



Surrey Heartlands
HEALTH AND CARE PARTNERSHIP



South West London
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Frimley Health and Care



St George's University Hospitals
NHS Foundation Trust



**Epsom and St Helier
University Hospitals**
NHS Trust

RENAL SERVICES AT ST HELIER AND ST GEORGE'S HOSPITALS

IMPACT ASSESSMENT

Draft 0.10 18 April 2020

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Executive summary

This impact assessment (IA) examines the impact of change on the proposed consolidation of renal services at St George's Hospital as outlined in the accompanying pre consultation business case (PCBC). The Building Your Future Hospitals OBC (2020) shows that consolidation of inpatient services at St George's Hospital is now the preferred option from both clinical and value for money perspectives. The changes that patients and visitors would experience are a new renal facility and infrastructure at St George's Hospital and consequent changes in transportation (both private and public) to travel to the new facility.

The IA also explores the impact of the change and considers whether the proposed change would directly or indirectly discriminate or shows bias against patients with any protected characteristics as defined in the Equality Act 2010. The protected characteristics that the IA has considered are:

- Race and ethnicity
- Religion and belief
- Age
- Disability
- Gender (including reassignment)

The IA also added "people living in deprivation" as an important group as they are more likely to develop chronic kidney disease (CKD).

The potential impacts of change identified by the IA are:

- Change in private vehicle transport time
- Change of public transport in terms of duration, cost, and complexity
- Impact of change on people with a mental illness and/or learning difficulties due to change of location
- Physical accessibility of the proposed site at St George's Hospital and other design requirements

Activity data shows that the number of patient journeys that would be affected by the change is small, only 4.4% of the journeys made each year by current patients. There would be a small increase in travel time and cost for affected patients accessing St George's Hospital by private and public transport. Although this is a negative impact, it is relatively small due to the following factors:

- The number of patients using public transport is expected to be very low as renal inpatients generally use private vehicles; additionally, many are entitled to use patient transport services.
- Patient visits to the proposed renal centre would be infrequent, as shown in Section 3.1. Although the distance is further for most patients, it is not expected that they will visit often as their local renal facilities, where they will have most interactions, will not be affected. It is hoped that in the future travel would also be reduced with greater home-based care.
- It is common for patients to travel some distance for specialist NHS services as these services are not available in every local hospital. This is largely because such services are delivered by specialist teams of doctors, nurses and other health professionals who have the necessary skills and experience. Indeed, the main aim of the proposed change is to improve the quality of the services and facilities for patients.

From an equalities perspective the IA provides assurance that careful consideration for equality factors has been undertaken and that no protected group is disproportionately impacted or subject to bias. A dataset was created by:

- Identifying local authorities (LAs) and postcodes for current patients
- Understanding the demographics and the index of multiple deprivation (IMD) quintiles scores for these local authorities and postcodes
- Identifying LAs with a high proportion of the protected characteristics and high relative deprivation
- Examining whether travel from these LAs and postcodes would impact certain groups more than others

The IA shows the following:

- **Impacts on race and ethnicity:** The overall impact is neutral. People living in some LAs (such as Croydon and Sutton), with a high proportion of people that identify as Black, Asian, Mixed/multiple ethnic and "other ethnicity" (within the definition in the ONS website) would have further to travel, whereas journeys would be shorter from other LAs (Such as Merton) with a high proportion of people that also self-identify as Black, Asian, Mixed/multiple ethnic and "other ethnicity". For most of the people who are negatively impacted, visits will be infrequent, with local renal services remaining unaffected, as shown in Section 3.1.
- **Impacts on religion and belief:** There is a positive impact on the borough of Merton, which has the highest proportion of people that self-identify as Muslim, Sikh, Buddhist, Jewish, Hindu or other (within the definitions set out by the ONS), as from some parts of the borough, St George's Hospital is closer and quicker to access than Sutton Hospital and can be accessed without incurring any additional cost.

- **Impacts on older people:** There is a slight adverse impact due to longer journey times and greater complexity of journeys using public transport
- **Impacts on people with mental illness and/or learning difficulties:** There are significant impacts for this group as people with learning difficulties can be confused or anxious about changes in their healthcare. We should try to mitigate this impact. The IA demonstrates that rates of people with learning disabilities vary across the area of the geographical IA, as evidenced by the joint strategic needs assessments (JSNAs) for Croydon and Sutton.
- **Impacts on people with a physical disability:** There is a slightly adverse impact on people with physical disabilities using public transport as a means of travel to St George's Hospital due to having a 15–20-minute walk from the train station to the hospital. This is no greater than would have been expected at Sutton Hospital, but the travel analysis shows that, from some LAs, the journey to St George's is more complex due to more changes of trains. This impact may primarily affect those visiting renal inpatients.
- **Impacts on people living in deprivation:** The analysis of travel data shows that people in the lowest quintiles are not disproportionately impacted compared to those in higher quintiles. There is an impact in general of most people having a longer journey and that areas with a low IMD quintile score would be affected more as people from deprived areas may have a higher prevalence of CKD. However, travel for inpatient services would be infrequent, whereas local renal facilities, which are used more often, will not be affected at all.

As the infrastructure and facilities for the new renal services at St George's Hospital (or Sutton Hospital) have yet to be designed, it was not possible to assess the impacts on the physical access of the new facilities. However, during the IA, stakeholders were keen that when the requirements for design of the new renal facility at St George's Hospital are identified, they consider the need for the following:

- Adequate parking, with priority parking for disabled people, and infrastructure that allows people of reduced mobility to navigate into and around the new facilities
- Provisions and considerations for people that have or are going through gender reassignment, such as possibly having access to single bays
- Available access to the adjacent services on offer at St George's Hospital for the people most likely to require these services such as older, disabled, and pregnant people

The IA recommends that the following actions are undertaken to mitigate the potential negative impacts of the proposed change on people from protected groups:

- **Action 1** – Communicate travel information to all affected patients for themselves and their visitors
- **Action 2** – Work with carers and use communication techniques to manage the change to affected patients with a mental illness and/or learning difficulty
- **Action 3** – Identify design requirements for the new renal facility and ensure it takes into consideration the needs of pregnant, older, and disabled people and has adequate parking facilities
- **Action 4** – Review the parking in and around St George's Hospital, including both on-and-off-site facilities

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1 Introduction

This section of the IA introduces the impact assessment and explains:

- The proposed change in the OBC
- Why there is a need for an impact assessment and its purpose
- The protected characteristics identified
- The geographical region in scope
- The impacts expected

1.1 The change and purpose of this impact assessment

The IHT DMBC concluded that the preferred option to address sustainability challenges at ESTH was to build a new specialist emergency care hospital (SECH) at the Sutton Hospital site, whilst retaining district hospital services at Epsom and St Helier hospitals. This proposal was put to consultation as a preferred option, and subsequently became the recommendation for a decision-making business case (DMBC) which was presented to and agreed by South West London CCG and Surrey Heartlands CCG at a Committee-in-Common meeting in July 2020.

The Building Your Future Hospitals outline business case (2020) made the case for change and a proposed approach to improve the delivery of inpatient acute renal services in South West London (South West London) and Surrey through a new joint renal unit on the St George's Hospital site. This is intended to bring together the acute inpatient and day case elements of renal services currently provided at St George's Hospital and St Helier Hospital, whilst continuing to provide outpatient and haemodialysis services at St Helier and the existing range of locations across South West London and Surrey as they are currently provided.

This impact assessment (IA) has been commissioned to ensure that the proposed consolidation at St George's Hospital has considered equality as part of the decision-making process. As part of the IA, an equalities assessment is required to demonstrate that the decision-making process has been taken with consideration in line with the obligations of public bodies in the Equality Act 2010¹ (section 1).

The purpose of the IA is to inform decision-makers of any direct or indirect discrimination or bias towards any groups defined as having a protected characteristic under the Equality Act 2010 (section 4). The IA will assist decision makers by giving them better information on how best they can promote and protect the wellbeing of the communities they serve, not to determine the decision.. It is not the purpose of the impact assessment to justify, defend or challenge the rationale or principles behind the proposed options for change. The purpose is to inform rather than decide.

To convey a sense of consistency, the IA has been written as a continuation of the Improving Healthcare Together 2020–2030 Final Integrated Impact Assessment² (“the Mott MacDonald Report”) and as such uses the same approach, methodology and structure of the report.

1.2 The protected characteristic groups

The following are the protected characteristics we have considered as part of our IA as likely to experience an impact from the proposal to consolidate inpatient renal services at St George's Hospital. The definition used to describe the protected characteristics during the IA will be taken from the Equality Act:

- Disability
- Age (people over the age of 65)
- Race and ethnicity
- Religion and belief
- Pregnancy and maternity
- Gender (including reassignment)

The IA has also added the following group which does not come under the list of protected characteristics in the Equality Act 2010. This decision has been taken due to the evidence that this group is more likely to develop chronic kidney disease (CKD) because of the increased likelihood of exposure to the risks associated with kidney failure:

- People living in deprivation

The IA did not consider the impacts on young people (under the age of 15) as the services provided at the proposed new renal unit at St George's will be for adults only. The IA also excludes the protected groups “marriage and civil partnerships” and sex, and sexual orientation from the IA as during the tabletop analysis and taking into

