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Nuffield Trust assessment of North West London's proposed elective orthopaedic care centre against the first four of the Mayor's Tests

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Summary of proposal

The establishment of an Elective Orthopaedic Centre (EOC) at Central Middlesex Hospital, which will operate as a stand-alone 'high volume, low complexity' surgical hub, with a strict separation of elective from emergency care. Such a separation is recommended in the 'Getting it Right First Time' literature and national programme[1] and follows a widely-regarded example of good practice in South West London (SWL) (based at Epsom hospital). Such EOCs are viewed both cost and clinically effective (allowing more standardisation to best practice, lower length of stay and more productive use of theatre time) with better outcomes for patients, primarily in the form of shorter waiting times (as theatre slots are not cancelled due to emergency demand surges) and lower rates of complications (due to fewer site infections – as theatres and wards are not shared with emergency patients who cannot always be screened for infections).

In the North West London (NWL) case, Central Middlesex has been selected as a preferred site for the centre because it does not have an emergency department at all, meaning the elective ring-fence will not be undermined. Further, Central Middlesex Hospital has unused physical capacity to open additional theatre slots and beds.

Under the proposed operating model, all NWL elective orthopaedic inpatients requiring 'high volume, low complexity' surgical procedures will receive their operation at the EOC in Central Middlesex. For comparison, there were approximately 4,200 such procedures carried out in NWL NHS hospitals in 2019, of which around 3,700 were carried out on NWL residents.[2] Those who have higher complexities (measured in terms of multi comorbidities) will continue to have their operations at their existing hospitals. Day case procedures, spinal surgery and hip and knee revisions (when an original joint replacement is replaced or revised for a second time) would also be out of scope for the EOC with procedures remaining at their current locations, where clinical teams will specialise in emergency care and higher complexity elective orthopaedics. Patients will continue to attend pre and post operative assessments and outpatient clinics at their current local hospitals (with an increased emphasis on virtual clinics) with consultants "following" their patients to the EOC to perform surgeries.

1 https://gettingitrightfirsttime.co.uk/

2 North West London Joint Health Overview & Scrutiny Committee meeting pack, 7 December 2022: shorturl.at/wGPQ3

Context

As of September 2022, the total NWL elective orthopaedic waiting list stood at just over 15,000 patients. The PCBC estimates that of these, just under 2,500 were waiting for elective orthopaedic surgeries that are within the scope of the proposed changes. At present, average waiting times from the decision to admit for surgery for elective orthopaedic patients at NWL hospitals ranges between 11 and 19 weeks for day case surgeries and 14 to 35 weeks for inpatient surgeries.

The PCBC envisages the establishment of the EOC will reduce waiting times by around 7 weeks for inpatients and by 8 weeks for day cases by October 2025.

Charts presented in the PCBC suggest that without the proposed changes, the ~2,500 NWL waiting list of in-scope patients will grow to around 7,500 by September 2030. With the changes, data modelled in the PCBC suggests the relevant waiting list will be eliminated in full by 2029. Although the precise activity projections for in-scope patients are not set out clearly in the PCBC, this radical reduction in the waiting list appears to be based on the establishment of the EOC leading to approximately 1,300 more elective orthopaedic inpatients being treated a year in NWL by 2024 than at 2019 levels.

The establishment of the EOC will involve CMH itself treating 3,250 more inpatient elective orthopaedic patients a year by 2024 than at 2019 activity levels,[3] of which figures presented in the PCBC suggest just under 2,900 would currently be expected to be treated at one of the other NWL hospitals, but would instead be transferred to the new EOC.

3 It would be useful if NWL could clarify activity projections (including the split between inpatient and day case procedures). The figures presented in the PCBC are at times confusing, particularly the activity figures and capacity options presented in figure 21.

