

# London memory services 2019 audit report

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## Background

The Prime Minister's Challenge on Dementia 2020<sup>1</sup> emphasises the importance of timely diagnosis, high quality care and research participation. The government's 2018/2019 mandate to NHS England also sets an expectation to improve the quality of care and support for people with dementia.<sup>2</sup> In 2018, the National Collaborating Centre for Mental Health published the Dementia Care Pathway which sets a national goal to increase the number of people being diagnosed with dementia and starting treatment within six weeks of a referral.<sup>3</sup> Following on from this, the London Region of NHS England agreed an ambition for services to work toward 85% of people being diagnosed and having an initial care and support plan within six weeks of referral.

In 2015, the London Dementia Clinical Network completed a pilot audit of eight London memory services.<sup>4</sup> Using the pilot audit as a template, a best practice clinical dataset was developed by an expert reference group consisting of primary and secondary care clinicians, memory service managers and commissioners. The group reviewed existing standards, e.g. Memory Services National Accreditation Programme (MSNAP) standards and National Institute for Health and Care Excellence (NICE) guidance.

In 2016, ten London memory services participated in round one of the audit, contributing data on 590 patients.<sup>5</sup> Variation was noted in neuroimaging practice, neuropsychology referrals, diagnosis subtype, non-dementia diagnoses, waiting times and post-diagnostic support.

Findings from the audit were used to initiate four service improvement projects:

1. Streamlining memory service pathways: London memory services were offered a clinical pathway mapping meeting using value stream mapping principles and lean methodology to identify efficiency opportunities. A guidance document on streamlining pathways was published [here](#).
2. Implementing NICE guidelines: clinical advice meetings were held with CCGs to support implementation of the new guideline.
3. Non-dementia pathways; a working group was established to develop advice for primary care and memory services in assessing and managing patients with mild to moderate depression and/or anxiety, cognitive concerns in the context of alcohol misuse, mild cognitive impairment (MCI) and functional cognitive disorder. A guidance document was published [here](#)
4. Neuroimaging guidance: a [guidance document](#) was developed to help memory service clinicians decide which patients should be scanned and which imaging modality to choose.

To review the effectiveness of the above service improvement projects memory services were invited to complete a second round of the audit. The dataset was updated to reflect changes from the revised NICE dementia guideline<sup>6</sup> published in June 2018 and learning from round one of the audit.

## Section one –Services that participated in 2016 and 2019

Nine London memory services (30%) covering ten CCGs (31%) completed the audit in 2016 and 2019. Of these services, four were in South London and four were in outer London.

465 patient case notes were included in the 2016 audit, varying from 35 to 68 cases per service. 455 patient case notes were included in the 2019 audit, varying from 46 to 59 cases per service.

### Demographics

In 2016 the median age at referral varied from 79 to 82 per service; in 2019 the mean age of patients seen varied from 76 to 82 per service.

In 2016 overall, 33% of referrals were of non-white British ethnicity, varying from 10% to 54% per service; In 2019 27% of patients seen were of a non-white background varying from 3% to 40% per service.

In 2016 and 2019, of the patients who were asked 10% were current smokers.

### Memory service assessment

In 2016 overall, 47% of patients were assessed in clinic (as opposed to usual place of residence) varying from 9% to 95% per service. In 2019, 60% of patients were seen in clinic varying from 4% to 92% per service.

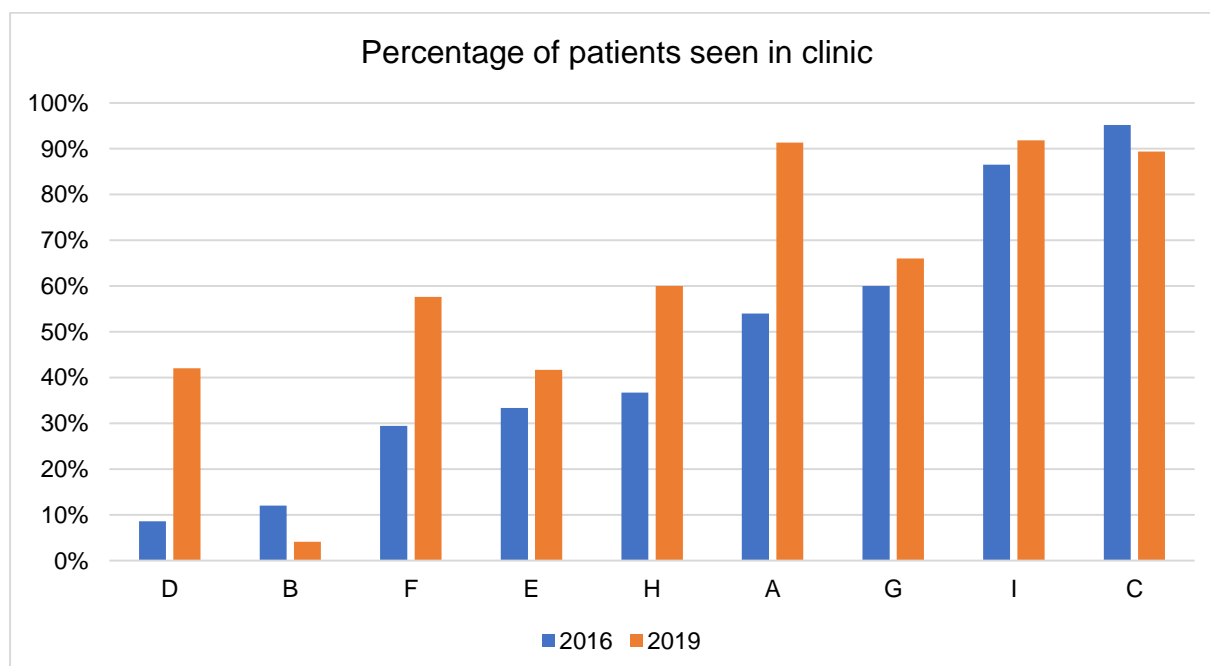


Figure 1 Percentage of patients seen in clinic (as opposed to usual place of residence) 2016 and 2019

In 2016, the proportion of patients referred for diagnostic neuropsychology varied from 4% to 15% per service. In 2019 the variation was from 2% to 12% per service (one service was unable to provide data).

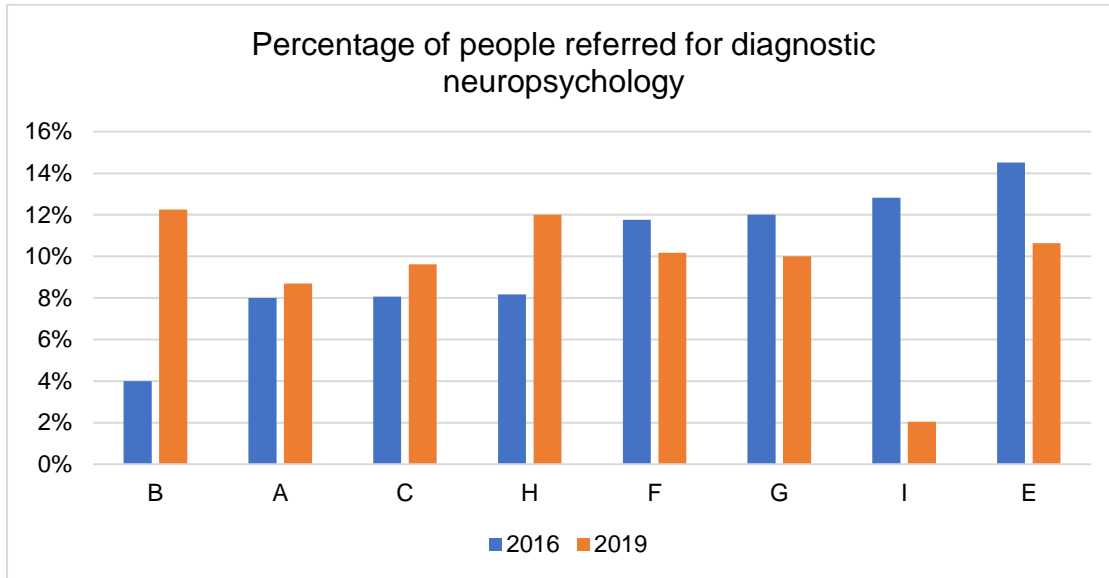


Figure 2 Percentage of patients referred for diagnostic neuropsychology 2016 and 2019

## Neuroimaging

In 2016 variation was noted in neuroimaging practice. The percentage of patients deemed not to require a scan for dementia diagnosis was 30% and varied from 6% to 43% per service. 14% of patients had previously had a scan and were deemed not to require repeat imaging.

In 2019 the percentage of patients deemed not to require a scan was 31% and varied from 4% to 92% per service. 17% of patients had previously had a scan.

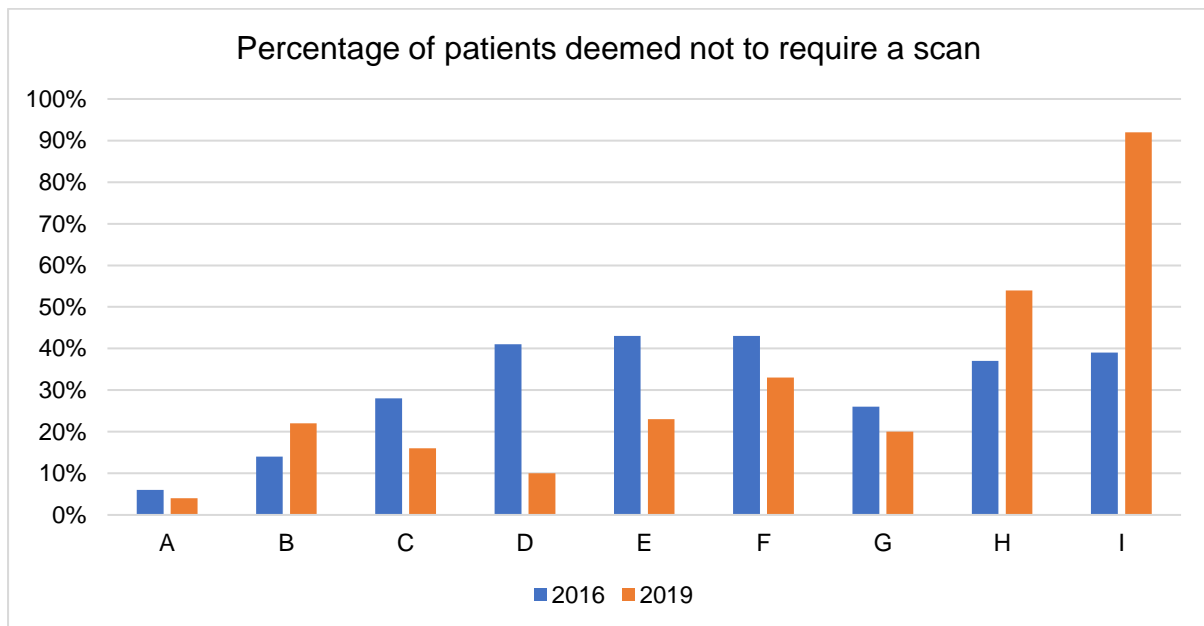


Figure 3 Percentage of people deemed not to require a scan 2016 and 2019

In 2016, 42% of patients who had a scan (MRI or CT) had an MRI scan, varying from 0% to 96% per service. In 2019, 50% of patients who had a scan had an MRI scan varying from 9% to 93% per service.

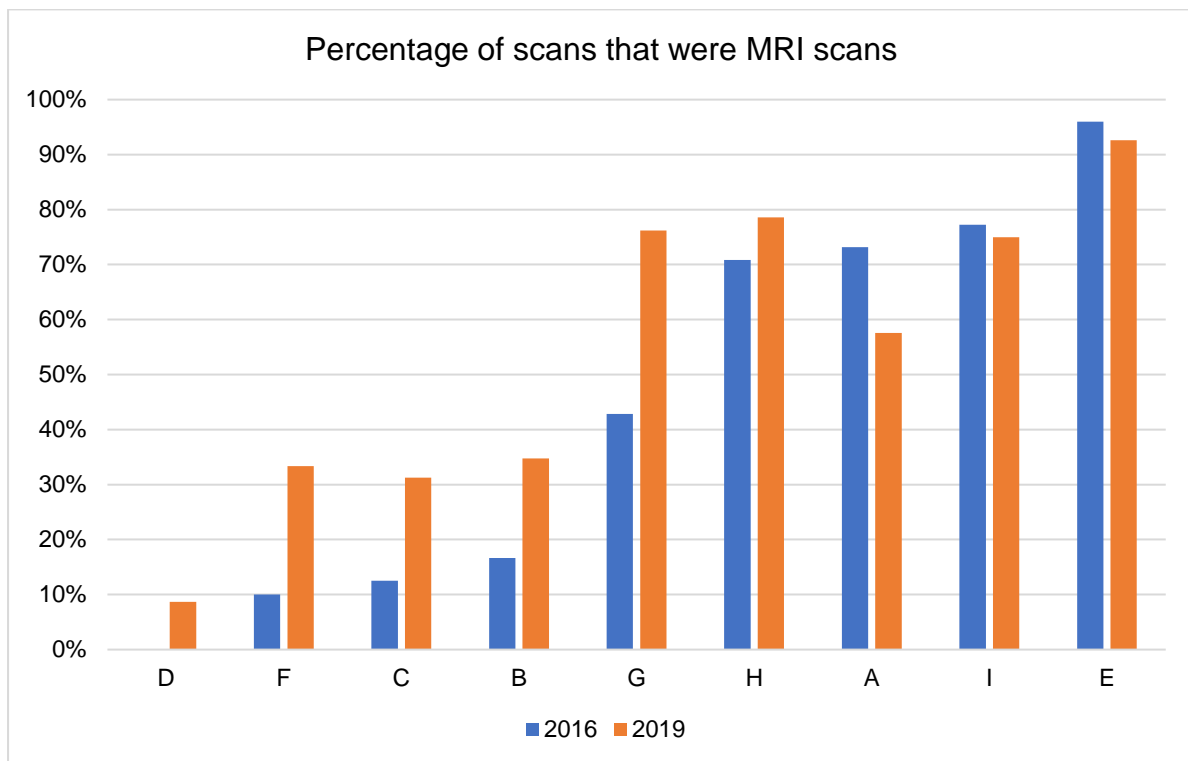


Figure 4 Percentage of scans (MRI or CT) that were MRI scans 2016 and 2019

## Waiting times

In 2016, the percentage of people seen within 4 weeks was 54% varying from 8% to 90% per service. In 2016, the average waiting time for diagnosis varied from 5 weeks to 23 weeks per service.

In 2019, the percentage of people seen within 4 weeks was 50% varying from 4% to 88% per service. In 2019, the average waiting time for diagnosis varied from 4 weeks to 15 weeks per service.