¹ [Equality Act 2010](#), UK Parliament

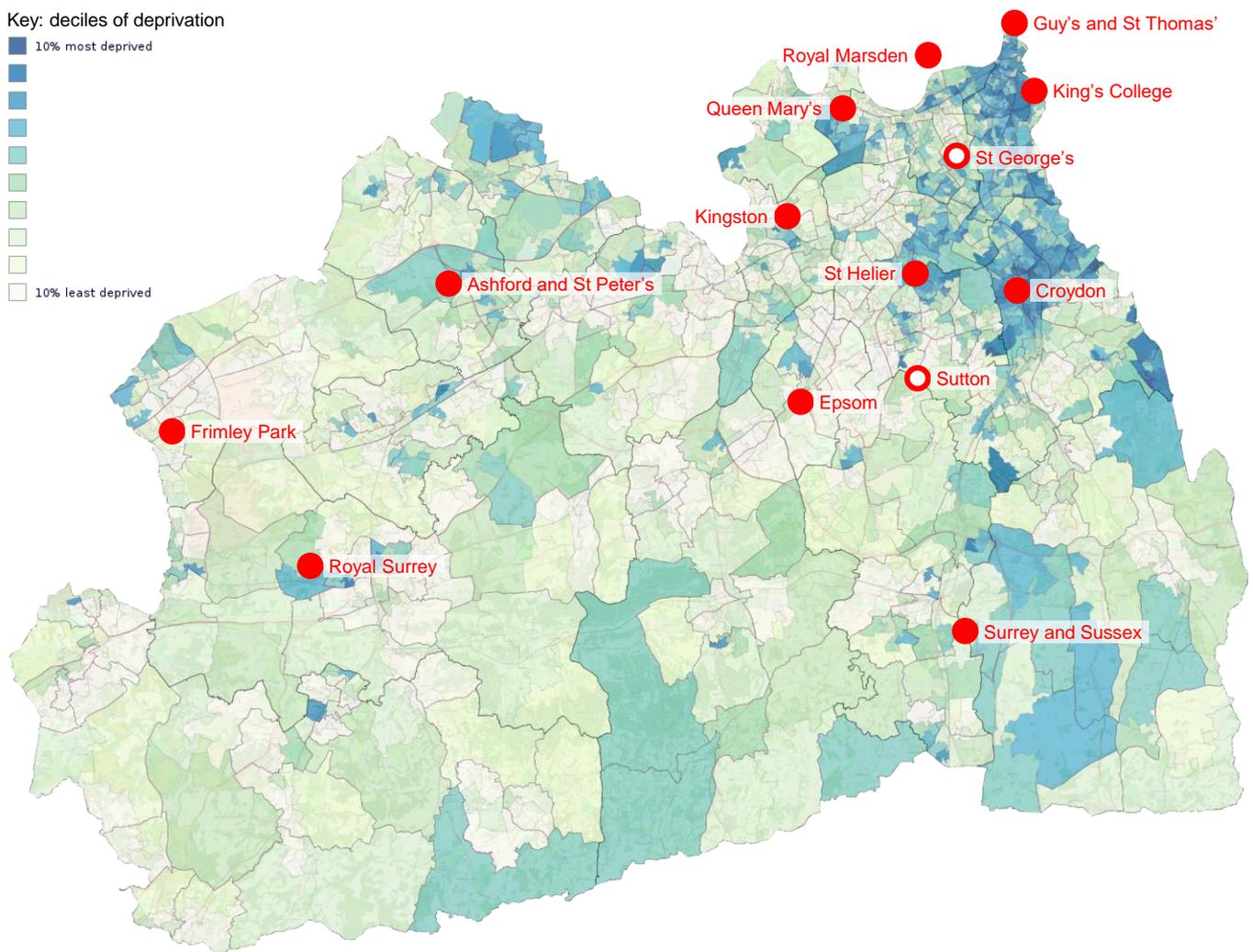
² Improving Healthcare Together 2020–2030 Final Integrated Impact Assessment, Mott MacDonald, 1 June 2020

consideration the previous IHT Final Impact Report there was no impact found on people in regards of their sex, sexual orientation or marital station in terms of needs for renal care or impact from travel or physical access to the new facilities.

1.3 Geographical scope

The main geographical area affected by consolidation of services at St George’s Hospital is the catchment area of South West London and Surrey reflected in Figure 1. The IA assesses the impact on people who would have used services at Sutton Hospital under the IHT proposal. The IA has also considered a wider geographical area to recognise patient movement in and out of the St Helier Hospital for renal services, covering all patient contacts from April 2019 to February 2020 which covers parts neighbouring counties such as Berkshire and Sussex. This enables us to assess the impact of journeys on current patients.

Figure 1: Geography in scope, showing main hospitals deciles of deprivation (source: IMD Explorer 2019)³



1.4 Impacts that are expected

The IA is focused on four impacts. It is important to note that the key lines of enquiry assessing the impacts are on the proposed change from Sutton Hospital to St George’s Hospital only and not from, at the time of writing, the inpatient and a small number of related outpatient renal services being provided at St Helier Hospital. There is also a very small number of patient contacts, for peritoneal dialysis training, that would move from St George’s to St Helier Hospitals. The four expected impacts are:

- Change in private vehicle transport time
- Change of public transport in terms of duration, cost, and complexity
- Impact of change on people with a mental illness and/or learning difficulties due to change of location
- Physical accessibility of the proposed site at St George’s Hospital and other design requirements

³ [IMD Explorer 2019](#), Ministry of Housing, Communities and Local Government

2 Approach

This section shows the approach taken to prepare the impact assessment. It:

- Details the methodology undertaken to identify protected characteristics, to identify key lines of enquiry and how the IA then assessed the impacts to discover if there is any indirect discrimination against a group
- Identifies sources of primary and secondary information
- Identifies the stakeholders used for their input
- Explains the governance for this report

2.1 Methodology and approach

This section explains the approach and method for the IA. To maintain momentum and consistency, the approach and method used is, where possible, that used by the Mott MacDonald Report.

Figure 2: Methodology



Step 1 – Identify protected characteristic groups and key lines of enquiry (KLOE)

As the IA is a continuation of the Mott MacDonald Report, the same protected characteristic groups were considered. These were confirmed by the Renal Reconfiguration Delivery Group (RRDG) and other stakeholders. The following stakeholders provided their views and insights:

- Renal Reconfiguration Delivery Group
- NHS England and NHS Improvement Specialised Commissioning (NHSEI SpecCom)
- Kidney Patient Association for St Helier Hospital
- Kidney Patient Association for St George's Hospital
- St George's Hospital University Trust
- Epsom and St Helier Hospital University Trust

Key lines of enquiry (KLOEs) were identified from desktop research and through interviews/surveys with stakeholders. The IA used published research which links renal care with groups in society, and local authority demographic data to assess the impact on people with protected characteristics.

The IA used the following sources of data to create a baseline of the demographics and health needs of the LA within the geographical area:

- Office for National Statistics
- English Indices of Deprivation, held by the Ministry of Housing, Communities and Local Government
- Joint Strategic Needs Assessment (JSNA) of the relevant LAs

Step 2 – Travel analysis

The biggest impact on patients as a result of the proposed change would be the difference in travel time between travel from their home to the two hospitals in question. The IA has split the travel analysis in two by looking at the potential travel times of current patient impacts using private vehicles and the impact of change on public transport:

- To assess the change on private transport, the IA used data provided by the renal travel analysis by Mott MacDonald,⁴ which looked at the difference in private car journey times for current patients from April 2019 to February 2020 from traveling to Sutton Hospital and St George's Hospital
- To assess the change of public transport, the IA looked at the difference in public transport to St George's Hospital compared to Sutton hospital by looking at the difference in costs, travel duration and the complexity of the difference (looking at whether the patient or visitor would have to use more trains or buses).

Step 3 – Identify and assess Impacts

The third stage of the IA overlaid the baseline data with the travel analysis to identify any geographical hotspots where groups of people with protected characteristics are affected negatively or positively. The IA also used desktop analysis to identify how and why some groups would be affected by the change, rather than just at a

⁴ Renal travel analysis – Magnitude of impact assessment exercise Version 4, Mott MacDonald, 18 November 2020

geographical level. Through desktop analysis, the IA assessed the magnitude of impacts to determine whether any mitigations or enhancements are required.

Step 4 – Mitigate and conclude

Where there was a need to identify any mitigations or enhancements for a negative impact that warranted intervention, the IA collaborated with the RRDG to identify any required actions, which this report would suggest as a way forward.

2.2 How we measured impact

To understand and assess the impacts identified fully, the IA considered several factors so that a balanced assessment could be reached. The method, terminology and approach to qualitative evaluation has been continued from the Mott MacDonald Report⁵:

- **Likelihood**, where the IA considered how likely the impact is to materialise and covers the following ranks:
 - High
 - Medium
 - Low
- **Magnitude**, where the IA considered the scale of the impact on the group of people affected by the proposed change and ranked with a qualitative evaluation on the following scale:
 - Significantly beneficial
 - Moderately beneficial
 - Marginally beneficial
 - Neutral
 - Marginally adverse
 - Moderately adverse
 - Significantly adverse
- **Duration**, where the IA considered the potential impact valued as:
 - Short term (1 months)
 - Medium term (under 1 year)
 - Long term (over 1 year)

2.3 Governance

The governance for the IA will be in line with the agreed governance as mentioned in the PCBC Section 9.1.

⁵ Renal travel analysis – Magnitude of impact assessment exercise Version 4, Mott MacDonald, 18 November 2020, p39

3 Impact assessment

This section shows the analysis of assessment of the impacts in each of the identified KLOEs. To begin, this section shows the impacts of a change in travel from Sutton to St George's hospitals of:

- Changes to duration of time for private transport
- Changes to public transport in terms of duration, cost, and complexity

To show the assessment of impacts against protected characteristics, this section details how the proposed consolidation of inpatient renal services positively and negatively affects people with the following protected characteristics within the geographical area of the IA:

- Race and ethnicity
- Older people (65 years old+)
- religion and belief
- People living in deprivation
- Physical disability
- Mental illness and/or learning difficulties

Although the IA was not in the position to assess the impact of physical accessibility to the proposed new facilities at St George's Hospital, the IA summarises the requirements that the following protected characteristics need when the design requirements on the infrastructure and service are being designed:

- Pregnancy and maternity
- People with a disability
- Gender reassignment

3.1 Putting the degree of change into context

Mott MacDonald analysed data provided by ESTH and SGUH covering patient contacts from April 2019 to February 2020, scaled to 12 months to provide an estimate of 2019/20 contacts excluding the impact of COVID-19. The analysis estimates a total of 273,614 contacts (journeys) made by 12,159 patients.

While 2,750 patients (23%) would be affected by the change, only 4.4% of total journeys would be affected.

Table 1 shows that 2,750 (23%) of the 12,159 patients, mostly served by ESTH, would be affected.

