115.4275	5	605
pref11	1,308	159.1017	138.7006	5	715
pref12	1,304	195.602	165.6378	5	820
pref13	1,299	202.0593	166.4999	5	885
pref14	1,298	204.5185	163.2999	5	910
pref15	1,293	230.3983	178.2822	5	940
pref16	1,295	292.9691	217.9202	5	1055
pref17	1,301	314.7617	226.1841	5	1040
pref18	1,299	388.5065	280.1682	5	1395
pref19	1,296	806.3117	638.6174	5	3410
pref20	1	10	.	10	10
pref21	1	5	.	5	5
pref39	1,553	574.208	810.9289	5	13440
pref40	1,466	288.8165	1031.651	5	26170
pref41	1,469	192.0014	453.0633	5	11735
pref42	1,403	82.46258	271.644	5	9700
pref43	1,233	64.73642	62.47687	5	535
pref44	1,200	67.2	62.90402	5	335
pref45	1,210	75.03306	72.64271	5	485
pref46	1,221	82.0516	75.25441	5	495
pref47	1,235	88.38866	77.48657	5	390
pref48	1,254	117.5718	99.62592	5	545
pref49	1,274	147.1193	122.1014	5	665
pref50	1,283	168.901	138.7127	5	785
pref51	1,285	186.6148	148.0956	5	840
pref52	1,289	216.7921	169.0498	5	870
pref53	1,292	266.4048	201.9795	5	940
pref54	1,294	262.8787	190.6237	5	880

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pref55	1,289	285.2948	205.1989	5	995
pref56	1,294	410.0927	325.9345	5	1820
pref57	13	9.230769	5.717719	5	20
pref59	7	7.142857	3.933979	5	15
pref60	2	7.5	3.535534	5	10
pref62	7	6.428571	2.43975	5	10
pref63	13	7.692308	3.301126	5	15
pref64	14	6.785714	2.486226	5	10
pref65	4	5	0	5	5
pref66	1	5	.	5	5
pref78	2	10	0	10	10
pref79	3	6.666667	2.886751	5	10
pref80	27	478.5185	945.1178	10	3025
pref01881	1,616	1994.783	3897.286	5	68375
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Patient Care Contacts:					
pcc1	1,559	15686.2	13158.09	5	88705
pcc2	1,551	8795.013	7396.136	5	49965
pcc3	1,551	6967.569	5788.859	5	38715
pcc4	44	11.59091	7.215352	5	30
pcc5	28	13.03571	6.431877	5	30
pcc6	11	480	824.4756	5	2265
pcc0181	1,520	5331.875	5401.158	5	47975
pcc0182	1,508	2420.444	2501.749	5	22550
pcc0183	1,507	2951.838	2914.474	5	25410
pcc0184	27	8.888889	4.668498	5	25
pcc0185	15	15	5	5	25
pcc0186	6	874.1667	972.0258	75	2260
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Referrals - AS:					
refas1	1,646	8765.07	9182.482	5	81060
refas0181	1,617	2218.114	4338.464	5	69375
refas2	1,539	552.4269	862.0851	5	14815
refas3	1,447	245.4561	1009.17	5	25775
refas4	1,460	214.3082	694.4855	5	15740
refas5	1,420	101.8486	261.9846	5	9060