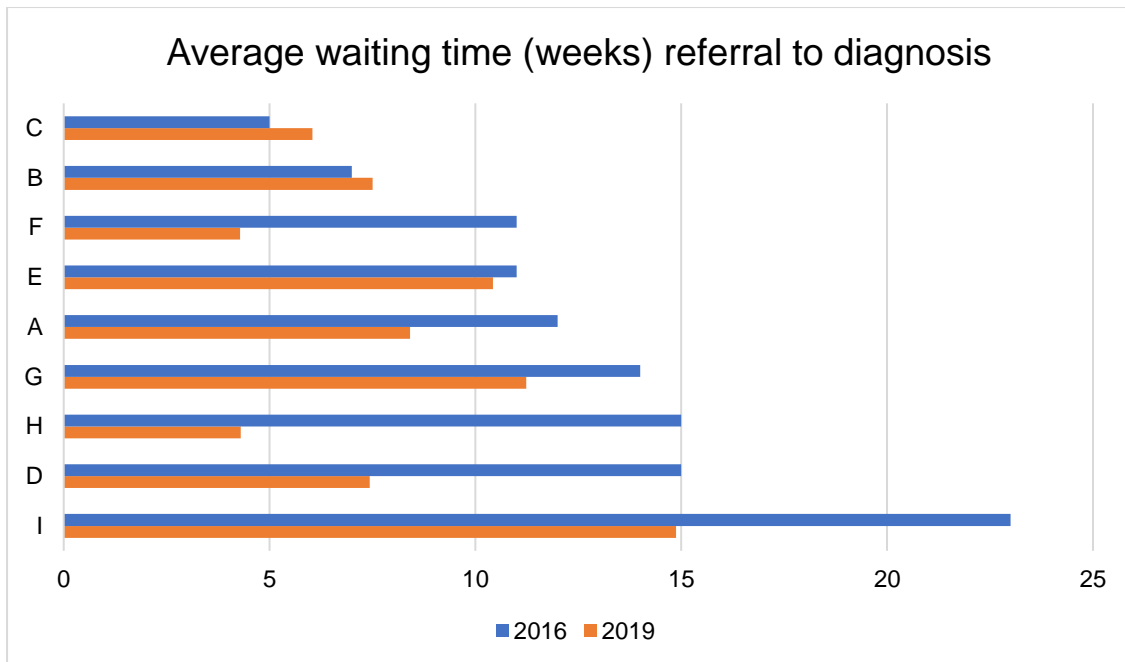


Figure 5 Average waiting time (weeks) referral to diagnosis 2016 and 2019



## Diagnosis

### Diagnosis (aged 65 years and over)

In 2016 overall 61% of patients were diagnosed with dementia, varying from 46% to 78% per service and overall 22% of people were diagnosed with MCI varying from 3% to 28% per service.

In 2019 overall 63% of patients were diagnosed with dementia, varying from 49 to 81% per service and 18% of people were diagnosed with MCI varying from 8% to 27% per service.

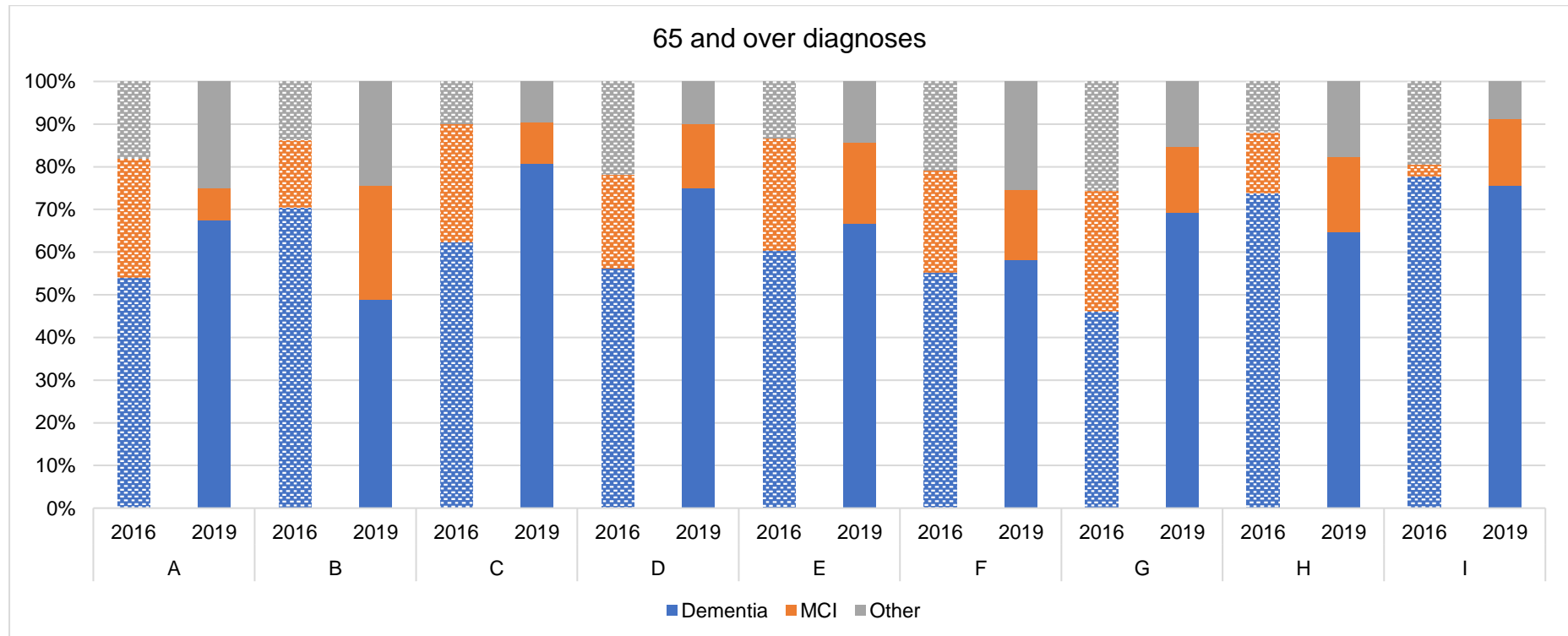


Figure 6 Diagnosis 65 years and over 2016 and 2019

**Dementia subtypes (aged 65 and over):**

	London 2016	Service variation 2016	London 2019	Service variation 2019
Alzheimer's Disease	54%	25% to 77%	42%	30% to 79%
Vascular dementia	10%	3% to 22%	18%	3% to 33%
Mixed dementia	20%	6% to 31%	22%	5% to 36%
Unspecified dementia	12%	0% to 26%	13%	0% to 23%

*Table 1 Dementia Subtypes (aged 65 and over) 2016 and 2019*

**Diagnosis under the age of 65**

In 2016 overall, 85% of patients seen under the age of 65 did not have dementia; 7 patients were diagnosed with dementia; 3 Alzheimer's disease, 1 unspecified dementia, 1 frontotemporal dementia and 1 Korsakoff syndrome.

In 2019, 84% of patients seen under the age of 65 did not have dementia. 10 patients were diagnosed with dementia; 3 Alzheimer's disease, 3 vascular dementia, 1 Parkinson's disease dementia, 2 alcohol-related dementia including Korsakoff Syndrome and 1 other dementia.

## Post-diagnostic support

### Cognitive stimulation therapy (CST)

Across the 9 services 21% of patients diagnosed with dementia accepted CST in 2016 and 22% in 2019

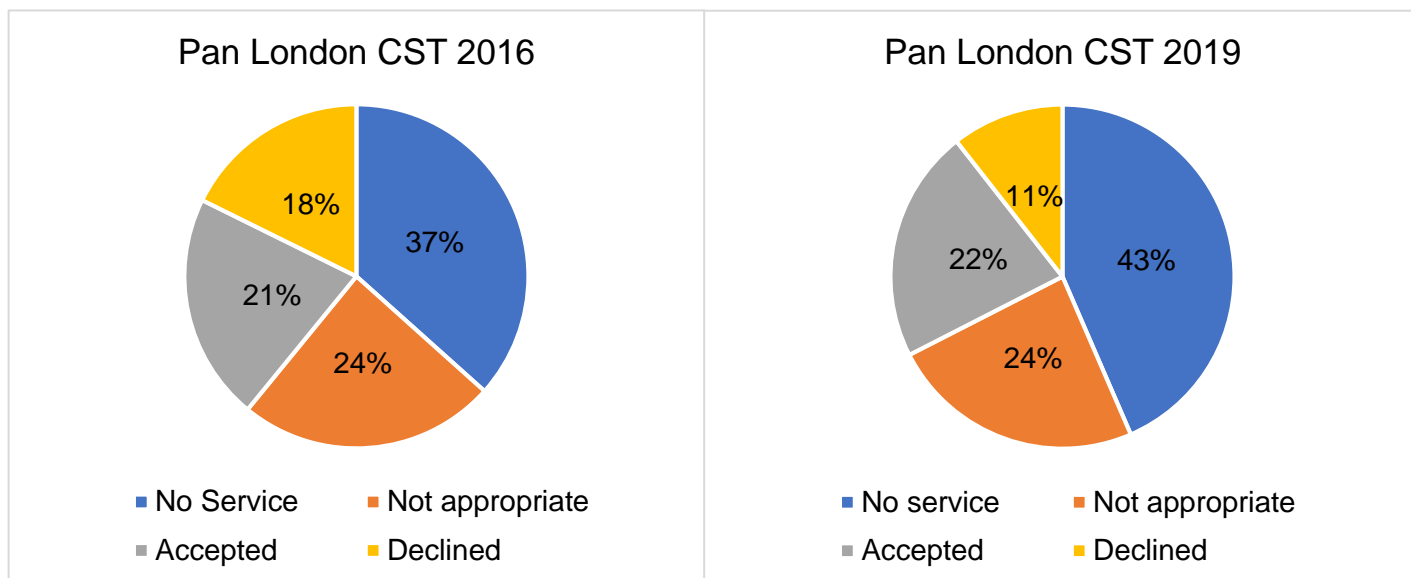


Figure 7 Pan London CST 2016

Figure 8 Pan London CST 2019

CST was not available in 4 services (44%) in 2016 and 2019 (3 of the services were the same). Excluding those services; in 2016, 52% of patients were offered CST, with 41% of those declining whereas in 2019, 61% of patients were offered CST with 33% declining.

### Dementia advisor

In 2016 overall, 64% of people were offered a dementia adviser, varying from 25% to 97% per service. In 2019 overall, 82% were offered a dementia adviser, varying from 43% to 100% per service.

### Carer education

In 2016, services were asked if they provided START (a form of carer education); a third of services reported that they did. In 2019, 89% of services provided or were able to refer to carer psychoeducation.

## Discussion

The demographics of patients seen in the nine memory services that participated in both audit rounds have not changed from 2016 to 2019 except for a few services with lower numbers of patients from BAME groups.

Increased numbers of patients are being seen in clinic, which allows more patients to be assessed in a given time period, although there is still considerable variation between services. The percentage of patients referred for diagnostic neuropsychology has remained stable at around 10%.

A guidance document on neuroimaging was published in August 2018 to support a reduction in variation in practice; despite this, there is still wide variation in choice of scanning modality and in the percentage of people deemed not to require a scan. Slightly more patients had an MRI scan (rather than a CT scan) in 2019. The 6-month timeframe from the guidance document being published to re-auditing may not have given sufficient time for reflection, local discussions and potential changes in practice.

Waiting time to diagnosis has significantly improved. The average waiting time improved in seven out of the nine services, with four services decreasing waiting times by seven weeks or more. In the two services where waiting times increased this was only by one week. Waiting time to initial assessment has remained stable suggesting that the pathway from initial assessment to diagnosis is being delivered more quickly.

Since the 2016 audit, a new regional ambition has been agreed for services to work towards 85% of people being diagnosed and having an initial care and support plan within 6 weeks of referral. There has been support for memory services to streamline pathways using lean methodology and sharing best practice. These two factors are likely to have supported improved waiting times.

The variation in conversion rate (percentage of people seen who are diagnosed with dementia) has remained relatively stable. There has been an increase in the proportion of people diagnosed with vascular dementia and a decrease in the proportion diagnosed with Alzheimer's disease.

The NICE dementia guideline was updated in 2018 with recommendations on CST, carer education and care coordination. CST remains unavailable in four services; however, in the services where it is available more patients are being offered the service (61% up from 52%) and of those, fewer patients are declining the service (33% down from 41%).

Significantly more patients are being offered a dementia adviser-type service (64% in 2016 versus 82% in 2019). The number of carers being offered carer education cannot be compared directly as the question was phrased differently in the 2016 and 2019 audits.

In summary, there have been some areas of improvement, particularly in waiting times, access to dementia advisors and CST attendance. It is likely that pan-London quality improvement projects supported these improvements. There remains variation, particularly in neuroimaging and diagnosis (including sub-typing). These will need a specific focus going forward.

## Section two 2019 audit

20 memory services participated in the 2019 audit covering 23 CCGs (72%). 11 participating services were in North London and 13 were in outer London.

All participating services were provided by Mental Health Trusts. All the nine Mental Health Trusts that provide memory services in London had at least one service participating in the audit.

Data was collected on 988 patients varying from 43 to 59 per service.

### Organisational Questions

- Nine services (45%) are MSNAP accredited.
- 17 services (85%) have a named research champion or lead.
- Three services do not see people under the age of 65. Of the services that do, eight (47%) have a named lead for young onset dementia.
- 20% of services request an ECG for all patients prior to prescribing cholinesterase inhibitors.
- In 15 services (75%), scans are reported by neuroradiologists; some other services reported that some scans are reported by neuroradiologists.
- Nine services (45%) can view scan images.
- 11 services (55%) facilitate scan attendance.
- 11 services (55%) can refer for PET scans.
- 14 services (70%) can refer for DAT scans.
- Nine services (45%) can refer for CSF examination.

**Joint working opportunities**

One service did not submit data.