Table 1: All patients

Patients	SGUH	ESTH	Total
All	3,004	9,155	12,159
Affected	7	2,743	2,750
	0.1%	22.6%	22.6%

Table 2 shows that the 12,159 patients would have made 273,614 journeys in 2019/20, excluding the impact of COVID-19.

Table 2: All patient journeys

Journeys	SGUH	ESTH	Total	
OP	8,770	34,202	42,972	15.7%
IP	7,425	2,878	10,303	3.8%
Dialysis	66,776	153,563	220,339	80.5%
Total	82,971	190,643	273,614	100.0%
	30.3%	69.7%	100.0%	

Table 3 shows that 12,120 (4.4%) of the 273,614 journeys would be affected by the change.

Table 3: Patient journeys affected

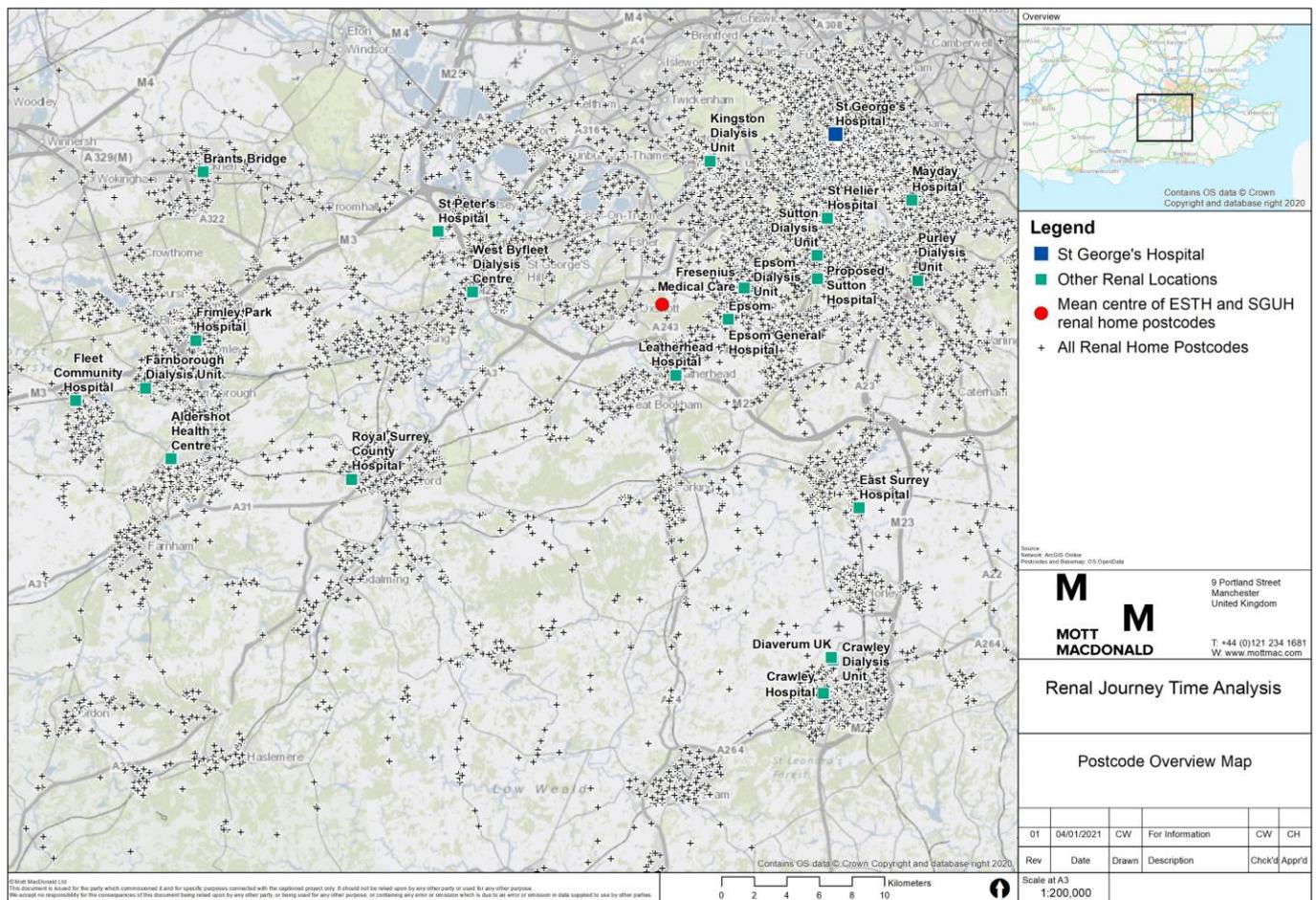
Journeys	SGUH	ESTH	Total	% of all
OP	0	8,957	8,957	3.3%
IP	0	2,878	2,878	1.1%
Dialysis	285	0	285	0.1%
Total	285	11,835	12,120	4.4%
<i>% of all</i>	<i>0.1%</i>	<i>4.3%</i>	<i>4.4%</i>	

3.2 Change of journey time for private vehicles

The IA considered the impact of the change on private vehicle travel using data from the Mott MacDonald Travel Report,⁶ which looked at patient contacts from April 2019 to February 2020 and scaled these to 12 months. Figure 3 below is reproduced from the Mott MacDonald Report and plots all patients within the wider area for their IA. By analysing the report, the IA has found the following:

- Magnitude of impact:** Table 10 shows that journeys for current patients are expected to be longer – by an average of 7.9 minutes per journey by private vehicle. However, on further examination, the following can be seen:
 - Patients living in South West London have the biggest proportionate increase in travel time, but this does not exceed 17 minutes for any patient. As expected, patients living in Sutton have a large increase in travel time when comparing an option in the borough (i.e. at the Sutton Hospital site) to the St George’s option.
 - The further a patient travels to London, the lower the proportionate impact of change
 - There are some outliers for long distance travel where journeys would take much longer, such as Horsham, Tandridge and Crawley. But these increases do not exceed 15 minutes.
 - In researching the KLOEs for the IA, one renal patient (part of a KPA Committee) said that people will not mind traveling further to access a centre of excellence at St George’s Hospital for an infrequent visit so long as their local renal day-to-day care is not affected. Although this is a single view, it is a helpful reminder of the context for these journey time increases.
- Likelihood of Impact:** Although journey times by private vehicle and patient travel services would increase for most patients this increase is small and for infrequent visits only. The NHSEI specialised services website says that it is common that patients and visitors will have to travel further to access specialised care as these services are not available in every local hospital because they have to be delivered by specialist teams of doctors, nurses and other health professionals who have the necessary skills and experience.

Figure 3: Plotted patient postcodes of April 2019 to February 2020 patient impacts (source: Mott MacDonald)



Travel times in the Mott MacDonald Travel Report were calculated for journeys that commenced at 13:00 on a weekday. As the IA and RRDG identified that most journeys in a private vehicle are more likely to commence in the early hours and driving at different times of the day could give different journey times, it was decided that a sample

⁶ Renal travel analysis – Magnitude of impact assessment exercise Version 4, Mott MacDonald, 18 November 2020

data set for journeys commencing at 08:00 on a weekday was required. As shown in Table 4 there is only a small amount of additional time driving at 08:00 compared to 13:00.

Table 4 below shows travel times at 08:00 and 13:00 for postcodes from which travel times would increase the most in the 13 most affected local authorities (covering 80% of journeys). Where there were distinct additional pockets of patients in these or other local authorities, we added additional postcodes.

The table shows for each local authority:

- The number of patients living in that LA whose journeys are affected
- The number of journeys originating in that LA that are affected
- The most affected partial postcode (or additional postcode)
- The index of multiple deprivation quintile for that postcode
- For travel at 08:00 and 13:00:
 - The journey time to Sutton (TT0)
 - The journey time to St George's Hospital (TT1)
 - The change in journey time (Δ TT)
- Finally, the difference between the increases in journey time at 13:00 and 08:00

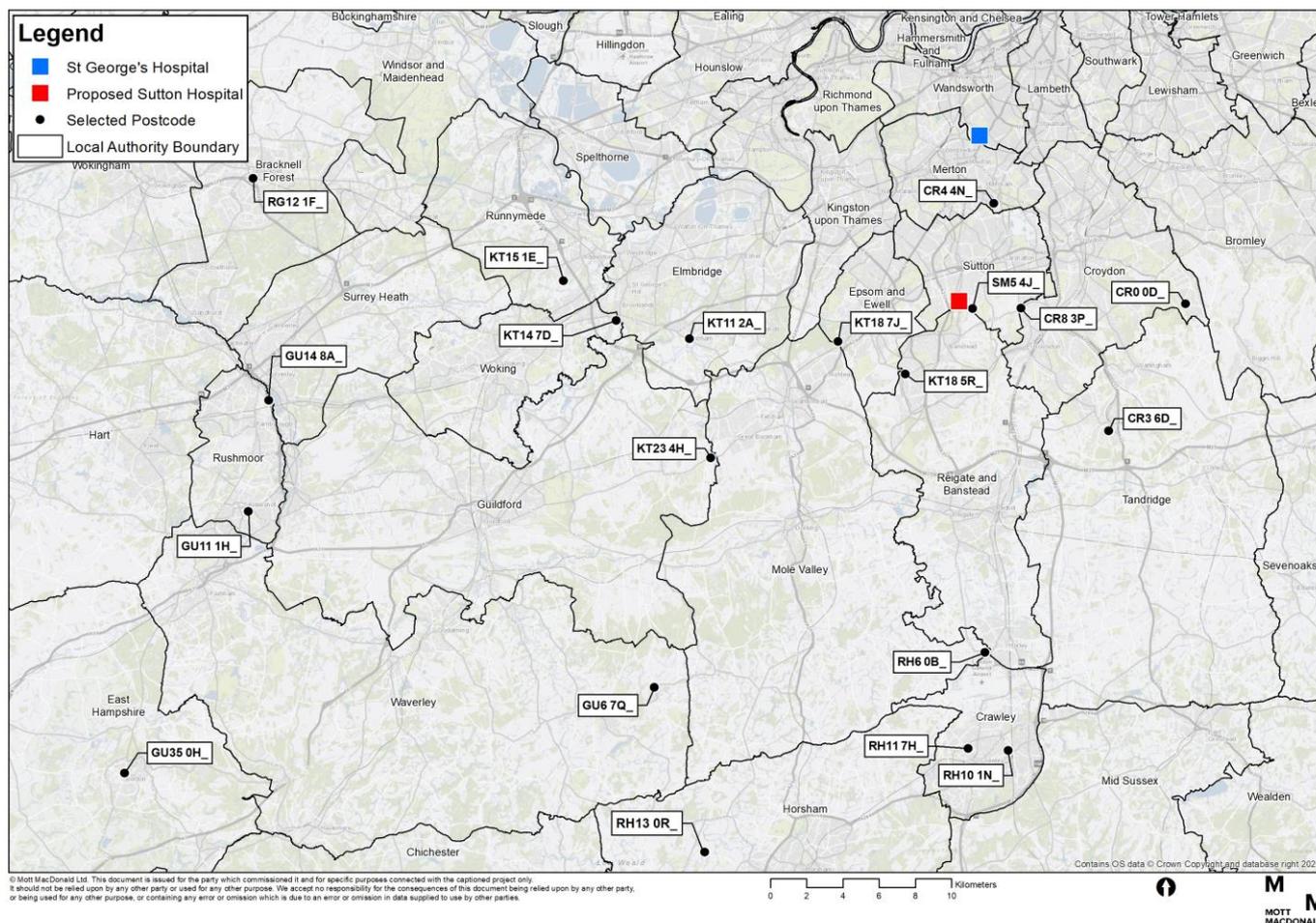
We can see from this table:

- The greatest increase in travel time is 28 minutes at 08:00 from Sutton
- The greatest difference between travel at 13:00 and 08:00 is 5 minutes

Table 4: Travel times from most affected postcodes in most affected local authorities (source: Mott MacDonald)

Local authority	Pts Σ	Jnys Σ	Postcode	IMD q	Travel at 08:00			Travel at 13:00		
					TT0	TT1	Δ TT	TT0	TT1	Δ TT
Croydon	541	2,646	CR8 3P	5	8	32	24	7	28	21
			CR0 0D	1	34	46	12	30	38	8
Sutton	508	2,119	SM5 4J	5	3	31	28	3	27	24
Merton	177	744	CR4 4N	3	19	20	1	17	18	1
Reigate and Banstead	169	654	KT18 5R	5	10	35	25	8	30	22
Epsom and Ewell	120	523	KT18 7J	4	18	41	23	16	36	20
Woking	94	472	KT14 7D	4	36	42	6	29	34	5
Mole Valley	98	465	RH6 0B	3	35	60	25	30	52	22
Crawley	101	434	RH10 1N	3	37	62	25	34	56	22
			RH11 7H	2	39	64	25	35	57	22
Runnymede	76	381	KT15 1E	5	42	50	8	37	42	5
Guildford	98	379	KT23 4H	5	28	50	22	26	43	17
Waverley	92	375	GU6 7Q	5	50	64	14	46	59	13
Tandridge	80	355	CR3 6D	4	27	51	24	24	45	21
Elmbridge	70	310	KT11 2A	4	32	38	6	28	32	4
Rushmoor	65	299	GU11 1H	2	58	64	6	49	54	5
			GU14 8A	4	58	66	8	50	55	5
Horsham	36	169	RH13 0R	3	54	76	22	49	66	17
Bracknell Forest	22	118	RG12 1F	2	61	69	8	51	55	4
East Hampshire	33	102	GU35 1H	4	67	73	6	58	63	5

Figure 4: Plotted patient postcodes (source: Mott MacDonald)



3.3 Change to public transportation

This part of the IA assesses the change in public transport journey times for the population within the geographical area. To enable a comparison, these journeys are return journeys with both legs commencing at 13:00 on a weekday. Although most patients will elect to use private transport or patient transport services, there could be a minority of patients and visitors who will use buses and/or trains. Table 5 below shows the impact of the change with the following factors taken into consideration:

- **Duration impact:** This is the *additional time* in minutes from a selected location within a town where a person is to travel via public transport to St George’s Hospital compared to the proposed Sutton Hospital. This includes the walking time to access public transport to get to each hospital. To calculate the walking time with the time of transportation, the IA used Google Maps.
- **Cost impact:** This is the *additional cost* that a person would have to pay for public transport from a selected location within the chosen town to St George’s Hospital compared to the proposed Sutton Hospital. The cost calculated is the cost of a return journey where both legs commence at 13:00 on a weekday. The cost was calculated using the Transport for London website⁷ and the National Rail website⁸. A positive number indicates that the cost will have increased with a negative meaning the costs are lower than traveling to Sutton Hospital.
- **Additional trains or buses:** By using information from Transport for London and National Rail, the IA was able to quantify the complexity of change of using public transport. Table 5 shows how many additional buses or trains a person travelling to St George’s Hospital would have to take when compared to travelling to Sutton.

⁷ [Transport for London single fare finder](#)

⁸ [National Rail](#)

Table 5: Public transport analysis

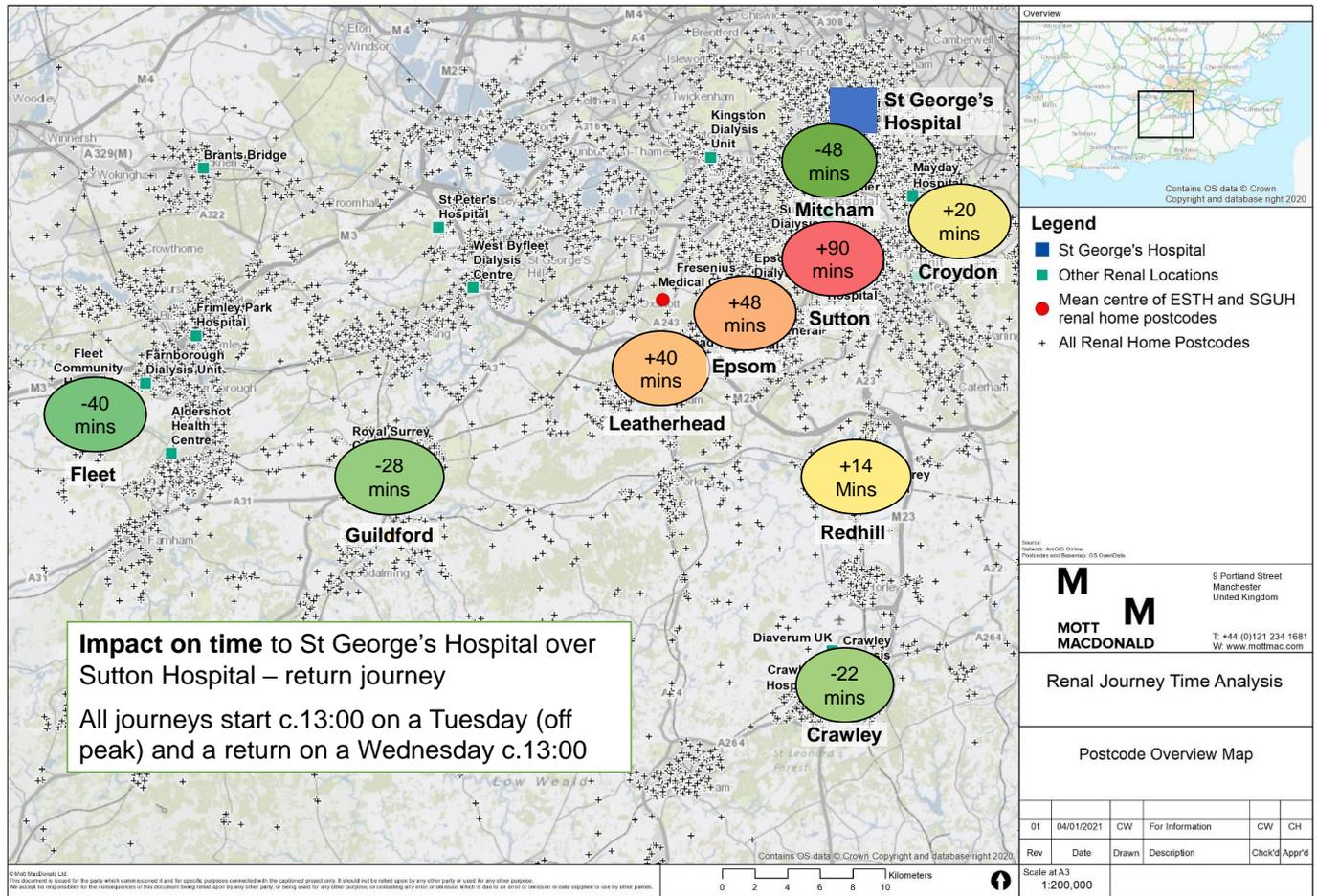
Local authority	Town	Additional trains or buses	Duration impact in minutes (return journey), includes walking	Cost impact
Croydon	Croydon	0	20	£0.40
Sutton	Sutton	0	90	£0.00
Reigate and Banstead	Redhill	-1	14	-£4.40
Guildford	Guildford	0	-28	£0.20
Mole Valley	Leatherhead	1	40	£2.20
Crawley	Crawley	1	-22	£1.60
Merton	Mitcham	0	-48	£0.00
Hart	Fleet	0	-40	-£2.00
Epsom and Ewell	Epsom	1	48	£3.60

As mentioned in the Mott MacDonald Report, Sutton Hospital is a 15–20-minute walk from its two nearest railway stations, Sutton and Belmont. This would mean that people would have to walk to hospital from the train station or take a bus directly to the hospital. Examining the transport options, St George’s Hospital in Tooting is better connected by train than Sutton Hospital and is served by Tooting Broadway underground station, five minutes’ walking time from the hospital. However, as with people traveling via public transport to Sutton Hospital, the closest train station is Haydon’s Road which is a 15–20-minute walk to St George’s Hospital or an additional bus. This distance may be a problem for those that struggle to walk. However, the IA is mindful that only a very small number of patients would use public transport.