Test 1: Health inequalities and prevention of ill health

Background	Commentary
Supplementary questions 1&2, do proposals: *1. Set out the health inequalities issues in their local population?* *2. Consider their impact on health inequalities in a systematic, documented way?* The PCBC sets out the population health challenges for NWL and describes musculoskeletal (MSK) disorders as one of the most common comorbidities amongst the most deprived quintile of the population, as defined by the national Index of Multiple Deprivation (IMD 2019) although this is not quantified or explored in any detail. The PCBC further notes the recent NHS England CORE20plus5 framework, which identifies the most deprived quintile as "the key target cohort for health interventions".	The PCBC appears to frame the proposed changes and the associated improvements in in-scope elective orthopaedic surgery as necessarily falling under the national "CORE20PLUS5" policy to focus on the "most deprived 20%" of the population, as it presents statistics showing disproportionate take up of such surgery in the most deprived group. By implication, this group would also be the main beneficiaries of improvements (including shorter waiting times and improved clinical outcomes) resulting from the reconfiguration.
The PCBC then goes on to state that in 2021, patients from "the most deprived quintile of the North West London population"[4] made up 37 percent of NWL patients undergoing orthopaedic procedures (and 39 per cent in 2019). Additional analysis presented in the PCBC further claims that while only around 2% of the NWL population live in neighbourhoods falling within the 10% most deprived nationally (under the Index of Multiple Deprivation) patients living in these neighbourhoods account for 6% of elective orthopaedic activity.	The statistics presented require some clarification. The 37-39% figure is derived from an analysis using Carstairs deprivation scores which are reliant on data from the 2011 census and are considered to be poorly suited to London as they use the lack of car ownership, and only male (rather than male and female) unemployment as markers of relative deprivation.[5] Indeed, based on 2019 population estimates, approximately 38% of the NWL population resides in neighbourhoods which the Carstairs measure would categorise as within the "most deprived 20% of England" – roughly proportionate to elective orthopaedic hospital episodes involving patients from the same neighbourhoods.[6] This provides an indication of the lack of suitability of the Carstairs measure to London and further suggests that elective orthopaedic activity in NWL is not disproportionately focused on the poorest fifth of the population, but is merely in line with a crude measure of population share.

4 In fact, the analysis does not focus on "the most deprived 20% of the NWL population", but rather on the neighbourhoods of NWL that fall within the 20% most deprived in England which ranges between 12% and 38% of NWL, depending on the measure of England-level deprivation used. We address this point further below, but correct the terminology here to avoid confusion.

5 See https://eprints.whiterose.ac.uk/86164/7/DeprivationHealth-Full-18-01-2015.pdf and https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4889779/ and http://s3-eu-west-1.amazonaws.com/statistics.digitalresources.jisc.ac.uk/dkan/files/Townsend_Deprivation_Scores/UK%20Townsend%20Deprivation%20Scores%20from%202011%20census%20data.pdf

6 Carstairs scores for Lower Super Output Areas in England were derived from: Wheeler, Benedict (2019). "Carstairs Index 2011 for Lower-layer Super Output Areas" [Data Collection]. Colchester, Essex: UK Data Archive. 10.5255/UKDA-SN-851497 https://reshare.ukdataservice.ac.uk/851497/

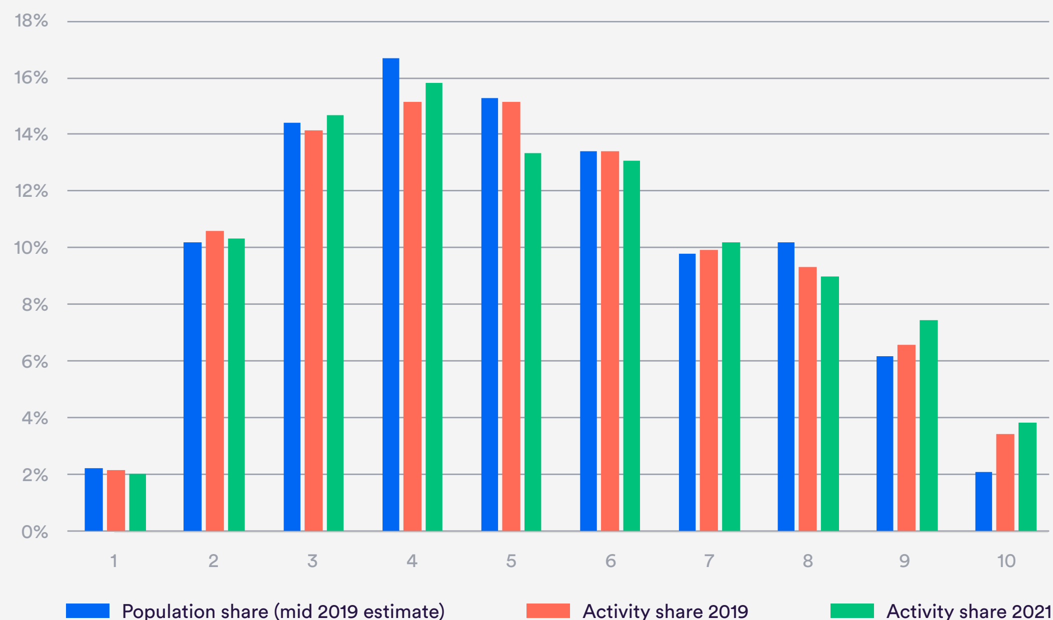
Background	Commentary
	As with the Carstairs analysis, the IMD analysis presented in the PCBC suggests a significant "pro-deprivation" skew in elective orthopaedic activity in NWL, which would be remarkable if correct, as nationally, patients living in the most deprived deciles are underrepresented in elective hospital admissions in general, and in particular for elective orthopaedic admissions[7]. However, The Nuffield Trust has been unable to replicate the findings by national IMD decile reported in the PCBC. Instead, The Nuffield's Trust analysis of elective orthopaedic activity involving patients resident in NWL postcode areas in 2019 and 2021 suggests activity rates were broadly in-line with crude population shares, with some indication of higher than expected activity rates for patients living in areas that fall within the two least deprived deciles nationally – which increased further in 2021 – and lower than expected rates in decile 4 (which falls within the second most deprived quintile nationally).[8]