Figure 10 Joint working with neurology 2019

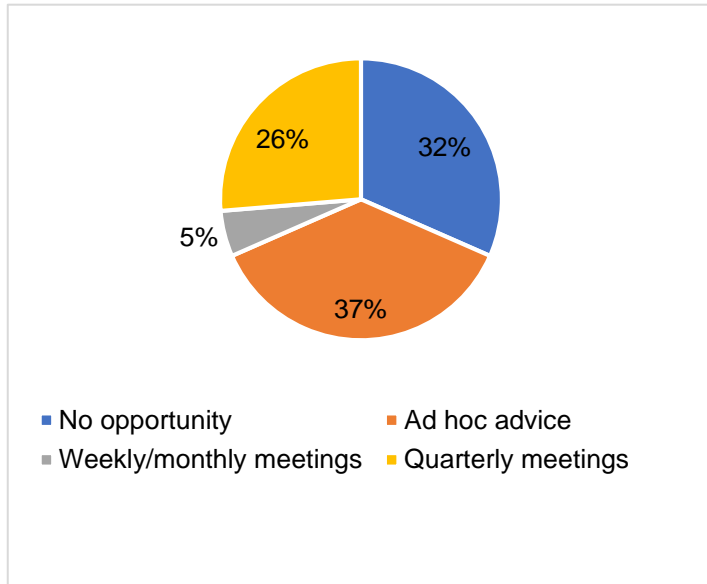


Figure 9 joint with working geriatrics 2019

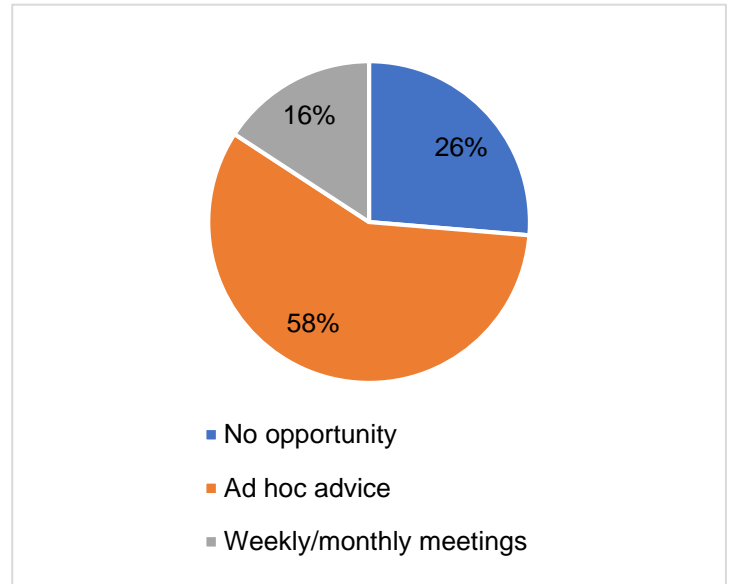
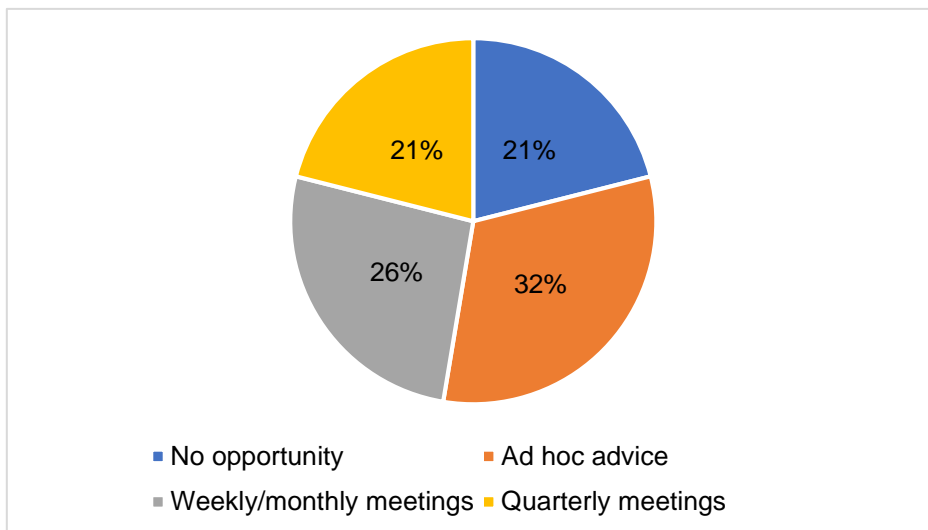


Figure 11 Joint working with neuroradiology 2019



## Patient demographics and referrals

	London (service range)
<b>Mean age</b>	79 (74-82)
<b>% of patients under 65</b>	8% (0%-22%)
<b>% female</b>	58% (35%-84%)
<b>% ethnicity non-white</b>	26% (3%-42%)
<b>% live alone</b>	37% (17%-62%)
<b>% required interpreter</b>	11% (0-27%)
<b>Of those that required an interpreter, % where this was provided by family member</b>	11% (0%-100%)
<b>% referrals from GP</b>	95% (82%-100%)

Table 2 Patient demographics and referrals

## Assessment

### Clinic assessment

Overall 66% of patients were seen in clinic varying from 4% to 98% per service.

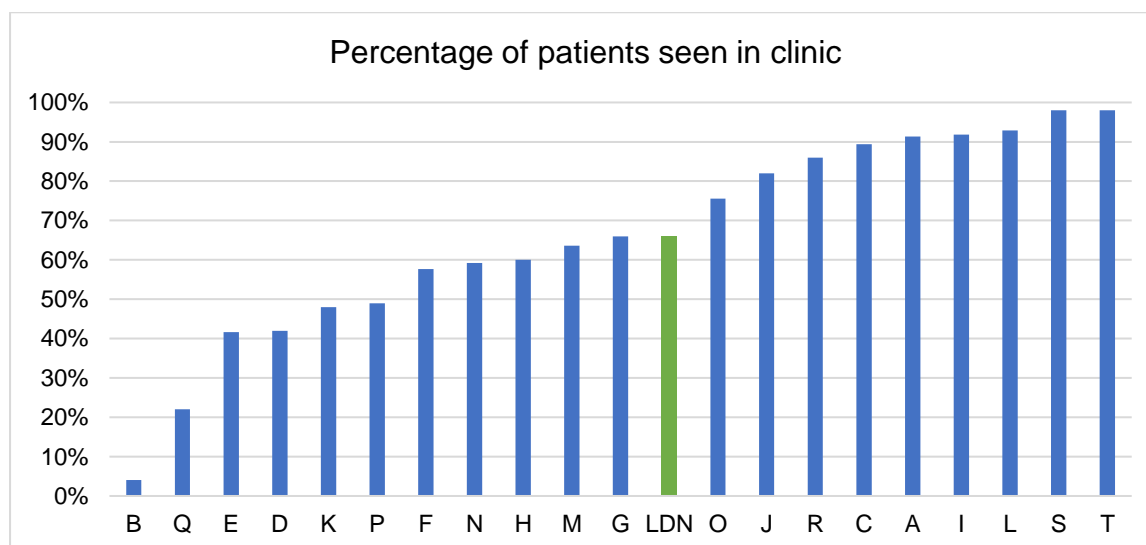


Figure 12 Percentage of patients seen in clinic (as opposed to usual place of residence) 2019

### Smoking, sensory and falls

Overall, smoking history was not documented in 18% of case notes, varying from 0% to 47% per service; of those cases where smoking history was documented, 10% of patients were smokers, varying from 3% to 19% per service.

Overall, in around half of cases there was evidence of a discussion about vision and hearing (55% and 56% respectively) varying from 5% to 100% per service.

Overall, in 72% of cases a falls history was taken, varying from 20% to 100% per service.

## Diagnostic neuropsychological assessment

Overall, 7% of patients were referred for diagnostic neuropsychological assessment varying from 0% to 22% per service.

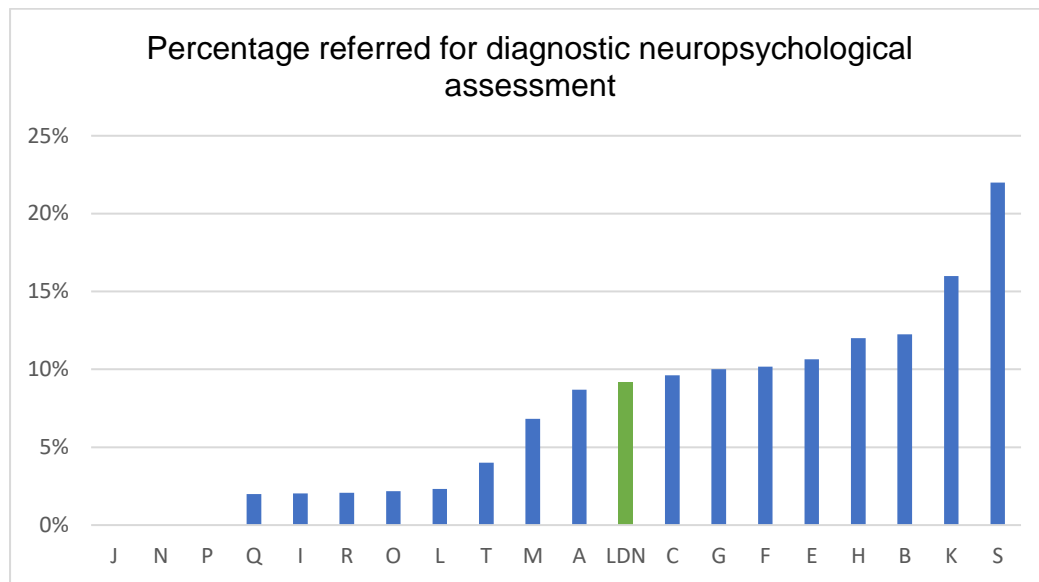


Figure 13 Percentage referred for diagnostic neuropsychological assessment 2019



## Assessment waiting times

Overall, the average waiting time from referral to initial assessment was 5 weeks, varying from 2 to 12 weeks per service.

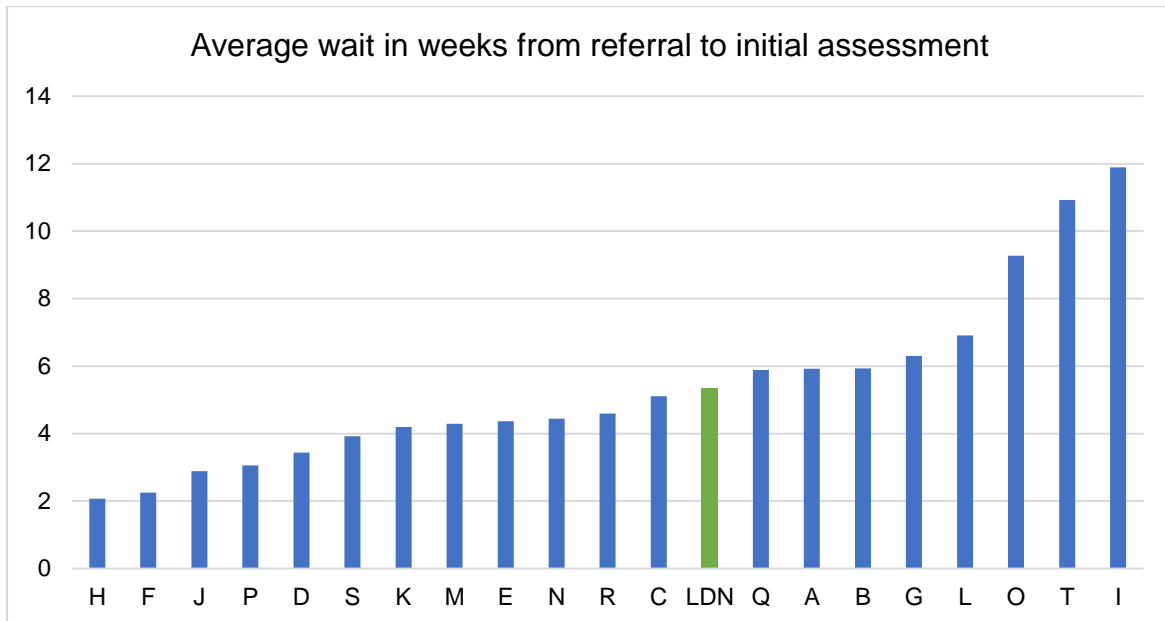


Figure 14 Average wait (in weeks) referral to initial assessment 2019

Overall, 47% of patients were seen within 4 weeks of referral varying from 4% to 88% per service.

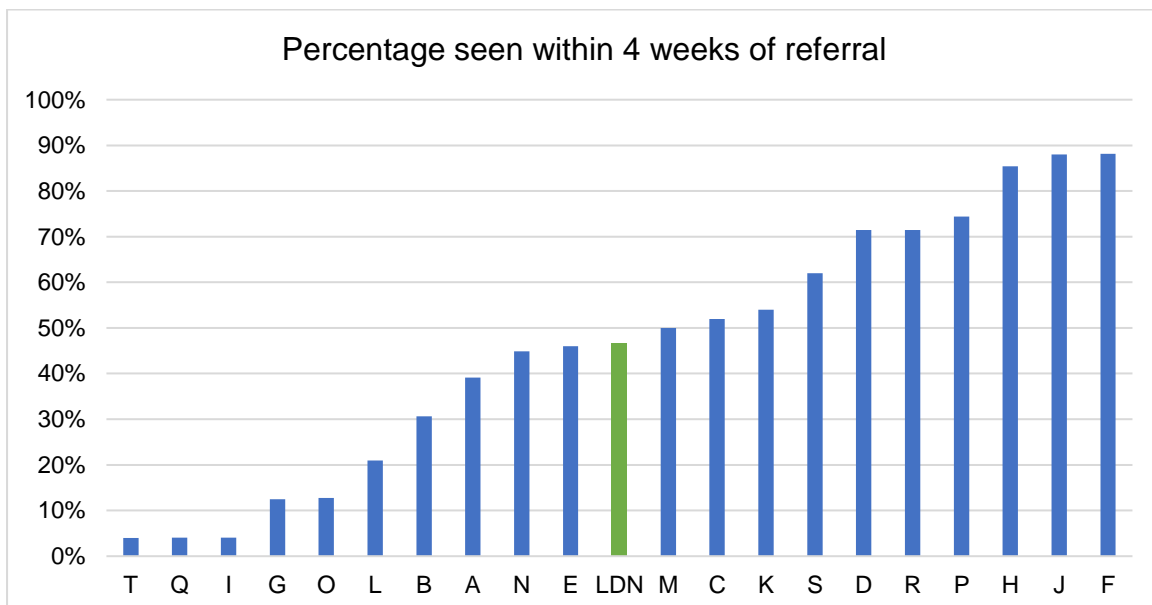


Figure 15 Percentage of patients seen within 4 weeks of referral 2019

## Imaging – all patients

### Who received a scan

Overall, the percentage of patients deemed not to require a scan was 23%, varying from 0% to 92% per service. 16% of patients had previously had a scan, varying from 0% to 36%, and 5% of patients refused a scan, varying from 0 to 16%.

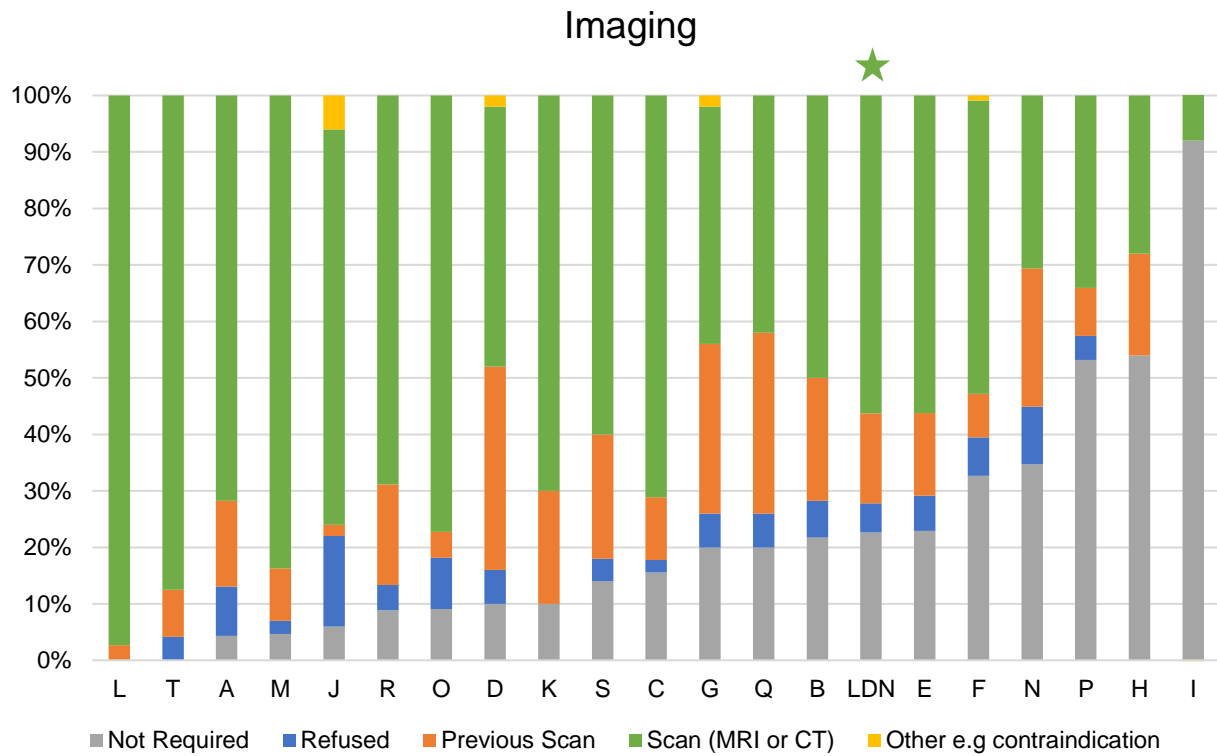


Figure 16 Graph displaying variation in neuroimaging practice

## Scan type

Overall, of the patients scanned (MRI or CT), 43% had an MRI scan varying from 0% to 93% per service.