The overall direct impact is largely neutral. As shown in Table 5 and Figure 5, the duration of journeys by public transport is mainly shorter for the towns selected for the IA. A reason for this is that Tooting is better connected on the train network than Sutton, especially for people travelling from the furthest areas of South West London in the IA. In terms of cost, the impact is of a small magnitude as the cost increase is relatively small, with Epsom having the largest cost increase of £3.60 for the return journey.

The negative impact of the change on towns such as Epsom, Leatherhead, Croydon and Sutton in South West London can be seen in Figure 5. People living in these towns would be likely to need to take an extra form of transport, with a longer duration and a marginal cost increase.

Figure 5: Public transport travel times overlaid onto Mott MacDonald analysis (see Figure 3)



Summary – The overall impact is neutral with some shorter and some longer journeys across the catchment

3.4 Impact assessments on protected characteristics

Having considered the impacts of private journeys and public transport, consideration must be given to equality and ensuring that there is no unintentional bias or discrimination against protected groups.

3.4.1 Impacts on race and ethnicity

According to Kidney Research UK,⁹ ethnicity is an important factor when it comes to developing CKD or kidney problems/failures. As people with CKD/Kidney failure are more likely to require inpatient renal services, it is important that the IA ensures that the proposal to consolidate inpatient renal services at St George's Hospital does not indirectly discriminate against those ethnic groups at increased risk of developing CKD.

The Kidney Research report mentioned above says that:

“Some BAME groups have been found to be at a risk of developing CKD and progress faster to renal replacement therapy. In the UK, people from black and South Asian backgrounds are more likely to suffer from obesity, type 2 diabetes, hypertension and cardiovascular conditions which are risk factors for developing CKD.”

The research explains that people of South Asian, Black African, and Caribbean descent are therefore over-represented on dialysis programmes making up 22.7% of people in the UK receiving renal replacement therapy. In some London boroughs this rises to well over 60%.¹⁰

For this reason, the IA looked at the travel impact of public transport to see if there are any positive and negative impacts on LAs where there is a high proportion of the population that identify as Black, Asian, mixed/multiple ethnic and “other ethnicity” according to the ONS.¹¹ According to the latest data held by the ONS, the LAs with the

⁹ [Kidney Health inequalities in the UK – An agenda for change](#), Kidney Research UK, 2018

¹⁰ *Ibid*

¹¹ 2016 data, [Office for National Statistics](#)

highest proportion of people who self-identify as Black, Asian, mixed/multiple ethnic and “other ethnicity” within the geographical area are:

- Croydon – 42%
- Merton – 41%
- Sutton – 26%

Table 6: Potential impacts on race and ethnicity

Potential impact	Likelihood	Magnitude	Duration
Longer public transport journey	Low	Marginally adverse as a longer journey time for people in Croydon and Sutton and a shorter journey time for people in Merton. Magnitude is low due to patients being able to use patient transport services	Long term
Additional costs for public transport	Low	Neutral as there is no significant increase in cost for a return journey to St George’s from these LAs.	Long term
Services are further away for a protected group that disproportionately requires these services	High	Beneficial/beneficial as only inpatient services are affected and day-to-day renal care is not affected locally. The change to renal services will result in a positive impact for care and quality	Long term

Summary – The overall impact is neutral. For the LAs that will see a negative impact, the magnitude and likelihood is small due to only a small number of patients using public transport. Although the journey could be longer for some, increased duration is offset by the positive impact of improved modern facilities and service at St George’s.

3.4.2 Impacts on religion and belief

Unlike some other protected characteristic groups within the IA, there is no direct correlation between people from different religions and an increased need for renal care. However, the study area includes a wide range of faith-based communities and centres and it is important that the proposal to consolidate inpatient renal services at St George’s does not have an indirect and unintended negative impact against communities that contain a religious group. The LA with the highest proportion of their population that identify as Muslim, Sikh, Buddhist, Jewish, Hindu or other¹² within the catchment area is Merton with 22% of their population. Other LAs with higher percentages of people that self-identify with the religions mentioned above but not high enough to be significant are thus:

- Croydon – 17%
- Kingston upon Thames – 16%
- Richmond upon Thames – 11%
- Woking 11%
- Epsom and Ewell – 11%

Table 7: Potential impacts on religion and belief

Shorter patient journey	Low	Marginally beneficial as travel to St George’s from Merton is quicker by public transport	Long term
Additional costs for public transport	Low	Neutral as there is no additional cost for traveling from Merton	Long term

Summary – There is no indirect discrimination against the area of London where the greatest number of people that identify as belonging to a minority religion live (Merton). The journey from the area via public transport is quicker, with no additional cost or complexity. .

3.4.3 Older people (65+)

According to research from the Johns Hopkins University, those over the age of 60 are more likely to develop kidney disease.¹³ The research further goes on to explain that more than 50% of seniors over the age of 75 are believed to have kidney disease when compared to the rest of the population in the US. Research by Kidney

¹² Ibid

¹³ [Aging and kidney disease](#), National Kidney Foundation

Research in 2018 says that age is an increasing factor in influencing kidney health due to cardiovascular conditions and the use of medicines toxic to the kidney and contribute to the development of CKD.¹⁴

Geographical location is a critical factor when it comes to accessing dialysis.¹⁵ For rural populations, transportation to a hospital could be a challenge, particularly if the patient is dependent on patient transport services. According to Climatejust,¹⁶ by 2031, 40% of the population in some areas of England are expected to be over 65. For this reason, the IA has considered the impact on accessibility to St George's Hospital for LAs that have a higher portion of older people (65 years and older) within the geographical area. According to data obtained from the ONS, the estimated proportion of people over the age of 65 in 2020 in the following LAs are:

- Mole Valley – 24%
- Waverley – 22%
- Tandridge – 21%
- Hart – 20%
- Elmbridge, Spelthorne, Epsom and Ewell – 19%

Table 8: Potential impacts on older people

Potential impact	Likelihood	Magnitude	Duration
Longer patient journeys	Low	Slightly adverse as travel times by private car (or patient transport services) will be marginally longer from the boroughs with the highest proportions of older people and this will constitute the majority of journeys. Offset by generally slightly quicker public transport journeys.	Long term
Additional costs for public transport from outside London	Low	Slightly adverse. The magnitude of the cost increase is only a small and is unlikely to be happen as patients can elect patient transport services or private vehicle.	Long term
Greater complexity of public transport	Low	Neutral as access from the LAs that have the highest portion of older people to St George's Hospital is no more complex than access to Sutton Hospital	Long term
Inpatient renal services being further away	Low	Beneficial as patients will benefit from better facilities and service at St George's Hospital. Normal day to day local renal care activities are not affected.	Long Term

Summary – The impact of change to older people is slightly adverse given the relative travel times to the two units. However, this must be seen in the context of the opportunity to provide improved acute renal care.

3.4.4 Impacts on people living in deprivation

There is growing evidence to suggest that living in deprivation has an impact on developing CKD. Kidney Research UK have said in their 2018¹⁷ report that the reason for this is because people living at the lower end of the social-deprivation spectrum are more likely to:

- Develop CKD due to being exposed to the risks of developing CKD such as obesity, diabetes, and hypertension
- Progress faster through the stages of the condition leading to dying earlier of kidney failure
- Be diagnosed at a later stage of the disease due to lack of health literacy
- Receive worse outcomes as people in deprivation have worse survival rates related due to the lack of adequate housing and space
- Children born with a low weight are more likely to develop CKD later in life due to a lower count in nephrons and more children are born with low weight in socially deprived areas
- Kidney patients are more likely to slip into deprivation

¹⁴ [Kidney Health inequalities in the UK – An agenda for change](#), Kidney Research UK, 2018

¹⁵ Ibid

¹⁶ [Climate Just map tool](#)

¹⁷ [Kidney Health inequalities in the UK – An agenda for change](#), Kidney Research UK, 2018

Table 9 below shows, for the 21 most affected LAs, of patient impacts from April 2019 to February 2020, scaled to 12 months:

- The number of patients living in that LA whose journeys are affected.
- The number of journeys originating in that LA that are affected.
 - Total number of journeys originating in that LA that are affected.
 - That number as a percentage of all journeys affected.
 - A running total of percentages of journeys affected.
- The number of journeys originating in each index of multiple deprivation (IMD) quintile in that LA.

We can see that:

- People living in Croydon and Sutton will make almost 40% of affected journeys.
- People living in the 13 most affected LA's (Croydon to Tandridge) will make almost 80% of all affected journeys, and.
- People in lower IMD quintiles are disproportionately affected in Croydon only; in most LAs, there is no bias.

Note that the number of patients and the number of journeys shown in this table will be slightly different from those shown elsewhere because of the availability of IMD data in the dataset. A full version of the table can be found in Appendix A.

Table 9: Patient journeys affected per IMD quintile per local authority (analysis of Mott MacDonald dataset)

Local authority	Pts Σ	Journeys			Journeys per IMD quintile				
		Σ	%	Σ%	1	2	3	4	5
Croydon	541	2,646	21.9%	21.9%	664	775	567	339	301
Sutton	508	2,119	17.5%	39.4%	152	232	293	710	732
Merton	177	744	6.1%	45.5%	22	209	116	178	219
Reigate and Banstead	169	654	5.4%	50.9%	9	96	134	165	250
Epsom and Ewell	120	523	4.3%	55.2%	0	59	5	128	331
Woking	94	472	3.9%	59.1%	3	39	98	109	223
Mole Valley	98	465	3.8%	63.0%	0	2	83	120	260
Crawley	101	434	3.6%	66.6%	3	175	149	43	64
Runnymede	76	381	3.1%	69.7%	0	41	87	141	112
Guildford	98	379	3.1%	72.8%	7	14	38	106	214
Waverley	92	375	3.1%	75.9%	0	13	68	107	187
Tandridge	80	355	2.9%	78.9%	0	72	80	153	50
Elmbridge	70	310	2.6%	81.4%	0	46	47	58	159
Kingston upon Thames	60	301	2.5%	83.9%	2	21	88	141	49
Rushmoor	65	299	2.5%	86.4%	20	72	42	62	103
Spelthorne	59	284	2.3%	88.7%	0	68	66	127	23
Surrey Heath	51	174	1.4%	90.2%	0	15	27	29	103
Hart	45	173	1.4%	91.6%	0	0	8	33	132
Horsham	36	169	1.4%	93.0%	0	2	67	12	88
Lambeth	16	135	1.1%	94.1%	5	14	67	49	0
Bracknell Forest	22	118	1.0%	95.1%	0	0	10	35	73
...
Totals	2,750	12,106	100.0%	100.0%	961	2,053	2,244	2,980	3,868

Table 14 below shows, for each index of multiple deprivation quintile in each LA:

- The mean travel time to Sutton (TT0)
- The mean travel time to St George's (TT1)
- The mean change in travel time (ΔTT)

At the bottom of the table we also give:

- The mean figures for each IMD quintile across all local authorities.
- The mean travel times to Sutton and St George's and the mean change in travel time for all journeys.