7 For national figures on admitted patient care, see https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity. Elective orthopaedic specific rates for England were explored in unpublished background analysis by the Nuffield Trust and are indicative. A thorough analysis of inequalities in hospital care would need to take into account differences in need between population groups, including – but not limited to – those indicated by the age profile of individual neighbourhoods.

8 Chart Source: Hospital Episode Statistics; ONS mid-year population estimates for 2019; IMD 2019. Nuffield Trust analysis using elective spells for admitted patient care where treatment specialty is "110" (trauma & orthopaedics). IMD 2019 scores are at LSOA level for patient residence and activity is NWL commissioner-based (ie excludes patients treated in NWL hospitals but commissioned by non-NWL NHS commissioners). Population estimates for 2021 are not yet available at LSOA level. However there were only very minimal changes in national IMD decile population share between 2019 and 2020. Hospital Episode Statistics data (years 2018/19 to 2020/21) Copyright © (2021), NHS Digital. Re-used with the permission of NHS Digital. All rights reserved.

Background	Commentary

Figure 1: Proportion of elective trauma & orthopaedic spells in NWL, 2019 and 2021, by national IMD decile and population share (1 = most deprived)



Source: Hospital Episode Statistics; ONS mid-year population estimates for 2019; IMD 2019. Nuffield Trust analysis using elective spells for admitted patient care where treatment specialty is “110” (trauma & orthopaedics). IMD 2019 scores are at LSOA level for patient residence and activity is NWL commissioner-based (ie excludes patients treated in NWL hospitals but commissioned by non-NWL NHS commissioners). Population estimates for 2021 are not yet available at LSOA level. However there were only very minimal changes in national IMD decile population share between 2019 and 2020. Hospital Episode Statistics data (years 2018/19 to 2020/21) Copyright © (2021), NHS Digital. Re-used with the permission of NHS Digital. All rights reserved

Background	Commentary
	Activity rates for elective hip and knee procedures – which will form the bulk of activity affected by the NWL proposals – indicate a more pronounced and widening differences in activity shares relative to the share of the NWL population that falls into the most and least deprived deciles nationally in 2021.

Figure 2: Proportion of elective hip and knee procedures in NWL in 2019 and 2021 by national IMD decile and population share (1 = most deprived)

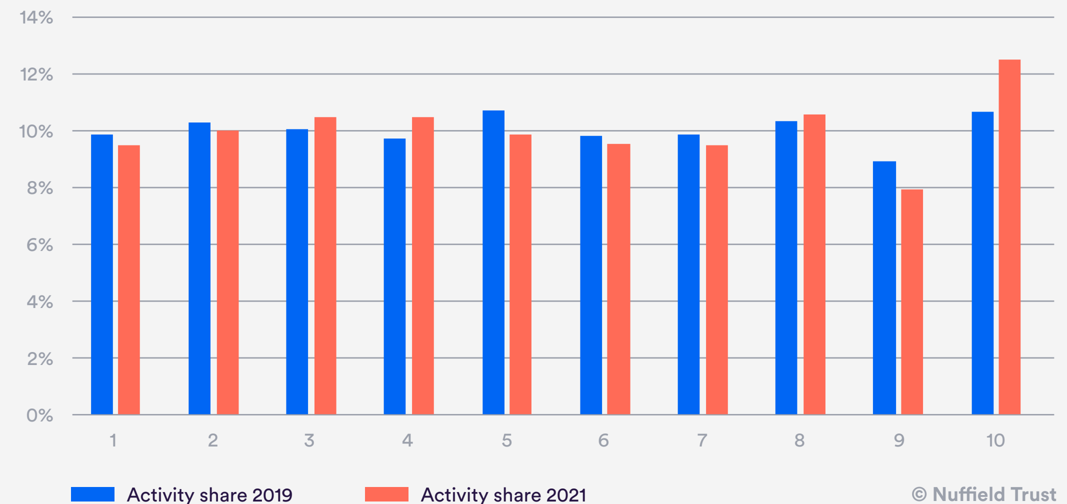
Source: Hospital Episode Statistics; ONS mid-year population estimates for 2019; IMD 2019. Nuffield Trust analysis using elective episodes for admitted patient care, with a procedure code W37 through to W42, which span hip and knee replacements including revisions. Hospital Episode Statistics data (years 2018/19 to 2020/21) Copyright © (2021), NHS Digital. Re-used with the permission of NHS Digital. All rights reserved.