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refas6	1,382	166.3748	159.9601	5	945
refas7	1,389	224.6292	224.9892	5	1340
refas8	1,410	247.0674	255.666	5	1575
refas9	1,406	195.1422	191.3677	5	1090
refas10	1,373	145.0583	134.9936	5	735
refas11	1,310	186.3779	167.5477	5	875
refas12	1,307	232.6549	203.3872	5	1100
refas13	1,299	246.7052	210.1828	5	1070
refas14	1,299	256.2625	212.9352	5	1115
refas15	1,293	301.1678	246.3002	5	1235
refas16	1,296	401.9599	329.941	5	1705
refas17	1,302	456.7665	381.4899	5	1920
refas18	1,299	591.6898	510.8668	5	2680
refas19	1,297	1280.941	1240.325	5	7095
refas20	2	7.5	3.535534	5	10
refas21	1	5	.	5	5
refas31	1	5	.	5	5
refas36	1	10	.	10	10
refas39	1,553	656.1462	959.3205	5	15700
refas40	1,467	309.2399	1069.673	5	27300
refas41	1,475	210.0576	521.1415	5	11845
refas42	1,408	89.23295	276.1618	5	9805
refas43	1,239	72.5908	72.87032	5	540
refas44	1,212	74.97525	73.16909	5	455
refas45	1,221	84.0131	83.20716	5	515
refas46	1,223	93.50777	87.53653	5	540
refas47	1,236	102.2532	91.9864	5	480
refas48	1,261	138.3822	121.0218	5	630
refas49	1,274	178.4851	151.626	5	780
refas50	1,283	210.6352	178.5758	5	940
refas51	1,286	240.1983	198.8065	5	1020
refas52	1,289	290.768	244.4937	5	1130
refas53	1,292	375.2709	317.3766	5	1530
refas54	1,295	390.1853	332.7876	5	1815
refas55	1,290	446.7907	395.531	5	2345
refas56	1,294	685.3594	693.3586	5	4395
refas57	14	10.35714	5.705694	5	20
refas59	7	8.571429	6.267832	5	20
refas60	2	7.5	3.535534	5	10

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refas62	7	6.428571	2.43975	5	10
refas63	13	8.076923	4.348592	5	20
refas64	14	7.5	2.594373	5	10
refas65	7	5	0	5	5
refas66	1	5	.	5	5
refas67	1	10	.	10	10
refas69	1	5	.	5	5
refas72	2	5	0	5	5
refas78	4	8.75	4.787136	5	15
refas79	4	6.25	2.5	5	10
refas80	27	557.963	1057.621	10	3535
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15
Referrals - age and reason:					
ref1	1,101	26.92552	39.26562	5	245
ref2	4	6.25	2.5	5	10
ref3	3,935	91.63532	176.785	5	2530
ref4	298	13.57383	15.54497	5	85
ref5	2,676	33.13154	63.93983	5	960
ref6	961	32.12279	60.49164	5	765
ref7	1,922	42.89542	135.9004	5	1640
ref8	1,981	16.62292	20.31019	5	170
ref9	2,524	17.49406	25.38038	5	280
ref10	4,878	33.66954	76.24756	5	1245
ref11	1	5	.	5	5
ref12	4,145	41.79252	77.66327	5	755
ref13	56	13.66071	20.92174	5	130
ref14	169	20.50296	14.461	5	65
ref15	157	11.27389	10.59004	5	50
ref16	31	7.741935	4.802553	5	25
ref17	677	13.58198	13.55401	5	135
ref18	1	5	.	5	5
ref19	672	23.77976	41.11794	5	460
ref20	23	7.608696	5.19387	5	25
ref21	9,736	46.90787	104.0376	5	1440
ref22	634	18.47792	30.3327	5	260
ref23	6	8.333333	4.082483	5	15
ref24	1,514	44.37252	133.61	5	3265
ref25	8,860	40.14334	93.97204	5	2150

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ref26	138	10.25362	7.767668	5	55
ref27	194	10.43814	7.8317	5	50
ref28	14	6.071429	2.129077	5	10
ref29	2,213	41.67872	111.152	5	1245
ref30	191	13.48168	18.59679	5	95
ref31	2,342	91.90436	368.0522	5	6360
ref32	5,137	34.3576	67.3112	5	1040
ref33	358	13.81285	19.8926	5	255
ref34	4,106	37.57185	83.25809	5	1055
ref35	3	5	0	5	5
ref36	38	6.578947	2.872343	5	15
ref37	4,445	51.10236	81.97549	5	800
ref38	2,753	124.6186	345.2435	5	4095
ref39	2,655	32.94162	62.25805	5	745
ref40	11,523	54.00069	134.1285	5	1740
ref41	260	11.32692	16.43017	5	110
ref42	22	9.545455	5.544	5	20
ref43	5,877	212.1661	615.3071	5	11040
ref44	175	10.88571	6.404791	5	35
ref45	5,400	288.4759	676.3863	5	11435
ref46	1,791	55.95198	87.67784	5	760
ref47	1,748	349.1991	2776.886	5	52225
ref48	18	11.38889	11.35077	5	45
ref49	2,283	24.90583	51.17744	5	620
ref50	2,256	28.46631	40.02241	5	550
ref51	21	5.714286	1.792843	5	10
ref52	696	12.64368	13.03485	5	90
ref53	84	35.17857	36.22592	5	135
ref54	258	19.98062	30.0858	5	220
ref55	1,908	18.25472	30.05185	5	250
ref56	2,117	3770.761	5734.505	5	64245
ref57	5,188	46.80995	89.5924	5	1155
ref58	362	25.17956	32.77825	5	290
ref59	13,118	138.3744	365.6904	5	5145
ref60	103	174.466	233.8341	5	810
ref61	3,685	26.52917	57.44458	5	715
ref62	15,577	446.9221	1615.75	5	32720
ref63	7,078	40.1547	102.607	5	1360
ref64	591	103.2487	455.1444	5	7705