We can see that:

- The mean change in journey time is 7.9 minutes
- The mean change in journey time is shorter (6.5 minutes) for those in the most deprived 20% of areas, compared to all other quintiles
- People living in Croydon and Sutton will make almost 40% of affected journeys
- People living in the 13 most affected LAs (Croydon to Tandridge) will make almost 80% of all affected journeys
- People in lower IMD quintiles are disproportionately over-represented in the patient population in Croydon only. Croydon patients make up 69% of those affected living in the most deprived 20% of areas but will have a relatively small impact on average journey times (six minutes) compared to those living in quintiles 4 and 5 in the borough

Note that the number of patients and the number of journeys shown in this table will be slightly different from those shown elsewhere because of the availability of IMD data in the dataset. A full version of the table can be found in Appendix B.

Table 10: Patient journey times per IMD quintile per local authority (analysis of Mott MacDonald dataset)

Local authority	Pts Σ	Jnys Σ	Mean TT0 (mins) per IMD quintile					Mean TT1 (mins) per IMD quintile					Mean ΔTT (mins) per IMD quintile				
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Croydon	541	2,646	22.4	21.1	20.8	23.3	23.6	28.4	25.4	28.5	33.6	33.0	6.0	4.3	7.7	10.3	9.4
Sutton	508	2,119	9.3	4.9	9.1	7.8	9.5	24.5	20.5	25.2	22.3	24.7	15.2	15.5	16.1	14.5	15.2
Merton	177	744	15.6	7.3	11.0	10.0	13.3	16.0	15.4	14.0	16.0	15.4	0.4	8.1	3.0	5.9	2.1
Reigate and Banstead	169	654	28.8	23.5	32.3	28.3	24.3	42.3	37.4	45.9	41.9	38.0	13.5	13.9	13.6	13.6	13.7
Epsom and Ewell	120	523		18.2	19.3	19.9	16.9		30.3	28.7	31.6	27.4		12.1	9.4	11.8	10.5
Woking	94	472	40.7	43.6	40.0	39.7	41.3	43.7	46.6	43.0	42.7	44.3	3.0	3.0	3.0	3.0	3.0
Mole Valley	98	465		29.6	35.9	34.7	32.4		35.2	45.4	44.4	39.2		5.6	9.5	9.7	6.8
Crawley	101	434	46.9	45.8	45.3	43.6	43.1	60.4	59.3	58.8	57.1	56.6	13.5	13.5	13.5	13.5	13.5
Runnymede	76	381		42.7	42.2	40.5	41.1		45.7	45.2	43.4	44.1		3.0	3.0	3.0	3.0
Guildford	98	379	40.6	45.2	41.3	44.6	39.5	43.6	48.1	44.2	47.6	42.8	3.0	2.9	3.0	3.0	3.3
Waverley	92	375		46.3	48.1	53.1	51.1		49.3	51.0	56.0	54.2		3.0	3.0	2.9	3.1
Tandridge	80	355		36.3	36.7	31.6	34.1		49.8	51.1	46.1	48.0		13.5	14.3	14.6	13.9
Elmbridge	70	310		33.7	31.1	30.8	30.1		36.7	34.2	33.9	33.2		3.0	3.0	3.0	3.0
Kingston upon Thames	60	301	23.3	20.5	21.2	21.5	21.1	24.7	23.2	24.4	23.0	23.8	1.4	2.7	3.2	1.5	2.7
Rushmoor	65	299	52.7	53.0	52.0	52.1	53.5	55.6	55.9	54.9	55.0	56.4	2.9	2.9	2.9	2.9	2.9
Spelthorne	59	284		41.5	41.3	40.8	39.0		44.4	44.3	43.8	42.0		3.0	3.0	3.0	3.0
Surrey Heath	51	174		52.0	53.5	50.5	52.1		54.9	56.4	53.4	55.0		2.9	2.9	2.9	2.9
Hart	45	173			54.0	60.0	56.7			56.9	62.9	59.6			2.9	2.9	2.9
Horsham	36	169		53.6	59.2	54.3	56.0		66.8	70.7	64.7	65.9		13.2	11.6	10.3	9.9
Lambeth	16	135	31.7	24.5	16.3	15.4		21.9	15.6	22.4	25.8		-9.8	-8.9	6.1	10.4	
Bracknell Forest	22	118			52.6	54.2	58.2			55.5	57.1	61.1			2.9	2.9	2.9
...
Totals	2,750	12,106															
Means per IMD quintile			24.1	25.3	30.1	27.4	30.6	30.6	32.4	38.2	36.1	38.5	6.5	7.1	8.0	8.7	7.9
Means for all journeys			Mean TT to Sutton = 28.3 minutes					Mean TT to St George's = 36.2 minutes					Mean change in TT = 7.9 minutes				

The IA has considered LAs within the geographical area to identify those with the lowest average IMD quintile scores (those with the greatest deprivation). The LAs with the lowest average IMD quintile scores for 2019¹⁸ are:

- Croydon – 2.48
- Crawley – 2.53
- Rushmore 2.95
- Wandsworth – 2.98
- Elmbridge – 3.34
- Sutton – 3.36

Table 11: Potential impacts on people living in deprivation

Potential impact	Likelihood	Magnitude	Duration
Longer patient journeys	Low	Slightly adverse as journeys are slightly longer from LAs with high rates of deprivation. However, magnitude and likelihood for the negative impacts are low because the impact is on inpatient visits only and in the borough with a significant which is a small proportion of care received	Long term
Additional costs for public transport from outside London	Low	Slightly adverse as travel to St George's sometimes more expensive from deprived areas.	Long term

Summary – Although the inpatient renal services would be moved slightly further away from some areas of relative deprivation resulting in, at times, longer journeys with a small increase in time and cost, the impact is proportionately lower for those living in the most deprived communities. Renal services at a local level for people living in areas of higher deprivation will not be affected.

3.4.5 Impacts on people with mental illness and/or learning difficulties

There is growing evidence to suggest that people with CKD are likely to develop mental health issues and this can cause people to slip into deprivation as their quality of life worsens. Furthermore, neuropsychiatric conditions including depression, anxiety disorders and cognitive impairment are prevalent in patients with chronic kidney disease.¹⁹ The Mott MacDonald Report acknowledged that a change in healthcare provision can cause confusion and anxiety for people who suffer with a mental illness. For this reason, the proposal needs to be sensitive to patients with a mental illness or have the potential to suffer from a mental illness.

When looking at the districts within the geographical area, it is also apparent that there are high numbers of people with learning difficulties. For example in Croydon, 0.47% of the population are diagnosed with a learning disability which is, according to Croydon's JSNA, the second highest in London.²⁰ Whereas in Sutton it is estimated that 1.5% of the population has a learning difficulty as a large proportion are not known to services.²¹ The IA has not assessed the numbers of current renal patients with learning disabilities.

Table 12: Potential impacts on people with mental illness and/or learning disabilities

Potential impact	Likelihood	Magnitude	Duration
Change in location causing confusion and anxiety to people with a mental illness and/or learning difficulties	High	Marginally adverse as the journey length of private vehicle/patient transport services is longer. The change to public transportation could cause anxiety but the likelihood of someone from this group using public transport is low. A patient with a mental illness and/or learning difficulty having their care in an unfamiliar building could cause anxiety in the absence good patient care and management.	Short term

Summary – As mental illness is prevalent among people that suffer from CKD, it is likely that a change to healthcare arrangements could cause confusion or anxiety. However, this could be managed with good communication and care. The likelihood of patients getting confused by changes of public transport is low as these patients will likely use patient transport services or be transported by a private vehicle. Although the magnitude is low, care still needs to be taken here through good communication and working with carers.

¹⁸ [English indices of deprivation 2019](#), Ministry of Housing, Communities and Local Government

¹⁹ [Neuropsychiatric Disorders in Chronic Kidney Disease](#) Front Pharmacol, 2019, 10: 932

²⁰ [Croydon JSNA statistical bulletins](#), Croydon Observatory

²¹ [Sutton JSNA](#), London Borough of Sutton

3.4.6 Impacts on people with a physical disability

For people with a physical disability accessibility via public transport could be an issue if there would be problems accessing the new renal facilities in St George's Hospital, especially for changes in public transport that require more platform changes and not having public transport directly outside St George's Hospital, resulting in people having to walk from Haydon's Road railway station.

Table 13: Potential impacts on people with physical disabilities

Potential impact	Likelihood	Magnitude	Duration
Difficult for people with a disability to access St George's Hospital using public transport	Low	Slightly adverse due to overall longer travel times by private vehicle. The likelihood of people with a disability using public transport is low.	Long term

Summary – It is unlikely that people with a physical disability that affects their ability to walk would use public transport for their journey as they can use patient transport services or a private vehicle. In the unlikely event of a disabled patient electing to use public transport, the impact is no greater than the same patients using public transport to Sutton Hospital in terms of walking from the train to the hospital (around 20 minutes), but their train journey is likely to be slightly more complex due to a higher number of changes of trains to get to Tooting from outside London.