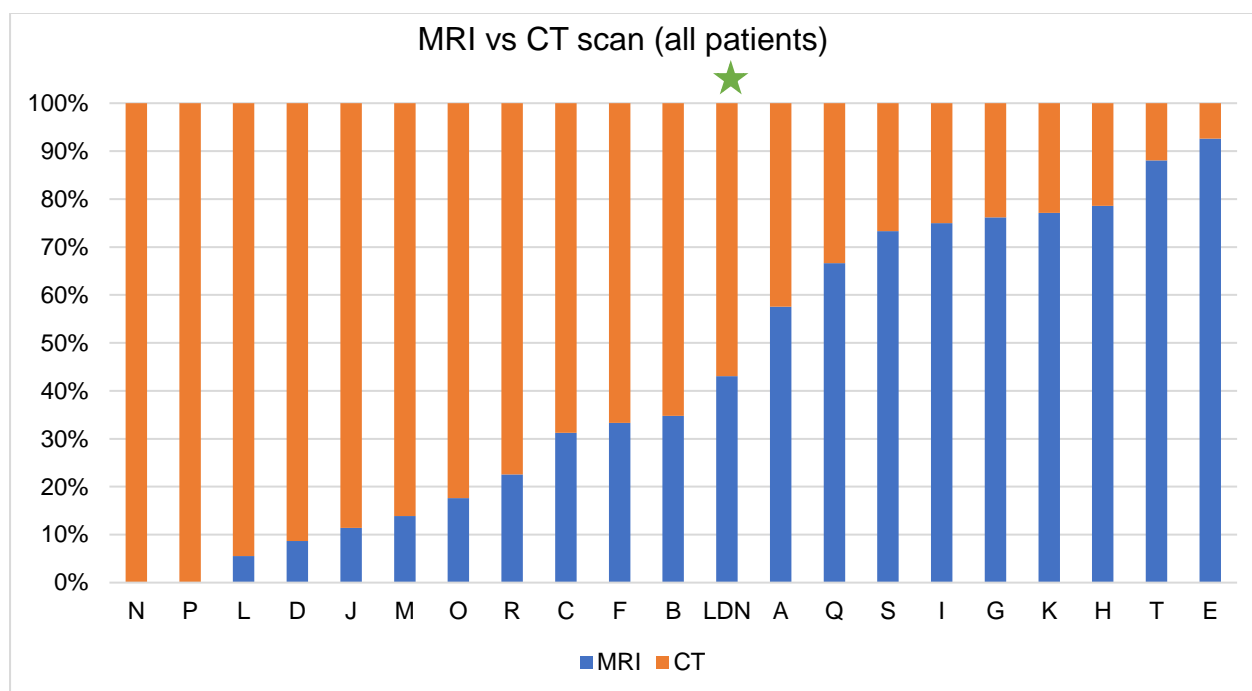


Figure 17 Scan type - MRI or CT 2019

## Scan waiting times

Overall, the mean waiting times for a scan was 5 weeks, varying from 2 to 6 weeks per service.

## Specialist investigations

16 patients (2%) were referred for specialist investigations, varying from 0 to 6% per service; 8 patients were referred for a PET scan, 6 for a DAT scan, 1 for CSF examination and 1 for a PET scan and CSF examination. 3 of these patients were under 65 and all had a PET scan only. Overall 5% of under 65s had specialist investigations.

## Imaging – patients diagnosed with dementia

### Who received a scan (patients diagnosed with dementia)

18% of patients diagnosed with dementia were deemed not to require a scan, varying from 0 to 94% per service, 17% of patients had previously had a scan, varying from 0% to 45% per service, and 5% refused a scan, varying from 0% to 11% per service.

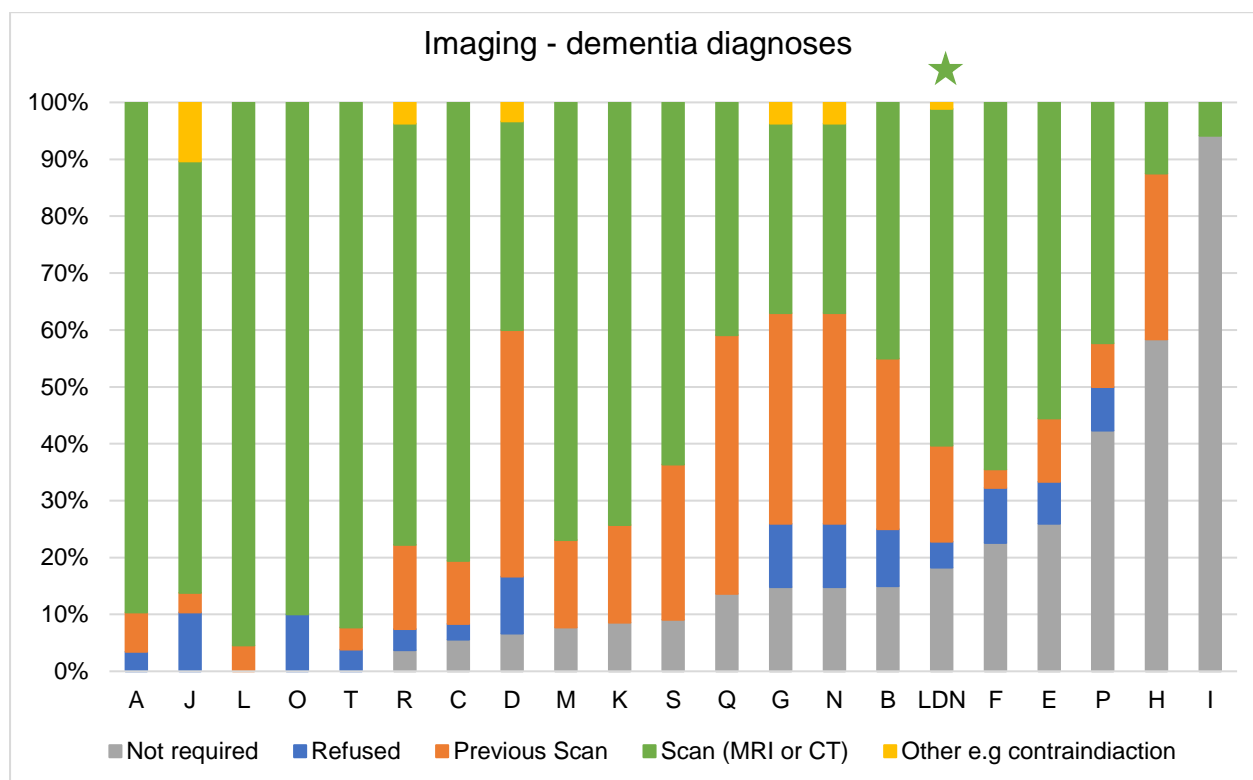


Figure 18 Variation in neuroimaging (patients diagnosed with dementia) 2019

Overall, of the patients with dementia who had a CT or MRI scan, 42% had an MRI scan, varying from 0 to 92% per service.

## Diagnosis

### All ages

Overall, the percentage of people who were diagnosed with dementia was 60%, varying from 32% to 81% per service. Overall, the percentage of people who were diagnosed with MCI was 18% and varied from 0% to 30%.

## Under 65

76 people under 65 years of age were included in the audit. Of these, ten (15%) were diagnosed with dementia; three Alzheimer’s disease, three vascular dementia, two alcohol-related included Korsakoff syndrome, one Parkinson’s disease dementia and one “Other dementia”. The most common non-dementia diagnoses were a primary psychiatric diagnosis (22), MCI (11), subjective cognitive impairment (5) and functional cognitive disorder (5).

## Aged 65 and over

Overall, 63% of people aged 65 and over were diagnosed with dementia, varying from 39% to 81% per service. 18% were diagnosed with MCI, varying from none to 30% per service.

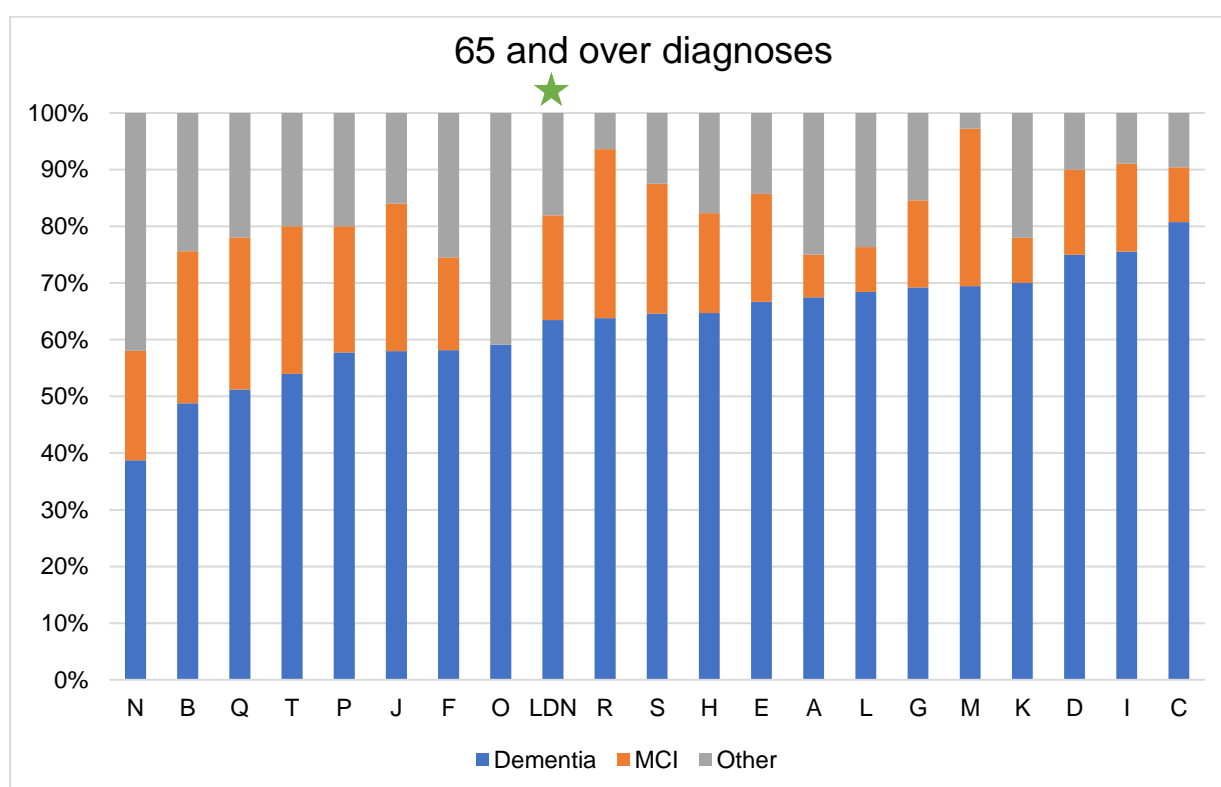


Figure 19 Percentage of patients seen diagnosed with dementia or MCI (65 years and over) 2019

There was a correlation between the proportion of people diagnosed with dementia in each service and the mean age of the audited patients. However, this does not fully account for the variation in conversion rate between services.

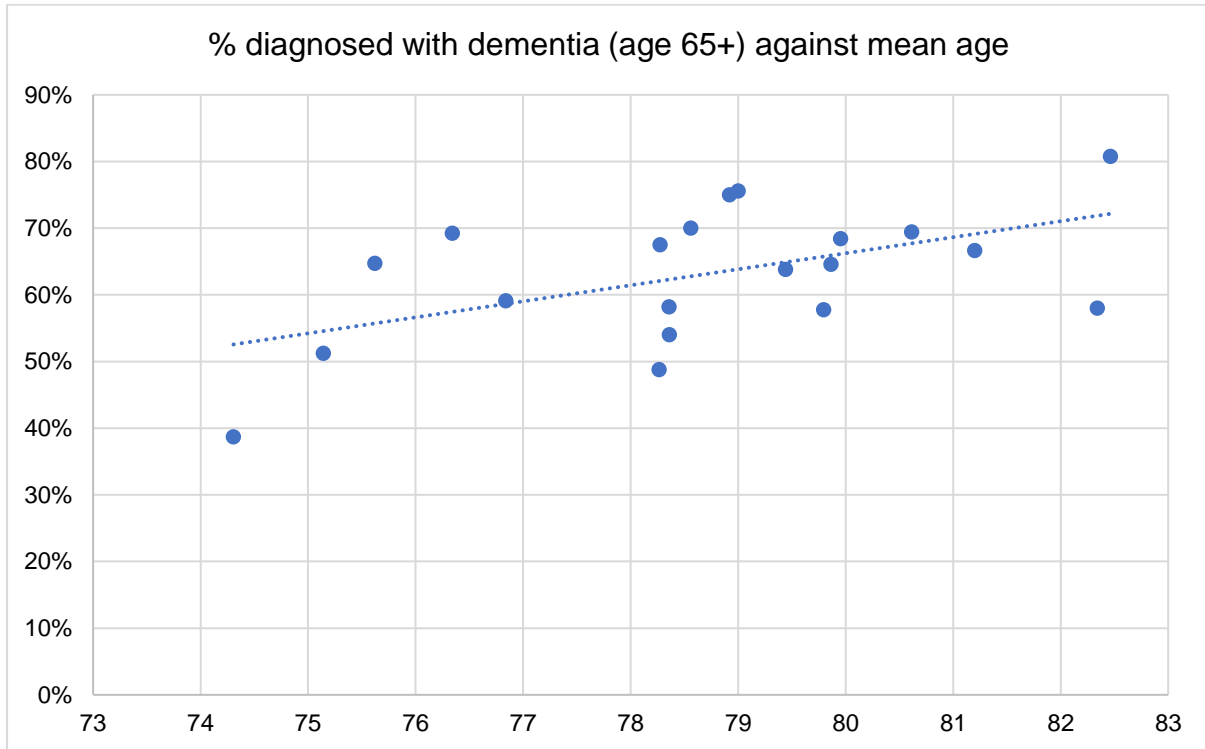


Figure 20 Percentage of patients diagnosed with dementia (aged over 65) against mean age of patients seen 2019

### Aged 65 and over dementia subtypes (of the people diagnosed with dementia)

	London	Service variation
Alzheimer's disease	42%	14%-79%
Mixed dementia	22%	4%-48%
Vascular dementia	18%	3%-38%
Unspecified dementia	13%	0-50%