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ref65	279	147.4194	323.0789	5	2035
ref66	471	23.73673	32.89646	5	295
ref67	4,037	26.87268	54.68826	5	755
ref68	1,242	13.73994	14.81835	5	155
ref69	137	15.36496	16.55689	5	100
ref70	1,586	17.83733	30.11997	5	325
ref71	2,735	30.08227	51.92158	5	585
ref72	4,983	101.6777	361.3047	5	9720
ref73	1,190	28.81092	66.18203	5	660
ref74	8,270	76.44196	191.4901	5	2320
ref75	196	18.57143	23.41926	5	165
ref76	6,011	38.75561	74.91197	5	1205
ref77	2,809	52.90673	102.1595	5	1350
ref78	3,268	35.57681	97.18417	5	1625
ref79	445	14.52809	12.14597	5	75
ref80	415	44.66265	94.63958	5	740
ref81	6,404	66.4975	203.0412	5	4995
ref82	197	11.72589	11.64159	5	85
ref83	711	71.18143	155.5035	5	1115
ref84	82	10.06098	8.370064	5	55
ref86	1,235	29.63968	48.32917	5	405
ref87	541	34.99076	81.7542	5	700
ref88	152	11.05263	7.945001	5	45
ref89	10,368	90.7229	215.422	5	3230
org2	34,692	69.68039	40.19074	1	139
periodn	34,692	8.188257	4.276557	1	15
Referrals - source:					
refsour1	1,123	166.6518	367.3885	5	3020
refsour2	1,389	1258.207	1243.881	5	6280
refsour3	773	65.27167	233.0036	5	6215
refsour4	38	155.5263	160.3577	5	405
refsour5	1,154	274.8484	379.8633	5	2385
refsour6	1,284	317.1301	622.8164	5	5210
refsour7	1,473	2054.111	2747.097	5	48445
refsour8	34	17.5	18.35054	5	70
refsour9	104	618.8942	1448.9	5	5720
refsour10	1,188	196.9529	286.0535	5	3525
refsour11	124	54.67742	85.72205	5	330
refsour12	1,427	3156.622	3326.191	5	15725

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refsour13	807	44.59108	105.9218	5	1540
refsour14	398	45.56533	70.77117	5	710
refsour15	1,331	141.2322	160.6992	5	875
refsour16	538	32.77881	55.0583	5	545
refsour17	841	1721.587	2710.509	5	17155
refsour18	241	78.27801	91.26222	5	610
refsour19	1,222	661.4198	1926.663	5	53875
refsour20	223	105.6054	183.7607	5	2350
refsour21	46	20.32609	14.54503	5	60
refsour22	32	24.53125	42.1472	5	175
refsour23	1,303	937.5633	2769.334	5	53350
refsour24	310	273.6129	540.0676	5	3080
refsour25	170	13.64706	14.47071	5	120
refsour018_1	637	86.79749	181.1583	5	2150
refsour018_2	1,253	187.5778	245.1972	5	1460
refsour018_3	10	92.5	269.6835	5	860
refsour018_4	28	48.03571	38.42596	5	110
refsour018_5	3	6.666667	2.886751	5	10
refsour018_6	866	78.7933	187.9665	5	3500
refsour018_7	1,379	1114.278	2139.028	5	45610
refsour018_8	34	17.5	18.35054	5	70
refsour018_9	60	359.1667	665.2699	5	2850
refsour018_10	1,186	195.8137	284.5062	5	3525
refsour018_11	32	21.25	22.4327	5	85
refsour018_12	1,346	218.5624	272.0455	5	1910
refsour018_13	17	16.47059	10.42304	5	40
refsour018_14	113	27.34513	28.59875	5	140
refsour018_15	1,005	102.8806	125.9734	5	740
refsour018_16	314	27.54777	41.73788	5	400
refsour018_17	689	583.2801	1218.228	5	10425
refsour018_18	212	66.06132	88.77353	5	610
refsour018_19	990	276.9949	1893.496	5	52975
refsour018_20	188	70.79787	79.38703	5	465
refsour018_22	28	22.5	40.90413	5	155
refsour018_23	1,084	280.3459	2662.24	5	52435
refsour018_24	98	103.2143	187.6774	5	1100
refsour018_25	28	14.10714	13.74729	5	60
org2	1,652	69.68039	40.20233	1	139
periodn	1,652	8.188257	4.27779	1	15