3.5 Physical accessibility of new renal services at St George's Hospital

As the new renal facilities and infrastructure for Sutton Hospital and St George's Hospital have yet to be designed, the IA could not assess the impacts of consolidation of inpatient renal services at St George's Hospital or ascertain whether there would be any negative impacts on any protected characteristic groups. However, stakeholders to the IA have expressed with confidence that it will be better than the current situation of the older facilities and infrastructure in St Helier Hospital. The stakeholders mentioned the need for the following considerations to be included in the design of the new facilities at St George's:

- The KPAs for both trusts both stated that parking is an issue in and around London and that the facilities will need to accommodate patients that elect to use a private vehicle
- One KPA member mentioned that the design of the new renal unit needs to consider the impact on "patients who have undergone or are undergoing gender re-assignment. For example, the need for single rooms would be a positive impact but consideration needs to be given for these patients on single-sex or multiple bed bays
- Since St George's Hospital will have adjacent services, the new renal services infrastructure will need to allow access to these to accommodate patients that would most likely need adjacent services, (e.g. older or pregnant people)

Summary – The change to new facilities in St George's will need to consider the needs of protected groups as part of the design requirements for their new facilities. However, it is not possible to assess the impact of the consolidation proposal as the relocation of the ESTH inpatient services to Sutton Hospital has not yet been implemented.

4 Mitigations and enhancement actions

This section of the IA considers the mitigations and enhancement actions required for any negative impacts that warrant intervention. The IA will show the required mitigations or enhancements as actions for the following:

- Travel and access
- Health inequality within deprived areas
- Physical accessibility

4.1 Travel and access

Since the proposal does not indirectly significantly negatively impact a protected group and as additional travel will be infrequent, there is no need for any major mitigation measures. Due to the additional travel time and slight cost increase for some patients, it is important that patient transport services are consistently offered for inpatient renal care. In line with the Mott MacDonald Report,²² for those travelling longer and on more complex journeys, patients should be provided with clear information on transport options based around the patient's home/postcode, with advertisements on how to book a large vehicle for shared visits to hospital and details on long car park stays.

However, as shown in section 3.4.5 of the IA, people with mental illnesses and learning difficulties could suffer from anxiety and confusion regarding the change to colocation to St George's Hospital. Therefore, St George's Hospital should, in line with the recommendations in the Mott MacDonald Report:²³

- Use patient communication such as leaflets and working with carers to help patients with mental illnesses and learning difficulties adjust to the change.
- Consider familiarisation sessions for people with learning difficulties through visits to the renal facilities prior to needing care to familiarise patients with the surroundings; and
- Provide pathway staff at entrance of the new renal facility who can meet and support those with a learning disability in navigating the facility.

4.2 Health and inequality within deprived areas

The IA shows that people within deprived areas of the geographical area are having their inpatient renal services being moved slightly further away. The analysis of travel data shows that people in the lowest quintiles are not disproportionately impacted compared to those in higher quintiles. This is because, the impact is less than the average for the most deprived communities with an impact of 6.5 minutes on average for those in the lowest IMD quintile.

As mentioned in Section 4.1, care needs to be taken in regards to patients that suffer from mental illnesses or learning difficulties as mental illness rates are high within patients with CKD and are more likely to live in deprived areas.

4.3 Physical accessibility

Although an impact assessment could not be done for the accessibility of the proposed facilities at St George's Hospital, stakeholders did raise the need for adequate parking and other facilities at the site to cater for protected characteristics by ensuring that:

- **Pregnancy, maternity and the elderly:** adjacent services provided by St George's Hospital are accessible.
- **Gender reassignment:** thought and provision is made for patients that are going through or have gone through gender reassignment by providing adequate facilities such as single bays.
- **Disability:** there are parking bays/drop off points for persons of reduced mobility and that the infrastructure is adequate for disabled people to navigate around.

These factors need to be taken into consideration when designing the requirements of the new infrastructure and facilities at St George's to ensure that any protected characteristic is not negatively impacted. It is also suggested that a parking review is required as parking is always perceived as a problem in London, with both on-site and off-site parking options needing to be investigated.

²² Improving Healthcare Together 2020–2030 Final Integrated Impact Assessment, Mott MacDonald, 1 June 2020 p 131

²³ *Ibid* p 130

4.3.1 Recommended actions

The following actions are recommended:

- **Action 1** – Communicate travel information to all affected patients for visitors and themselves if they do not elect patient transport services
- **Action 2** – Work with carers and use communication techniques to manage the change to affected patients with a mental illness and/or learning difficulty
- **Action 3** – Identify design requirements for the new renal facility and ensure it takes into consideration the needs of pregnant, older, and disabled people and has adequate parking facilities
- **Action 4** – Review the parking in and around St George's Hospital, including both on-and-off-site facilities

5 Next steps and recommendation

The next steps recommended are that the actions in Section 4.3.1 of the IA are taken into consideration by the Committees-in-Common.

Appendices

Appendix A Full table of journeys per IMD quintile per local authority

The table below shows, for each local authority (LA):

- The number of patients living in that LA whose journeys are affected
- The number of journeys originating in that LA that are affected
 - Total number of journeys originating in that LA that are affected
 - That number as a percentage of all journeys affected
 - A running total of percentages of journeys affected
- The number of journeys originating in each index of multiple deprivation (IMD) quintile in that LA

We can see that:

- People living in Croydon and Sutton will make almost 40% of affected journeys
- People living in the 13 most affected LAs (Croydon to Tandridge) will make almost 80% of all affected journeys
- People in lower IMD quintiles are disproportionately affected in Croydon only; in most LAs, there is no bias

Note that the number of patients and the number of journeys shown in this table will be slightly different from those shown elsewhere because of the availability of IMD data in the dataset.

Table 14: Patient journeys affected per IMD quintile per local authority (analysis of Mott MacDonald dataset)

Local authority	Pts	Journeys			Journeys per IMD quintile				
	Σ	Σ	%	Σ%	1	2	3	4	5
Croydon	541	2,646	21.9%	21.9%	664	775	567	339	301
Sutton	508	2,119	17.5%	39.4%	152	232	293	710	732
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Reigate and Banstead	169	654	5.4%	50.9%	9	96	134	165	250
Epsom and Ewell	120	523	4.3%	55.2%	0	59	5	128	331
Woking	94	472	3.9%	59.1%	3	39	98	109	223
Mole Valley	98	465	3.8%	63.0%	0	2	83	120	260
Crawley	101	434	3.6%	66.6%	3	175	149	43	64
Runnymede	76	381	3.1%	69.7%	0	41	87	141	112
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Waverley	92	375	3.1%	75.9%	0	13	68	107	187
Tandridge	80	355	2.9%	78.9%	0	72	80	153	50
Elmbridge	70	310	2.6%	81.4%	0	46	47	58	159
Kingston upon Thames	60	301	2.5%	83.9%	2	21	88	141	49
Rushmoor	65	299	2.5%	86.4%	20	72	42	62	103
Spelthorne	59	284	2.3%	88.7%	0	68	66	127	23
Surrey Heath	51	174	1.4%	90.2%	0	15	27	29	103
Hart	45	173	1.4%	91.6%	0	0	8	33	132
Horsham	36	169	1.4%	93.0%	0	2	67	12	88
Lambeth	16	135	1.1%	94.1%	5	14	67	49	0
Bracknell Forest	22	118	1.0%	95.1%	0	0	10	35	73
East Hampshire	33	102	0.8%	95.9%	0	0	11	52	39
Bromley	18	78	0.6%	96.6%	29	10	16	11	12
Wandsworth	13	50	0.4%	97.0%	7	15	3	23	2

Local authority	Pts	Journeys			Journeys per IMD quintile				
	Σ	Σ	%	Σ%	1	2	3	4	5
Mid Sussex	19	50	0.4%	97.4%	0	0	2	3	45
Hammersmith and Fulham	3	31	0.3%	97.6%	0	19	12	0	0
Windsor and Maidenhead	7	29	0.2%	97.9%	0	0	1	12	16
Richmond upon Thames	9	28	0.2%	98.1%	0	9	0	4	15
Hounslow	7	24	0.2%	98.3%	9	13	2	0	0
Wokingham	4	24	0.2%	98.5%	0	0	0	0	24
Three Rivers	3	15	0.1%	98.6%	0	0	0	2	13
Tonbridge and Malling	3	13	0.1%	98.7%	0	10	3	0	0
Barking and Dagenham	2	11	0.1%	98.8%	11	0	0	0	0
Harlow	1	11	0.1%	98.9%	0	0	0	8	3
Bexley	4	10	0.1%	99.0%	0	0	6	4	0
Sevenoaks	4	9	0.1%	99.1%	0	5	3	0	1
Welwyn Hatfield	1	9	0.1%	99.2%	0	0	9	0	0
Tower Hamlets	2	8	0.1%	99.2%	0	0	8	0	0
Wealden	1	7	0.1%	99.3%	0	0	7	0	0
Wiltshire	1	7	0.1%	99.3%	0	0	7	0	0
Chichester	4	7	0.1%	99.4%	0	0	1	0	6
Brighton and Hove	1	7	0.1%	99.5%	0	0	0	0	7
Lewisham	3	7	0.1%	99.5%	3	3	1	0	0
Hackney	1	6	0.0%	99.6%	6	0	0	0	0
Greenwich	1	6	0.0%	99.6%	0	2	0	4	0
Dudley	1	5	0.0%	99.7%	5	0	0	0	0
Swindon	1	5	0.0%	99.7%	0	0	0	5	0
Dacorum	2	5	0.0%	99.7%	0	0	0	0	5
Basingstoke and Deane	4	4	0.0%	99.8%	0	0	0	1	3
Lewes	1	4	0.0%	99.8%	0	1	0	0	3
Slough	2	3	0.0%	99.8%	0	1	0	2	0
South Somerset	1	3	0.0%	99.9%	0	0	3	0	0
Southampton	1	3	0.0%	99.9%	1	0	2	0	0
Kensington and Chelsea	1	2	0.0%	99.9%	0	0	2	0	0
Brent	1	1	0.0%	99.9%	1	0	0	0	0
Haringey	1	1	0.0%	99.9%	1	0	0	0	0
Worthing	1	1	0.0%	99.9%	1	0	0	0	0
Arun	1	1	0.0%	99.9%	0	0	1	0	0
Ashford	1	1	0.0%	99.9%	0	0	1	0	0
Ealing	1	1	0.0%	99.9%	0	0	1	0	0
Peterborough	1	1	0.0%	100.0%	0	0	1	0	0
Redbridge	1	1	0.0%	100.0%	0	0	1	0	0