Table 3 Dementia subtypes 2019

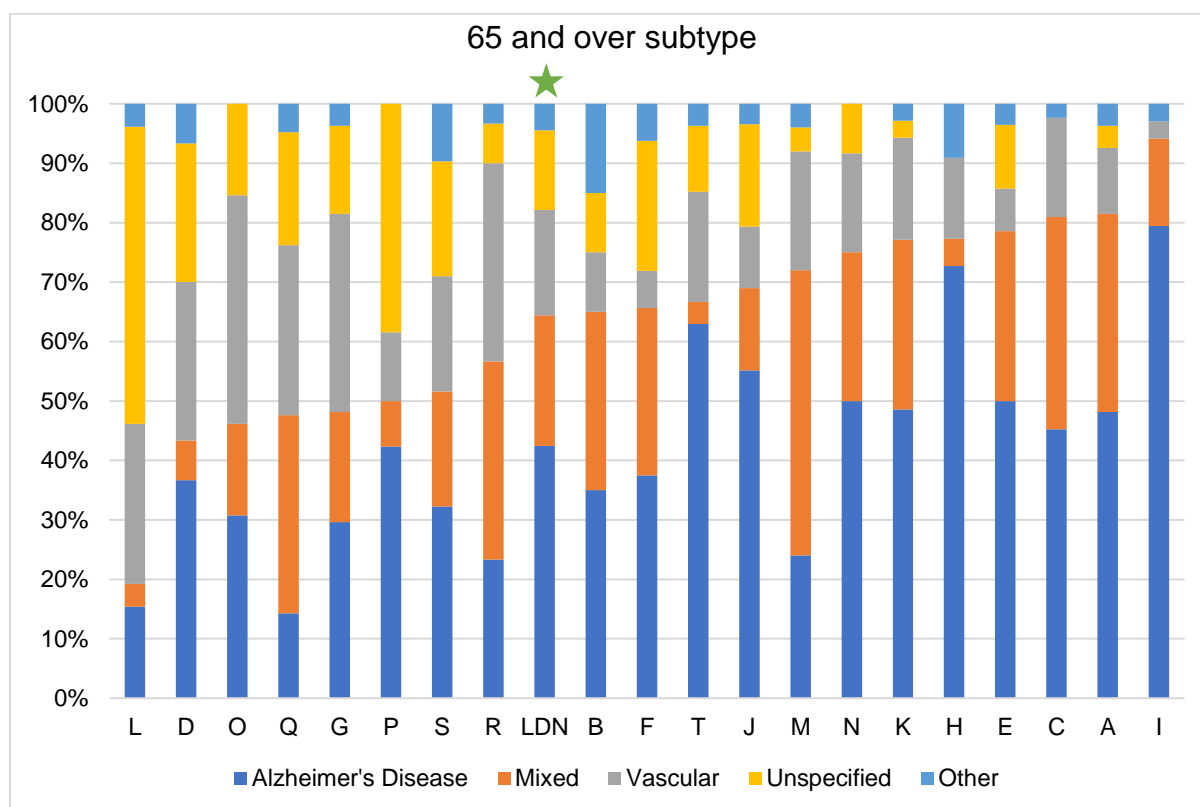


Figure 21 Dementia subtype diagnoses aged 65 and over 2019

Overall 14 people (3%) were diagnosed with Parkinson disease dementia, six people (1%) with Dementia with Lewy bodies and two people with alcohol-related dementia including Korsakoff syndrome; no one was diagnosed with frontotemporal dementia.

### Waiting times to diagnosis – all patients

Overall, the average waiting time from referral to diagnosis was nine weeks, varying from four weeks to 19 weeks per service.

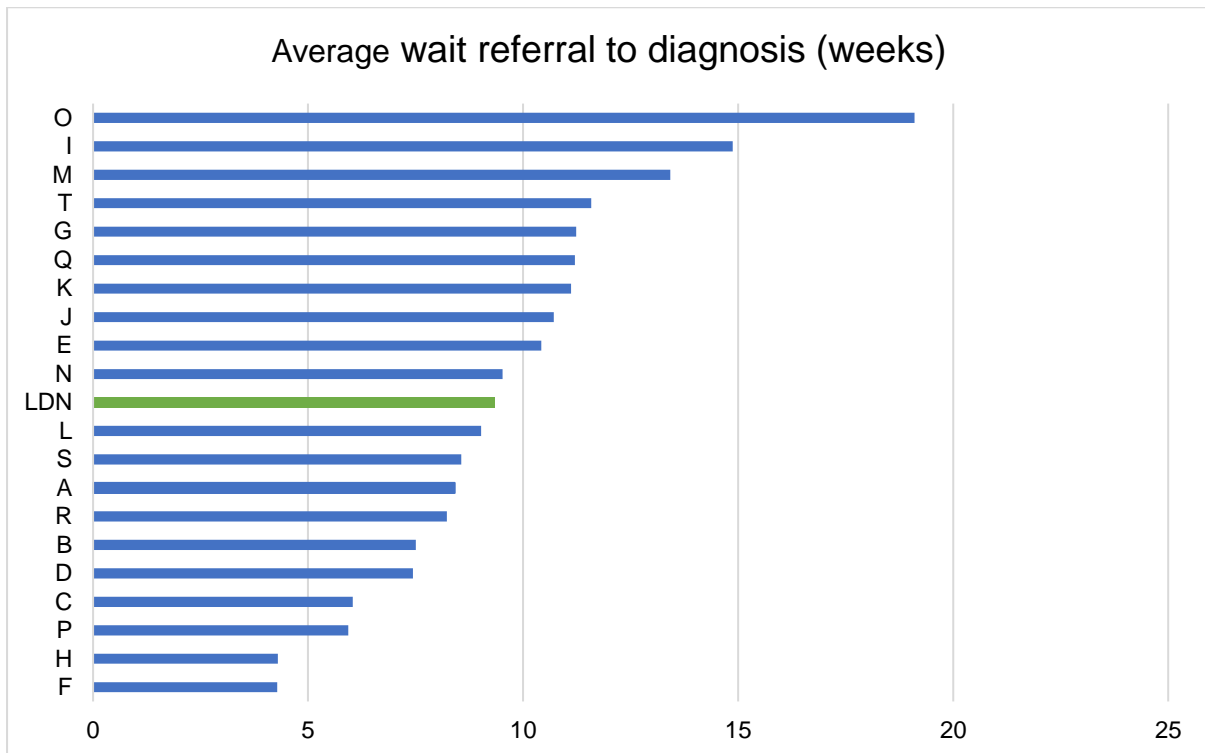


Figure 22 Average wait (in weeks) referral to diagnosis 2019

Overall, 34% of patients were diagnosed within six weeks of referral, varying from 4% to 78% per service.



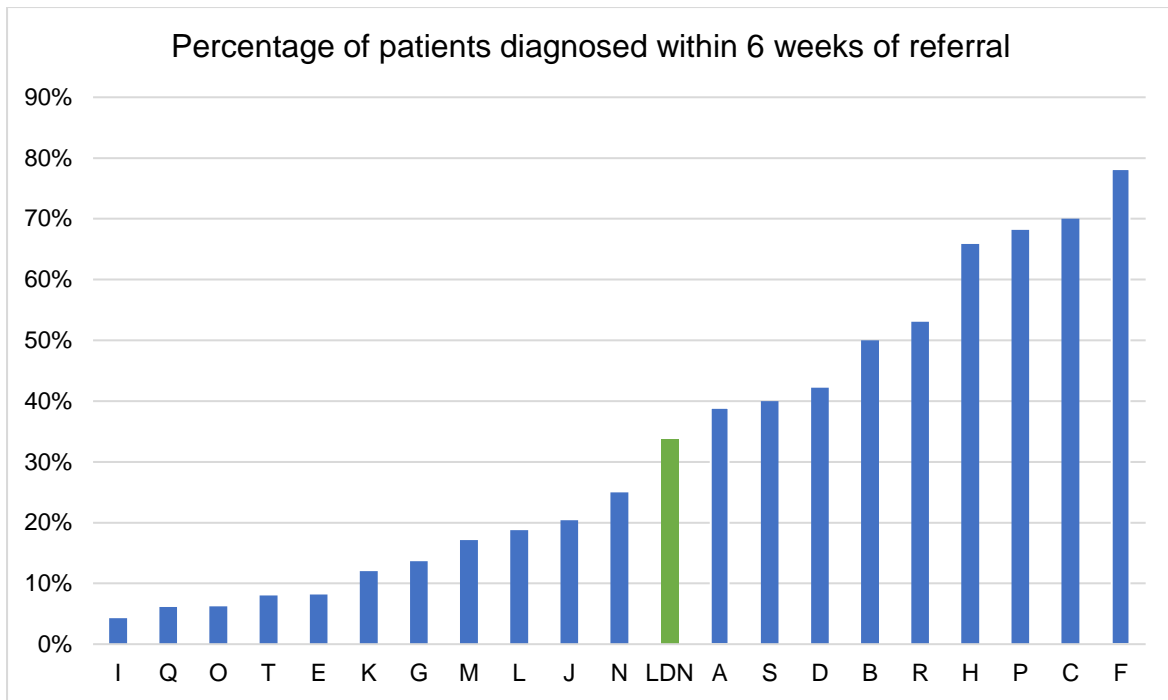


Figure 23 Percentage of patients diagnosed within 6 weeks of referral 2019

### Waiting times – people diagnosed with dementia

Overall in London, the average waiting time from referral to diagnosis for people with dementia was ten weeks, varying from four weeks to 19 weeks per service.

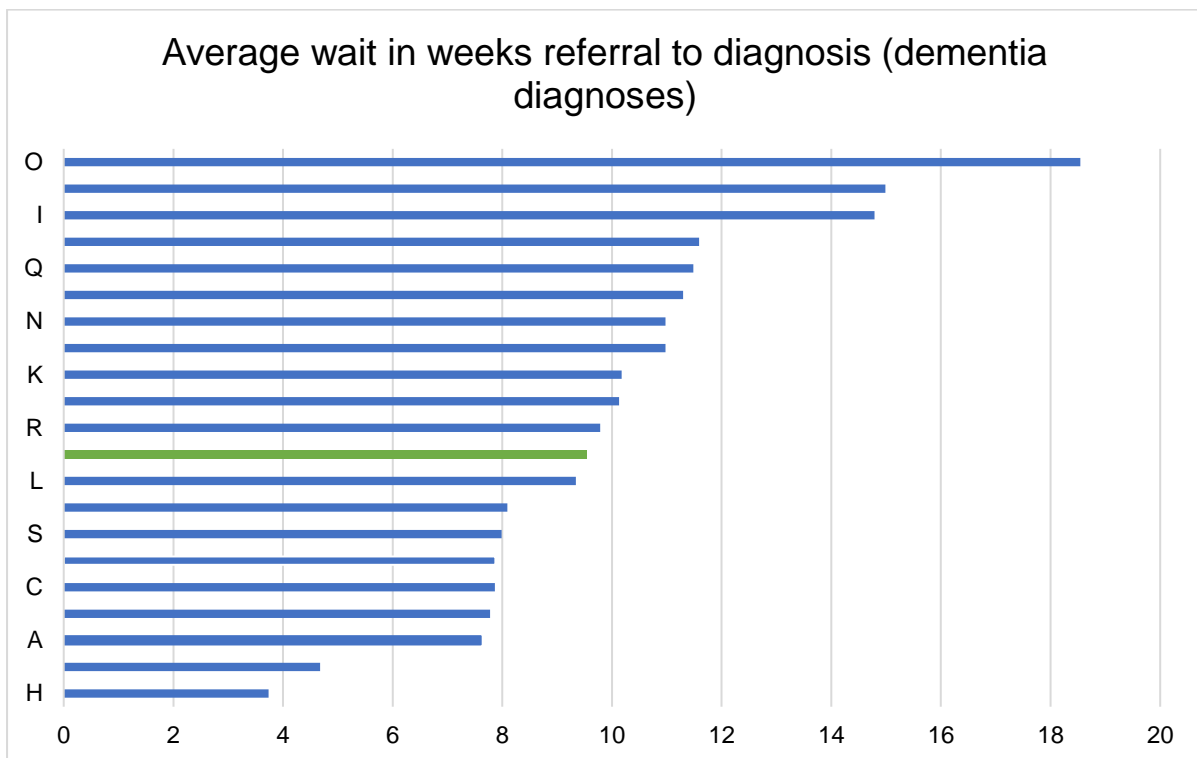


Figure 24 Average waiting time (in weeks) referral to diagnosis for people with dementia 2019

Overall, 31% of people with dementia were diagnosed within six weeks of referral, varying from 0 to 83% per service.

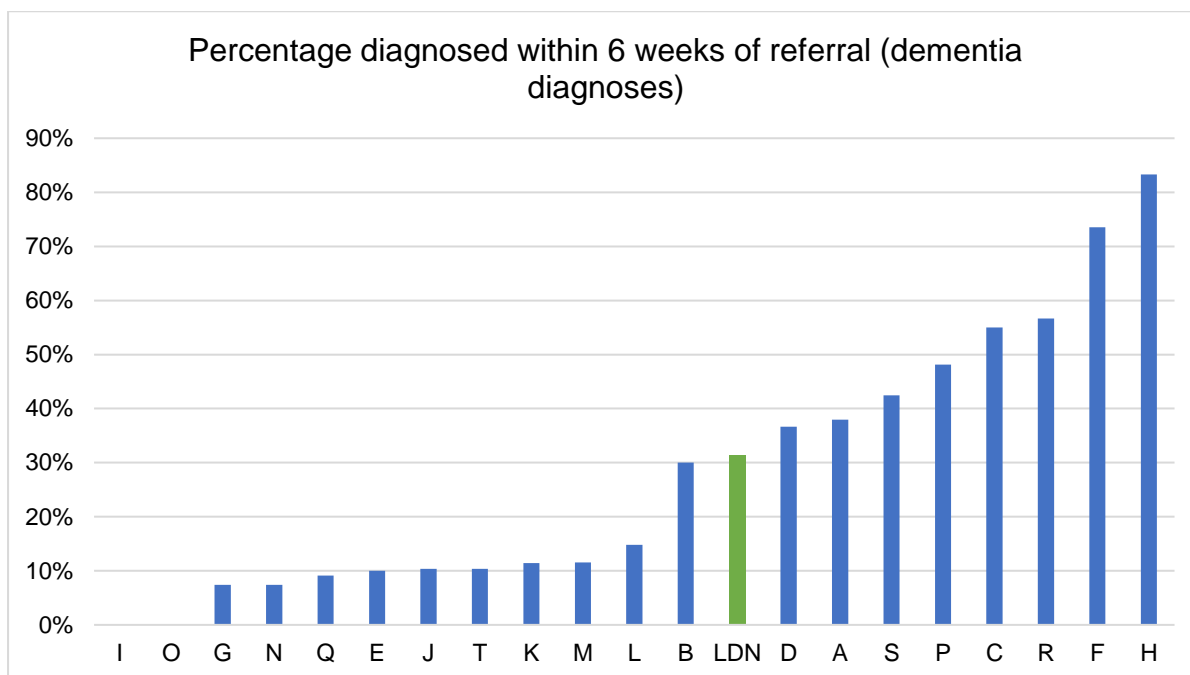


Figure 25 Percentage of patient with dementia diagnosed within 6 weeks of referral 2019

### Waiting time for a diagnosis with and without a scan (all patients)

	London (weeks)	Service variation (weeks)
Patient had a scan	11	6-18
Patient did not have a scan or had previously had one	8	3-21

Table 4 Average waiting times for patient who did and did not have a scan

## Post-diagnostic support

### Medication (patients diagnosed with Alzheimer’s Disease, dementia with Lewy Bodies, Parkinson’s Disease dementia and mixed dementia)

Overall in London, 77% of patients were offered dementia medication (cholinesterase inhibitors and/or memantine), varying from 0% to 100% per service. Of those patients offered medication 16% refused, varying from 0 to 33% per service.