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Organisations:					
sub1	110	0.081818	0.275342	0	1
sub2	141	1	0	1	1
sub3	2,728	1	0	1	1
sub4	2,675	1	0	1	1
sub5	2,465	1	0	1	1
org2	2,728	72.03996	39.174	1	139
periodn2	2,728	14.00953	7.674955	0	26

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Table A3: Number of Trusts per Commissioning Region (NHS, 2014)

London Commissioning Region (Y56)	41
South of England Commissioning Region (Y57)	58
Midlands and East of England Commissioning Region (Y55)	74
North of England Commissioning Region (Y54)	74

Table A4: Number of providers reporting in each Commissioning Region in CSDS per month, October 2017-December 2018

Period No.	North CR (Y54)		Midlands and East CR (Y55)		London CR (Y56)		South CR (Y57)		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1	38	51.35	24	32.43	12	29.27	21	36.21	95	38.46
2	36	48.65	24	32.43	13	31.71	23	39.66	96	38.87
3	38	51.35	25	33.78	13	31.71	23	39.66	99	40.08
4	40	54.05	27	36.49	14	34.15	26	44.83	107	43.32
5	39	52.70	27	36.49	15	36.59	27	46.55	108	43.72
6	38	51.35	27	36.49	15	36.59	25	43.10	105	42.51
7	40	54.05	27	36.49	16	39.02	26	44.83	109	44.13
8	40	54.05	27	36.49	16	39.02	23	39.66	106	42.91
9	37	50.00	26	35.14	15	36.59	24	41.38	102	41.30
10	38	51.35	26	35.14	16	39.02	27	46.55	107	43.32
11	38	51.35	28	37.84	16	39.02	25	43.10	107	43.32
12	41	55.41	28	37.84	16	39.02	25	43.10	110	44.53
13	38	51.35	29	39.19	14	34.15	25	43.10	106	42.91
14	41	55.41	29	39.19	13	31.71	24	41.38	107	43.32
15	42	56.76	27	36.49	13	31.71	24	41.38	106	42.91
Total	584		401		217		368		1,570	

Table A5: Councils in data, October 2017-December 2018

Council	Frequency
Barnsley Metropolitan Borough Council	15
Lincolnshire County Council	8
North East Lincolnshire Council	15
North Tyneside Council	4
Redcar & Cleveland Borough Council	15
Suffolk County Council	6
Swindon Borough Council (Unitary)	9
York City Council	10

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Table A6: Number of Trusts (NHS, 2014) per Area Team (2018)

NHS England London (Q71)	41
NHS England North (Yorkshire and Humber) (Q72)	22
NHS England North (Cumbria and North East) (Q74)	14
NHS England North (Cheshire and Merseyside) (Q75)	19
NHS England Midlands and East (North Midlands) (Q76)	17
NHS England Midlands and East (West Midlands) (Q77)	21
NHS England Midlands and East (Central Midlands) (Q78)	15
NHS England Midlands and East (East) (Q79)	21
NHS England North (Greater Manchester) (Q83)	14
NHS England North (Lancashire and South Cumbria) (Q84)	5
NHS England South West (South West South) (Q85)	13
NHS England South West (South West North) (Q86)	14
NHS England South East (Hampshire, Isle of Wight and Thames Valley) (Q87)	13
NHS England South East (Kent, Surrey and Sussex) (Q88)	18