Local authority	Pts	Journeys			Journeys per IMD quintile				
	Σ	Σ	%	Σ%	1	2	3	4	5
Broxbourne	1	1	0.0%	100.0%	0	0	0	1	0
East Dorset	1	1	0.0%	100.0%	0	0	0	1	0
Medway	1	1	0.0%	100.0%	0	0	0	1	0
New Forest	1	1	0.0%	100.0%	0	0	0	1	0
Stroud	1	1	0.0%	100.0%	0	0	0	0	1
Totals	2,750	12,106	100.0%	100.0%	961	2,053	2,244	2,980	3,868

Appendix B Full table of journey times per IMD quintile per local authority

Table 15 below shows, for each index of multiple deprivation quintile in each local authority (LA):

- The mean travel time to Sutton (TT0)
- The mean travel time to St George's (TT1)
- The mean change in travel time (Δ TT)

At the bottom of the table we also give:

- The mean figures for each IMD quintile across all local authorities
- The mean travel times to Sutton and St George's and the mean change in travel time for all journeys

We can see that:

- The mean change in journey time is 7.9 minutes
- People in Sutton will experience the greatest additional journey time, of 14.5–16.1 minutes

Note that the number of patients and the number of journeys shown in this table will be slightly different from those shown elsewhere because of the availability of IMD data in the dataset.

Table 15: Patient journey times per IMD quintile per local authority (analysis of Mott MacDonald dataset)

Local authority	Pts	Jnys	Mean TT0 (mins) per IMD quintile					Mean TT1 (mins) per IMD quintile					Mean Δ TT (mins) per IMD quintile				
	Σ	Σ	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Croydon	541	2,646	22.4	21.1	20.8	23.3	23.6	28.4	25.4	28.5	33.6	33.0	6.0	4.3	7.7	10.3	9.4
Sutton	508	2,119	9.3	4.9	9.1	7.8	9.5	24.5	20.5	25.2	22.3	24.7	15.2	15.5	16.1	14.5	15.2
Merton	177	744	15.6	7.3	11.0	10.0	13.3	16.0	15.4	14.0	16.0	15.4	0.4	8.1	3.0	5.9	2.1
Reigate and Banstead	169	654	28.8	23.5	32.3	28.3	24.3	42.3	37.4	45.9	41.9	38.0	13.5	13.9	13.6	13.6	13.7
Epsom and Ewell	120	523		18.2	19.3	19.9	16.9		30.3	28.7	31.6	27.4		12.1	9.4	11.8	10.5
Woking	94	472	40.7	43.6	40.0	39.7	41.3	43.7	46.6	43.0	42.7	44.3	3.0	3.0	3.0	3.0	3.0
Mole Valley	98	465		29.6	35.9	34.7	32.4		35.2	45.4	44.4	39.2		5.6	9.5	9.7	6.8
Crawley	101	434	46.9	45.8	45.3	43.6	43.1	60.4	59.3	58.8	57.1	56.6	13.5	13.5	13.5	13.5	13.5
Runnymede	76	381		42.7	42.2	40.5	41.1		45.7	45.2	43.4	44.1		3.0	3.0	3.0	3.0
Guildford	98	379	40.6	45.2	41.3	44.6	39.5	43.6	48.1	44.2	47.6	42.8	3.0	2.9	3.0	3.0	3.3
Waverley	92	375		46.3	48.1	53.1	51.1		49.3	51.0	56.0	54.2		3.0	3.0	2.9	3.1
Tandridge	80	355	36.3	36.7	31.6	34.1		49.8	51.1	46.1	48.0		13.5	14.3	14.6	13.9	

Local authority	Pts Σ	Jnys Σ	Mean TT0 (mins) per IMD quintile					Mean TT1 (mins) per IMD quintile					Mean ΔTT (mins) per IMD quintile				
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Elmbridge	70	310		33.7	31.1	30.8	30.1		36.7	34.2	33.9	33.2		3.0	3.0	3.0	3.0
Kingston upon Thames	60	301	23.3	20.5	21.2	21.5	21.1	24.7	23.2	24.4	23.0	23.8	1.4	2.7	3.2	1.5	2.7
Rushmoor	65	299	52.7	53.0	52.0	52.1	53.5	55.6	55.9	54.9	55.0	56.4	2.9	2.9	2.9	2.9	2.9
Spelthorne	59	284		41.5	41.3	40.8	39.0		44.4	44.3	43.8	42.0		3.0	3.0	3.0	3.0
Surrey Heath	51	174		52.0	53.5	50.5	52.1		54.9	56.4	53.4	55.0		2.9	2.9	2.9	2.9
Hart	45	173			54.0	60.0	56.7			56.9	62.9	59.6			2.9	2.9	2.9
Horsham	36	169		53.6	59.2	54.3	56.0		66.8	70.7	64.7	65.9		13.2	11.6	10.3	9.9
Lambeth	16	135	31.7	24.5	16.3	15.4		21.9	15.6	22.4	25.8		-9.8	-8.9	6.1	10.4	
Bracknell Forest	22	118			52.6	54.2	58.2			55.5	57.1	61.1			2.9	2.9	2.9
East Hampshire	33	102			61.0	58.7	57.2			63.9	61.6	60.1			2.9	2.9	2.9
Bromley	18	78	29.4	35.7	30.6	40.8	32.7	26.5	37.5	28.9	45.6	40.7	-2.8	1.8	-1.7	4.7	7.9
Wandsworth	13	50	30.2	35.7	20.7	25.5	26.4	20.0	21.5	11.0	16.2	11.1	-10.2	-14.2	-9.7	-9.3	-15.3
Mid Sussex	19	50			51.1	62.6	49.5			64.5	76.1	63.0			13.5	13.5	13.5
Hammersmith and Fulham	3	31		37.6	34.3				22.0	17.9				-15.7	-16.3		
Windsor and Maidenhead	7	29			46.3	42.6	50.0			49.2	45.5	52.9			3.0	3.0	2.9
Richmond upon Thames	9	28		33.5		37.3	34.8		32.1		37.1	29.7		-1.4		-0.2	-5.1
Hounslow	7	24	39.9	50.2	40.6			42.9	49.8	43.6			3.0	-0.4	3.0		
Wokingham	4	24					61.8					64.7					2.9
Three Rivers	3	15				65.0	68.2				67.9	71.1				2.9	2.9
Tonbridge and Malling	3	13		57.0	54.2				70.5	67.7				13.5	13.5		
Barking and Dagenham	2	11	69.0					66.7					-2.3				
Harlow	1	11				85.1	85.0				88.3	88.3				3.3	3.3
Bexley	4	10			57.4	64.3				54.7	60.0				-2.7	-4.3	
Sevenoaks	4	9		47.5	46.2		44.2		61.0	59.7		57.7		13.5	13.5		13.5
Welwyn Hatfield	1	9			86.0					85.0					-1.1		

Local authority	Pts	Jnys	Mean TT0 (mins) per IMD quintile					Mean TT1 (mins) per IMD quintile					Mean ΔTT (mins) per IMD quintile				
	Σ	Σ	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Tower Hamlets	2	8			71.5					61.7					-9.9		
Wealden	1	7			62.1					75.7					13.5		
Wiltshire	1	7			117.7					120.2					2.5		
Chichester	4	7			101.4		61.9			104.1		64.9			2.7		2.9
Brighton and Hove	1	7					60.5					74.0					13.5
Lewisham	3	7	54.1	37.8	41.7			44.3	37.0	31.9			-9.8	-0.8	-9.8		
Hackney	1	6	80.5					70.7					-9.9				
Greenwich	1	6		64.2		52.4			54.3		46.1			-9.9		-6.3	
Dudley	1	5	162.9					165.0						2.1			
Swindon	1	5				109.3					111.9					2.6	
Dacorum	2	5					68.2					71.0					2.9
Basingstoke and Deane	4	4				65.4	70.2				68.3	73.0				2.9	2.9
Lewes	1	4		83.0			65.0		96.6			78.5		13.6			13.5
Slough	2	3		60.3		51.9			63.2		54.8			2.9		2.9	
South Somerset	1	3			154.1					156.2					2.2		
Southampton	1	3	96.3		94.9			99.1		97.7			2.7		2.7		
Kensington and Chelsea	1	2			41.9					27.6					-14.3		
Brent	1	1	63.2					57.9					-5.3				
Haringey	1	1	74.5					69.1					-5.4				
Worthing	1	1	79.9					89.3					9.4				
Arun	1	1			83.0					92.4					9.4		
Ashford	1	1			81.8					95.3					13.6		
Ealing	1	1			58.8					53.5					-5.3		
Peterborough	1	1			144.9					143.2					-1.7		
Redbridge	1	1			75.1					70.9					-4.2		

Local authority	Pts	Jnys	Mean TT0 (mins) per IMD quintile					Mean TT1 (mins) per IMD quintile					Mean ΔTT (mins) per IMD quintile				
	Σ	Σ	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Broxbourne	1	1				88.4					90.3					1.9	
East Dorset	1	1				114.3					116.9					2.5	
Medway	1	1				67.3					78.2					10.9	
New Forest	1	1				120.7					123.1					2.4	
Stroud	1	1					153.7					155.9					2.2
Totals	2,750	12,106															
Means per IMD quintile			24.1	25.3	30.1	27.4	30.6	30.6	32.4	38.2	36.1	38.5	6.5	7.1	8.0	8.7	7.9
Means for all journeys			Mean TT to Sutton = 28.3 minutes					Mean TT to St George's = 36.2 minutes					Mean change in TT = 7.9 minutes				

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