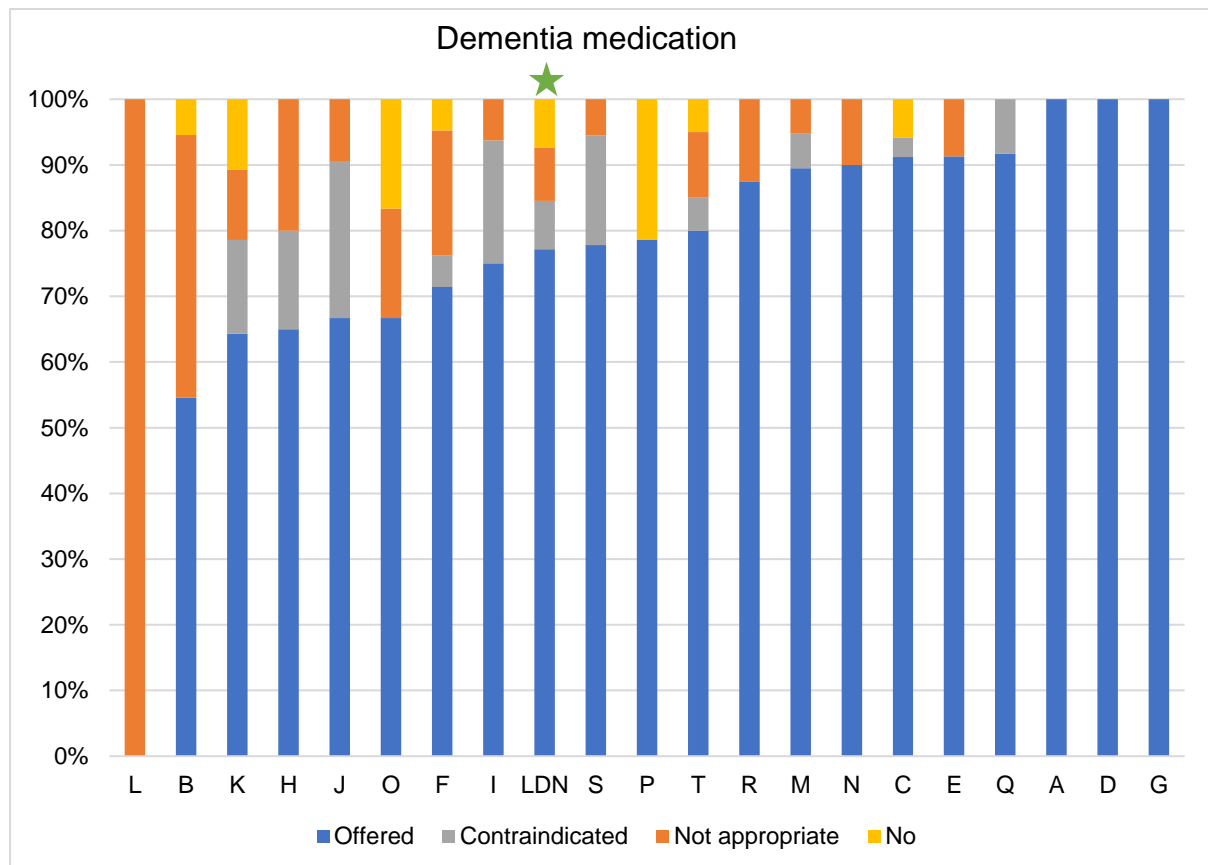


Figure 26 Percentage of patients offered dementia medication 2019

Of the patients that were prescribed a cholinesterase inhibitor (excluding dual prescribing with memantine), overall 89% were prescribed donepezil, varying from 43% to 100%.

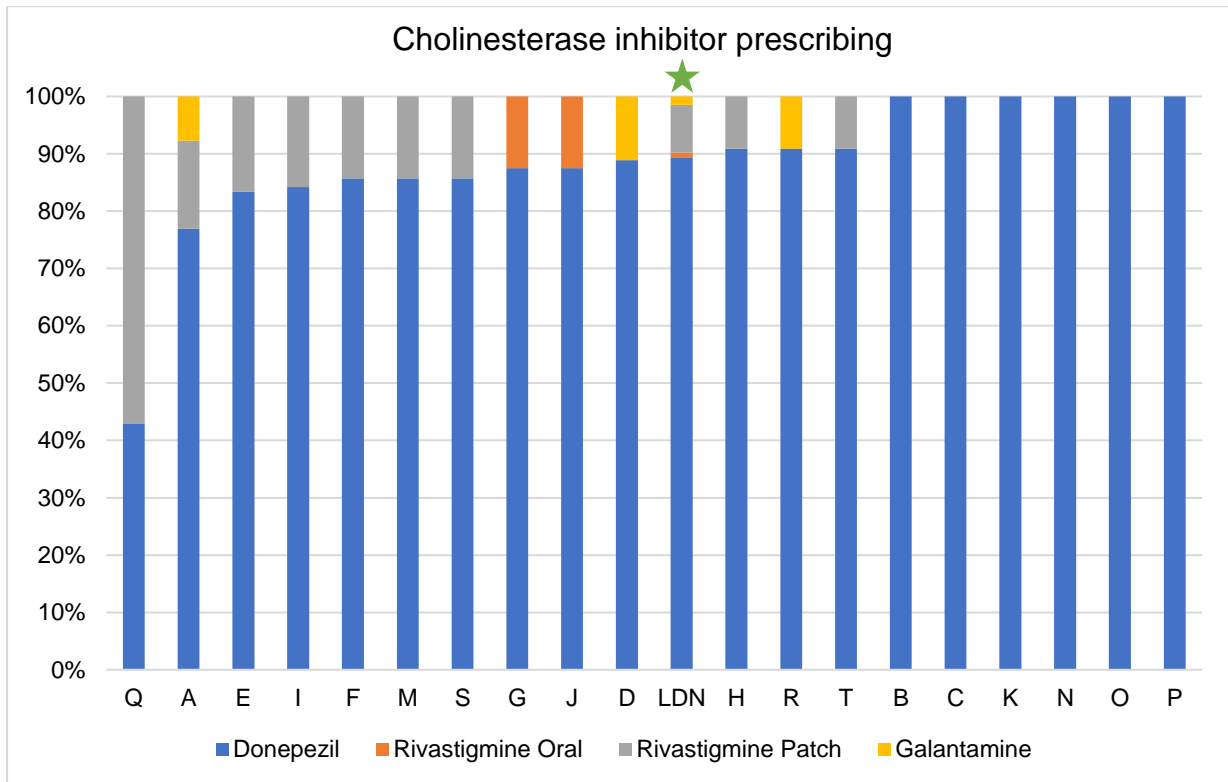


Figure 27 Proportion of cholinesterase inhibitor types prescribed 2019

### Cognitive stimulation therapy (CST) - people diagnosed with dementia

#### Pan London CST

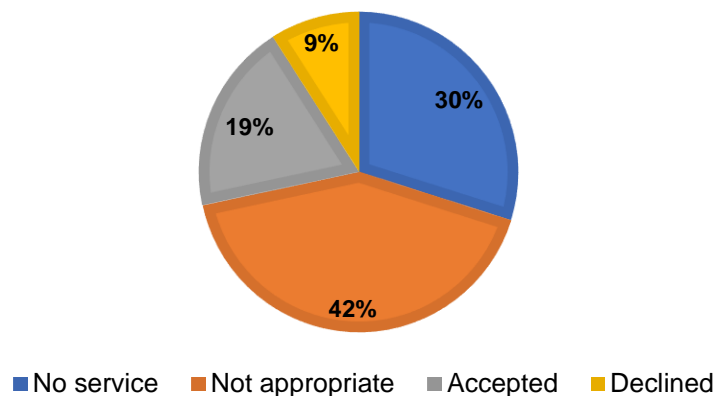


Figure 28 Pan London CST (all services) 2019

14 services (70%) provided CST. In those services that provided CST, overall 60% of patients were deemed not appropriate (varying from 18% to 100% per service) and of the 40% of patients who were offered CST 32% declined (varying from 0 to 60% per service).

### Care coordination - people diagnosed with dementia

Overall in London, 79% of patients were offered a care coordination/navigation-type service (varying from 0 to 100% per service) and of those, 5% declined the service (varying from 0 to 33%). One service was unable to provide data.

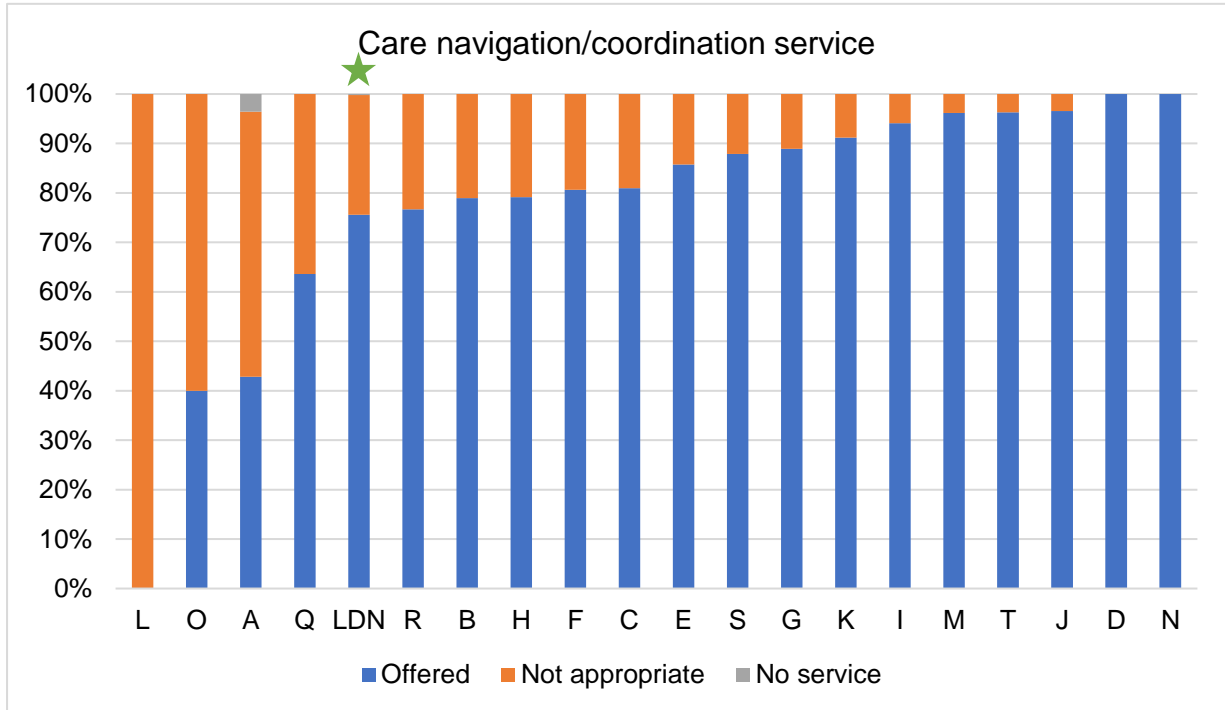


Figure 29 Proportion of patients with dementia offered a care navigation/coordination type service 2019

### Carer education (carers of people diagnosed with dementia)

One service does not provide or is unable to refer to carer education; two services were unable to provide data as patients are referred on to a wider post-diagnostic support service. In the services that can access carer education, in 47% of cases it was deemed not appropriate (varying from 0 to 100% per service) and of the 53% of cases where carers were offered a psychoeducation course, 32% declined (varying from 0 to 83%).

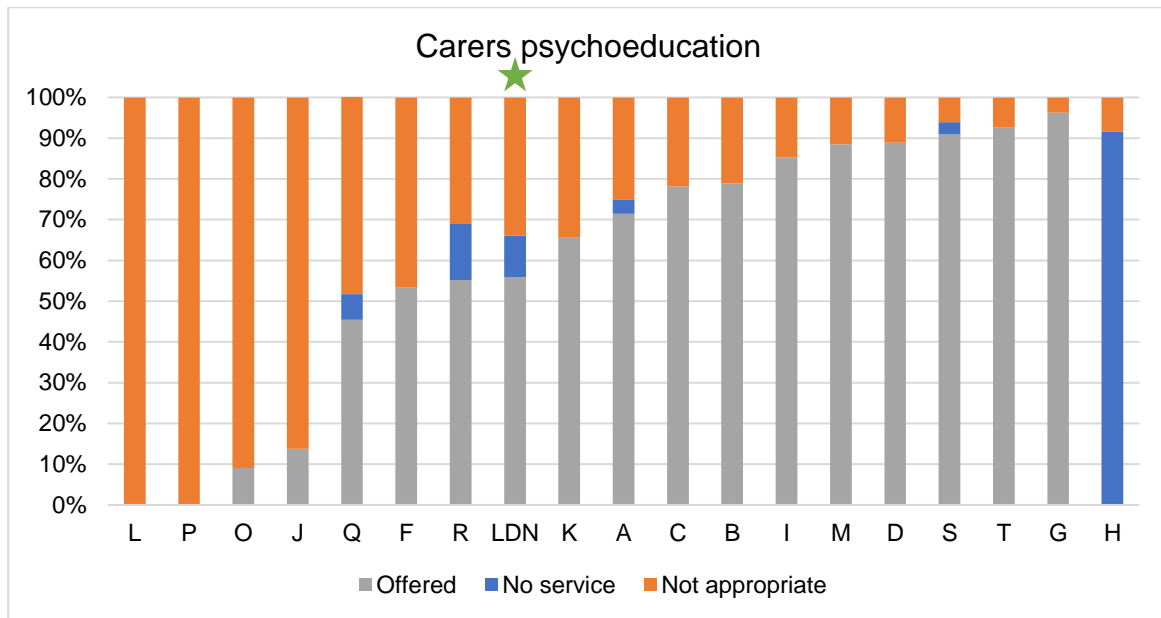


Figure 30 Proportion of carers offered psychoeducation 2019

## Research

Across London, 38% of patients were offered research participation (varying from 0 to 88% per service) and of those, 47% declined (varying from 0 to 100%). In five services no patients consented for research participation. Findings were similar for people diagnosed with dementia; across London 39% were offered research participation (varying from 0 to 88% per service) and 53% of those declined (varying from 0 to 100%).