Table A7: Number of providers reporting per each Area Team in CSDS per month, October 2017-December 2018

Period No.	London (Q71)		North (Yorkshire and Humber) (Q72)		North (Cumbria and North East) (Q74)		North (Cheshire and Merseyside) (Q75)		Midlands and East (North Midlands) (Q76)		Midlands and East (West Midlands) (Q77)		Midlands and East (Central Midlands) (Q78)		Midlands and East (East) (Q79)		North (Greater Manchester) (Q83)		North (Lancashire and South Cumbria) (Q84)		South West (South West South) (Q85)		South West (South West North) (Q86)		South East (Hampshire, Isle of Wight and Thames Valley) (Q87)		South East (Kent, Surrey and Sussex) (Q88)		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	12	29.27	16	72.73	8	57.14	7	36.84	4	23.53	9	42.86	4	26.67	7	33.33	5	35.71	2	40.00	6	46.15	5	35.71	6	46.15	4	22.22	95	38.46
2	13	31.71	14	63.64	8	57.14	7	36.84	5	29.41	8	38.10	4	26.67	7	33.33	5	35.71	2	40.00	6	46.15	5	35.71	7	53.85	5	27.78	96	38.87
3	13	31.71	17	77.27	8	57.14	6	31.58	5	29.41	8	38.10	5	33.33	7	33.33	5	35.71	2	40.00	5	38.46	6	42.86	6	46.15	6	33.33	99	40.08
4	14	34.15	17	77.27	8	57.14	7	36.84	5	29.41	9	42.86	5	33.33	8	38.10	6	42.86	2	40.00	6	46.15	6	42.86	7	53.85	7	38.89	107	43.32
5	15	36.59	16	72.73	8	57.14	7	36.84	5	29.41	10	47.62	5	33.33	7	33.33	6	42.86	2	40.00	6	46.15	6	42.86	7	53.85	8	44.44	108	43.72
6	15	36.59	16	72.73	8	57.14	6	31.58	5	29.41	10	47.62	5	33.33	7	33.33	6	42.86	2	40.00	6	46.15	6	42.86	6	46.15	7	38.89	105	42.51
7	16	39.02	17	77.27	9	64.29	6	31.58	5	29.41	9	42.86	5	33.33	8	38.10	6	42.86	2	40.00	6	46.15	6	42.86	6	46.15	8	44.44	109	44.13
8	16	39.02	17	77.27	9	64.29	6	31.58	5	29.41	9	42.86	5	33.33	8	38.10	6	42.86	2	40.00	5	38.46	6	42.86	6	46.15	6	33.33	106	42.91
9	15	36.59	17	77.27	8	57.14	4	21.05	5	29.41	8	38.10	5	33.33	8	38.10	6	42.86	2	40.00	6	46.15	5	35.71	6	46.15	7	38.89	102	41.30
10	16	39.02	17	77.27	8	57.14	5	26.32	5	29.41	8	38.10	5	33.33	8	38.10	6	42.86	2	40.00	6	46.15	6	42.86	7	53.85	8	44.44	107	43.32
11	16	39.02	17	77.27	8	57.14	6	31.58	6	35.29	9	42.86	5	33.33	8	38.10	5	35.71	2	40.00	6	46.15	6	42.86	7	53.85	6	33.33	107	43.32
12	16	39.02	17	77.27	8	57.14	7	36.84	6	35.29	9	42.86	5	33.33	8	38.10	7	50.00	2	40.00	6	46.15	6	42.86	7	53.85	6	33.33	110	44.53
13	14	34.15	16	72.73	8	57.14	7	36.84	6	35.29	9	42.86	5	33.33	9	42.86	6	42.86	1	20.00	6	46.15	6	42.86	7	53.85	6	33.33	106	42.91
14	13	31.71	17	77.27	9	64.29	7	36.84	5	29.41	10	47.62	5	33.33	9	42.86	6	42.86	2	40.00	6	46.15	6	42.86	7	53.85	5	27.78	107	43.32
15	13	31.71	17	77.27	8	57.14	8	42.11	5	29.41	10	47.62	3	20.00	9	42.86	6	42.86	3	60.00	6	46.15	6	42.86	7	53.85	5	27.78	106	42.91

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