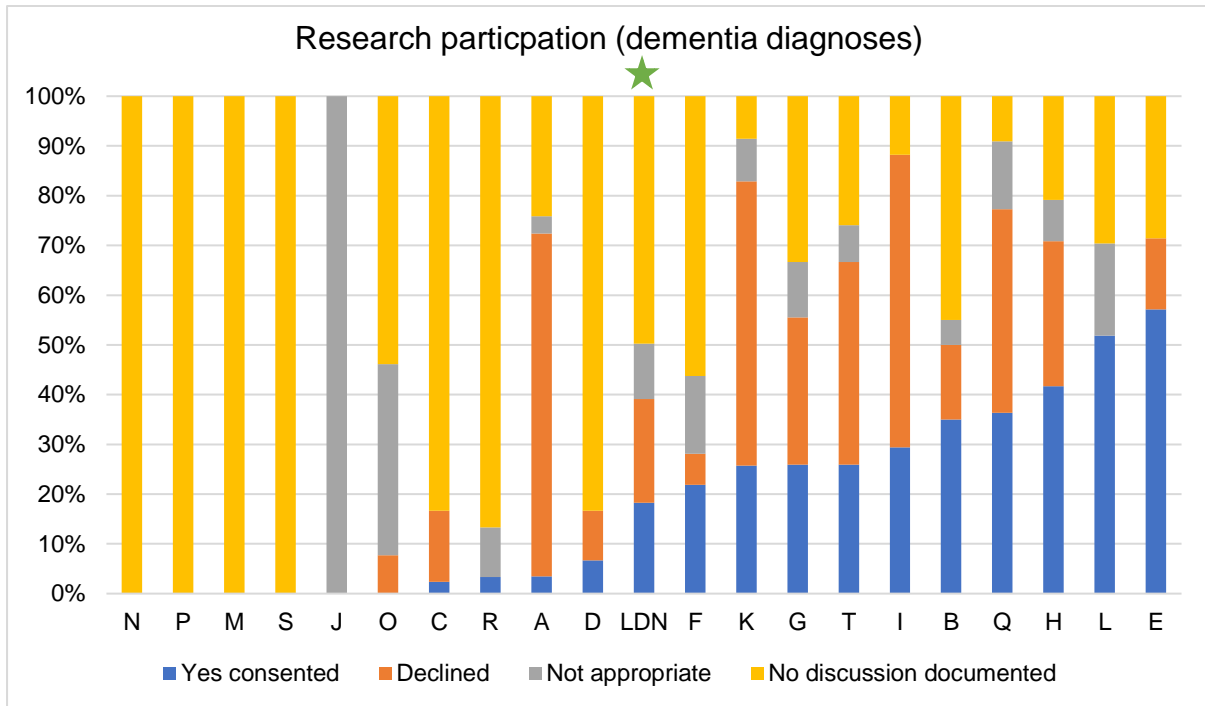


Figure 31 Proportion of people with dementia consenting to research participation

## READ codes

Across London, in 72% of cases of people diagnosed with dementia a READ or SNOMED code was included in correspondence to primary care, varying from 0% to 100% per service.

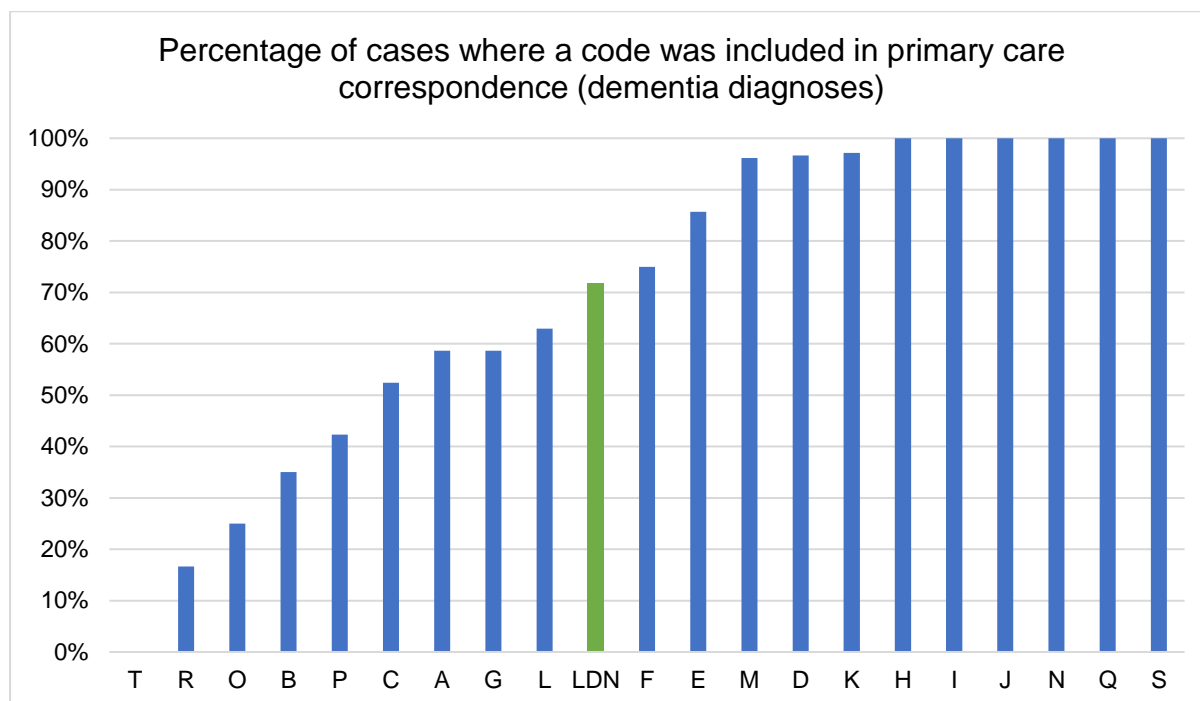


Figure 32 Percentage of cases where a dementia diagnosis was included in primary care correspondence

## Discussion

20 services participated in the 2019 audit compared with ten in the 2016 audit. Engagement in the 2019 audit was facilitated by a well-publicised series of outputs from the 2016 audit. The Dementia Clinical Network (DCN) has also continued to build the London Memory Service Network; providing bespoke education and sharing of best practice. Strong relationships between the DCN and memory services may also have contributed to increased uptake of the audit.

The institutional survey questions reveal stark variation in access to imaging and specialist investigations and in cross-working with other specialties.

Over half of London's memory services are unable to view brain images that they have requested, as they do not have access to PACS (picture archiving and communication system). Being able to view brain images can support a diagnosis (including subtyping) as images can be re-interpreted alongside the patient's clinical features. Also, patients and carers often find it helpful to be shown their scan. Local providers need to work together to ensure access to PACS. It is recommended that mental health trusts request portal access to acute trust systems rather than purchasing their own software as only a small proportion of clinicians in mental health trusts use brain imaging on a regular basis.



Memory services were more likely to have joint working with neuroradiology than geriatric medicine or neurology; over a quarter of services had no access to joint working (including ad hoc advice) with geriatric medicine or neurology. The DCN recently completed a multidisciplinary meeting project with South West London STP,<sup>7</sup> which demonstrated the clinical effectiveness of regular meetings between neurology, neuroradiology and psychiatry to discuss clinical cases. Such models should be explored to improve access to joint working across London.

The NICE dementia guideline states that if the diagnosis of Alzheimer's disease is uncertain, clinicians should consider either cerebrospinal fluid examination (CSF) or FDG-PET.<sup>6</sup> Although 55% of memory services reported that they are able to refer patients for PET scans and 45% reported having access to CSF examination, the actual number of patients in the audit referred for these investigations was very low. Joint working with neurology and clear local or regional pathways will enable patients to access specialist investigations when required.

Most services (85%) have a named research champion or lead; however, in 9 out of 20 services one or no patients diagnosed with dementia consented to research participation. Interestingly, of the two services that did not have a named research champion or lead, 57% and 27% of patients diagnosed with dementia consented to research respectively.

The patient-level audit data shows striking variation in almost every aspect of the pathway, from location of assessment, to choice of investigations, to the final diagnosis and access to treatment and support.

There is clearly no consensus on whether patients should be assessed at home or in clinic, which suggests that there isn't agreement on whether there is any clinical benefit from performing a domiciliary assessment in all cases. Once patient need is taken into consideration (e.g. frail housebound patients needing a home visit), given the equipoise on the clinical advantages of home versus clinic, the decision should be based on cost/productivity considerations, which clearly favour clinic assessment. In some areas home visits are sometimes conducted by Community Mental Health Teams, and therefore not captured by this audit, which may account for some services having very high numbers of patients seen in clinic.

Generally, more patients are being asked about smoking and falls than vision and hearing. The London Memory Service Network meetings have only recently focused on sensory considerations and it is likely that more time is required to embed this into clinical practice. MSNAP standards state that a check on vision, hearing and mobility should be included in the assessment process<sup>8</sup>; however, there does not appear to be significant difference between services who are and are not MSNAP accredited on whether vision or hearing is asked about; varying from 12% to 100% in accredited and 5% to 100% in non-accredited services (see appendix one figure 1).

There is considerable variation in the percentage of patients referred for diagnostic neuropsychology (varying from 0-22%). This suggests under-provision in some services and possible over-referral in others.

Significant variation was noted in neuroimaging practice in relation to the proportion of patients deemed not to require a scan and in choice of scanning modality. The NICE dementia guideline does not specify whether MRI or CT is preferred except if the subtype is uncertain and vascular dementia is suspected.<sup>6</sup> The London Dementia Clinical Network published an imaging guidance document in 2018 to support a reduction in variation.<sup>9</sup> It suggests that CT is a suitable option in most older people, but in uncertain cases of vascular dementia and atypical presentations MRI might be more appropriate. Some of the variation is likely to be due to differences in practice between individual clinicians, but some will be due to access and waiting time considerations. There does not appear to be a correlation between the percentage of people deemed not to require a scan and the percentage diagnosed with unspecified dementia nor in the percentage of people having an MRI scan (over CT) and the percentage receiving a vascular dementia subtype diagnosis (see appendix one figure 5).

Most patients who were under the age of 65 did not have dementia (85%). The most common diagnosis was a primary psychiatric diagnosis. Services need to continue to implement non-dementia pathways<sup>10</sup> and ensure adequate triage processes and joint working with local IAPT services. Among the services that are ageless, only 47% had a named lead for young onset dementia

The variation in dementia conversion rates (percentage of patients assessed who are diagnosed with dementia) in the 65 years and older population is partly explained by differences in the age structure of the case mix in each service. However, it might also reflect clinicians using different thresholds for diagnosing MCI versus “no disorder” and dementia versus MCI. Memory service teams with very high or low rates of MCI diagnosis are encouraged to review the [MCI guidance](#) from the DCN<sup>10</sup> and to discuss this in team meetings.

The variation in subtype diagnosis is unlikely to be explained by differences in patient demographics between London boroughs. This variation may indicate lack of adherence to standardised diagnostic criteria. The 2018 NICE guideline states that clinicians should use validated criteria to guide clinical judgement when diagnosing dementia.<sup>6</sup> Compared with expected prevalence,<sup>11</sup> London may be underdiagnosing Alzheimer’s Disease (42% vs 62%), underdiagnosing Dementia with Lewy bodies (1% vs 4%) and underdiagnosing frontotemporal dementia (0% vs 2%). The two-fold variation in the proportion of patients diagnosed with either Alzheimer’s disease or mixed dementia suggests that some patients might be missing out on opportunities to receive a cholinesterase inhibitor and/or Memantine. Patients with frontotemporal dementia might be receiving referral directly to cognitive neurology (rather than a memory service) on account of their presenting with non-memory symptoms, which might explain the difference between actual and expected numbers.

The National Collaborating Centre for Mental Health’s Dementia Care Pathway was published in 2018<sup>12</sup>, and was followed by an NHS England London regional ambition that services should work towards 85% of people being diagnosed and having an initial care and support plan within six weeks of referral. This audit has shown that while there is variation in waiting times, some services are close to achieving the six-week ambition. Memory services should consider how they can continue to streamline pathways to work towards this ambition, e.g. using value stream mapping methodology<sup>13</sup> to identify where efficiencies can be made according to lean principles. A guidance document on streamlining memory services was published by the DCN in 2017,<sup>14</sup> highlighting examples of efficient pathways

from current practice. The audit has demonstrated that on average having a scan adds an additional three weeks to waiting times. Neuroimaging contracts should be reviewed locally to support services to work towards the six-week ambition.

Variation in cholinesterase inhibitor (CEI) prescribing was noted, including the proportion of potentially eligible patients being offered CEIs, type of CEI prescribed and proportion of patients refusing medication. This suggests that in some services not all eligible patients are being offered medication, and some services may have a higher cost of prescribing than others; for example, the cost of Donepezil 10mg is £0.97 per month compared with £19.97-£77.97 per month for Rivastigmine patches.<sup>15</sup> The audit also found that nearly a third of services request an ECG for all patients prior to prescribing a CEI. In 2019 the DCN produced a dementia medication prescribing pathway<sup>16</sup> to support implementation of NICE guidelines. The pathway includes guidance who should be offered CEIs, assessment of cardiac status and which CEI to prescribe. This pathway should help to standardise practice.

The new NICE dementia guideline published in June 2018<sup>6</sup> recommends cognitive stimulation therapy, psychoeducation for carers and care coordinators. It is clear from the audit that a significant number of patients and carers are not being offered these services and there is wide variation between services. Providers and commissioners should review current practice and service provision against the updated NICE guideline using the baseline assessment tool,<sup>17</sup> and consider opportunities to improve access to evidence-based post-diagnostic support.

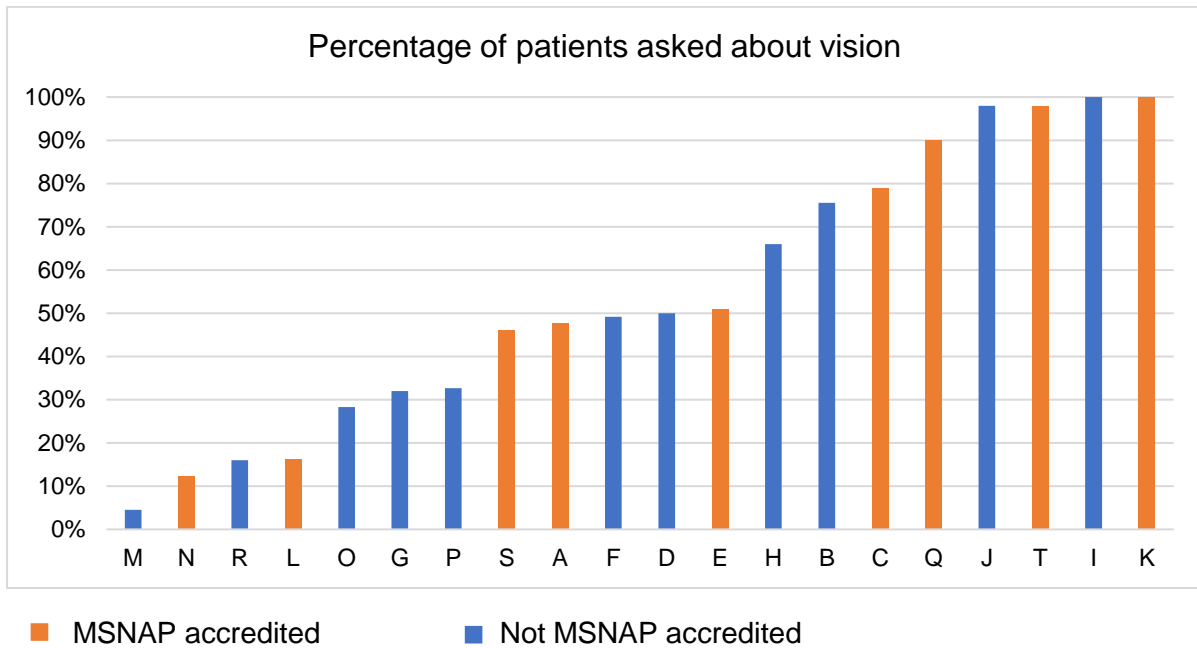
NHS England has a national ambition that two thirds of people living with dementia should have a diagnosis recorded in primary care records. In July 2019, diagnosis rates in London CCGs varied from 64% to 93%.<sup>18</sup> One area of missed diagnoses is errors in coding in primary care systems. In eight out of the 20 services audited, less than 60% of the cases included a diagnostic code in the letter to primary care, which may be contributing to variation in diagnosis rates.

This audit of London memory services has demonstrated variation in practice including assessment, neuroimaging, diagnosis and access to post-diagnostic support. For many of the data fields audited here, we do not know what represents “best practice” but we can infer from the degree of variation that some services are working more effectively than others. Providers, clinicians and commissioners need to benchmark themselves against other services and consider changes in commissioning and/or clinical practice where they judge their data to represent unwarranted variation. In some cases, this will be most effectively driven by local service improvement projects. In addition, the London Dementia Clinical Network will develop a regional programme to reduce variation and improve practice, with a view to re-auditing memory services in 2021.

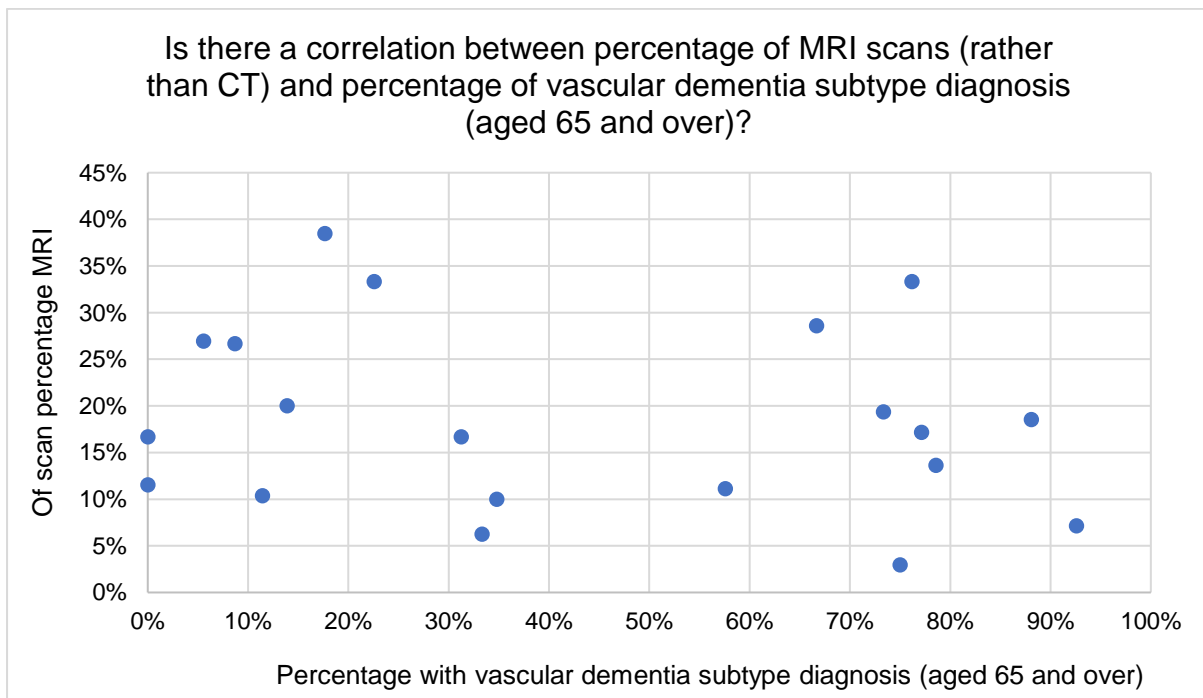
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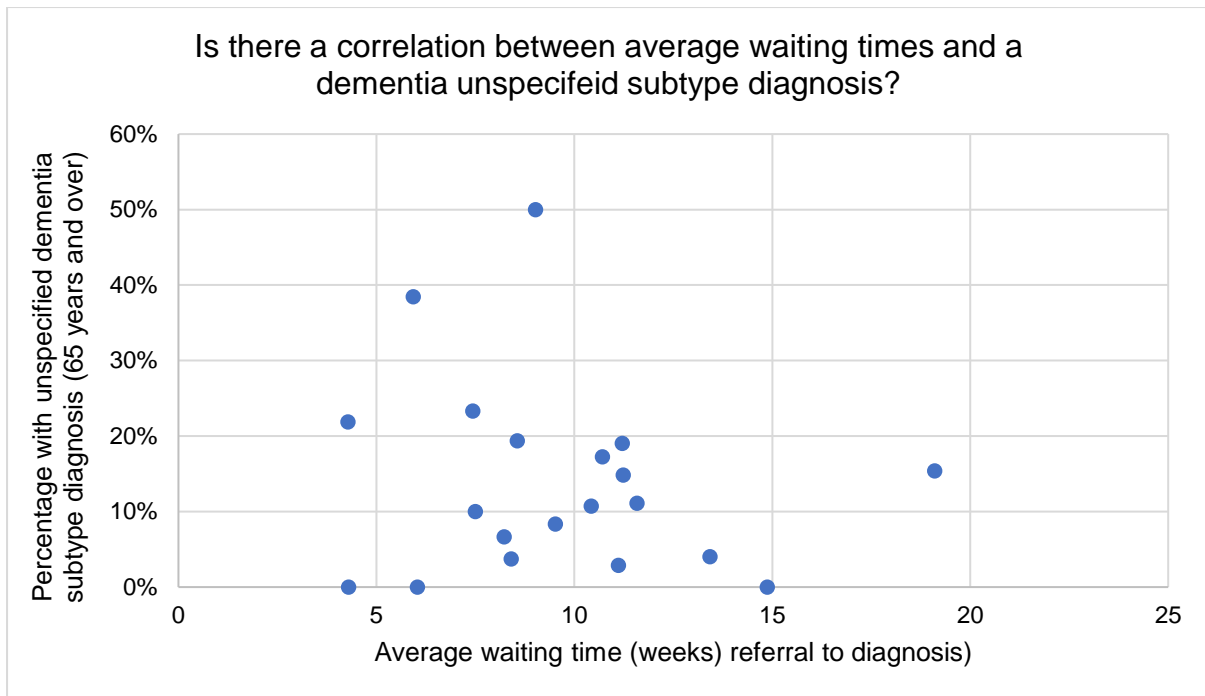
Appendix one: supplementary data



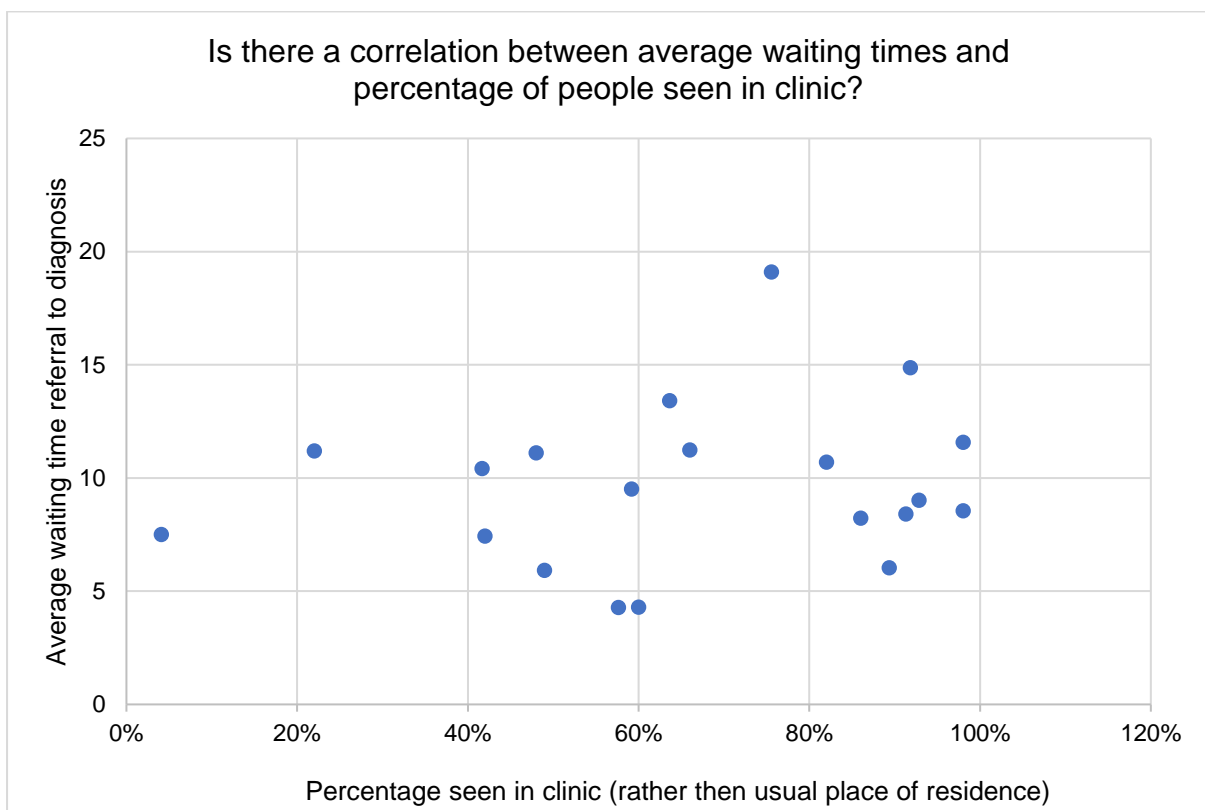
Appendix one - figure 1 Percentage of patients asked about vision MSNAP and non-MSNAP accredited



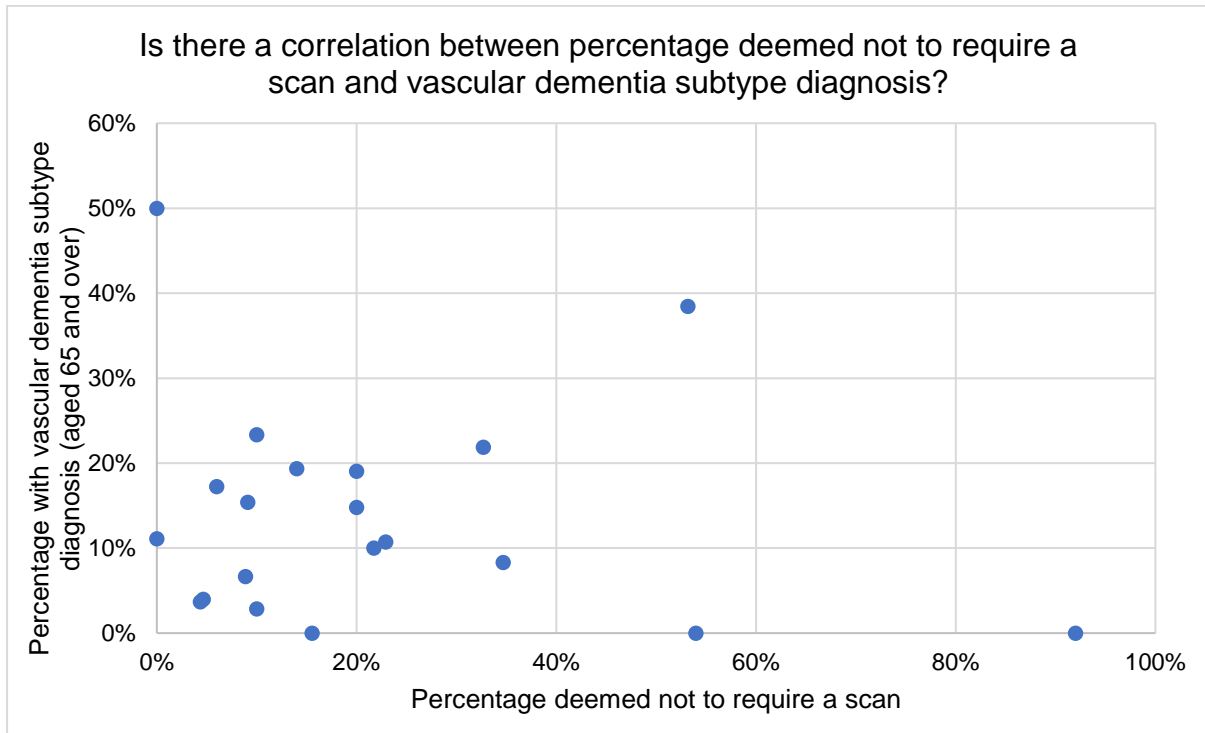
Appendix one - figure 2 Is there a correlation between percentage of MRI scans and vascular dementia subtype diagnosis?



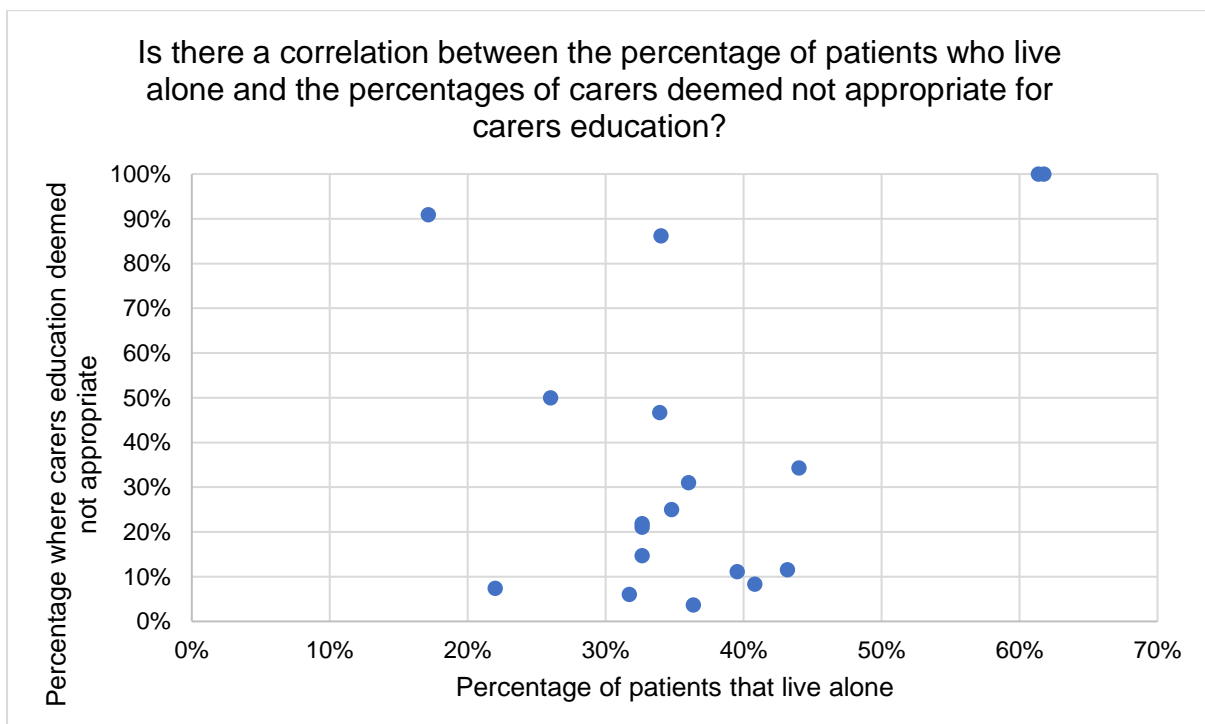
Appendix one - figure 3 Is there a correlation between average waiting times and a dementia unspecified diagnosis?



Appendix one - figure 4 Is there a correlation between average waiting times and percentage of people seen in clinic?



Appendix one - figure 5 Is there a correlation between percentage deemed not to require a scan and vascular dementia subtype diagnosis?



Appendix one - figure 6 Is there a correlation between the percentage of patients who live alone and the percentages of carers deemed not appropriate for carers education?

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