Background	Commentary
	This analysis of crude activity rates is only indicative. A thorough analysis of potential inequalities in elective orthopaedic activity rates would need to account for the different age structures of each population decile (with the least deprived deciles having a higher proportion of over 65 year olds, for example, but also longer healthy life expectancies); higher levels of private healthcare use in the least deprived deciles; and significantly higher rates of clinical risk factors relevant to the need for elective orthopaedic surgery– including higher rates of obesity – in the more deprived deciles.[9] There is a tendency in the PCBC to refer to “the most deprived 20% of the NWL population” when actually what is being presented is the much smaller proportion of the NWL population that falls within the 20% most deprived neighbourhoods in England as a whole, which in NWL comprises just 12% of the population, when assessed against the IMD for 2019. While the CORE20PLUS5 policy instructs health systems to pay particular attention to the most deprived 20% nationally, a systematic exploration of health inequalities at an ICS level would also require an interrogation of healthcare access and outcomes relative to local social inequalities, in order to ascertain if a social gradient is present in healthcare. By way of illustration, the below presents NWL commissioned elective trauma and orthopaedic episodes by patient IMD scores, which have been ranked into deciles relative to NWL, rather than England as a whole. In this presentation, the expected share of activity for each group – all other factors being equal – would be 10%, if activity was in line with population share.

9 For more information on MSK risk factors by a variety of social and other variables, see Public Health England’s “Fingertips” resource https://fingertips.phe.org.uk/profile/msk

Background	Commentary

Figure 3: Trauma and orthoapedic elective episodes in NWL 2019 and 2021, by NWL-specific IMD deciles (1 = most deprived)



Source: Hospital Episode Statistics; ONS mid-year population estimates for 2019; IMD 2019. Nuffield Trust analysis using elective episodes for admitted patient care where treatment specialty is "110" (trauma & orthopaedics). IMD 2019 scores are at LSOA level with deciles ranked according to the NWL range. NB this analysis focuses on episodes of care under a named consultant, rather that spells in hospital. One spell may consist of multiple episodes. Hospital Episode Statistics data (years 2018/19 to 2020/21) Copyright © (2021), NHS Digital. Re-used with the permission of NHS Digital. All rights reserved.

Background	Commentary
	This analysis of crude activity rates suggests that the share of elective T&O activity consumed by patients living in the poorest 10% of NWL fell between 2019 and 2021 while the share consumed by the least deprived 10% in particular grew. This crude data would again need adjusting to take account of different age and underlying needs within each population decile before a fuller understanding of any inequities could be ascertained. The indicative nature of these crude activity rates notwithstanding, they do cast significant doubt on the claim in the PCBC that elective orthopaedic surgery in NWL is currently skewed towards the most deprived population group and the implication that benefits stemming from the proposals will similarly accrue disproportionately to that group. At best, the crude activity rates suggest activity shares are only broadly in line with population share. Given the higher MSK disease burden the PCBC highlights as present in the most deprived groups, it may be that an activity rate only proportionate to population share in those groups is indicative of unmet need. There is therefore a risk that the choice of deprivation indicator and analytical approach used in the PCBC has distorted both an understanding of current inequalities in access to elective orthopaedic surgery in NWL as well as of the likely distribution of benefits resulting from the proposed changes, which are intended to both reduce waiting times and improve clinical outcomes (for example through reduced surgical infections – a key benefit stemming from the separation of emergency and elective surgery). This potential distortion is a concern because it may mean opportunities to address existing inequities and to ensure a fairer distribution of benefits from the proposals (or from parallel initiatives) have not been fully explored. As the burden of MSK disease is disproportionately experienced in more deprived groups, changes to the MSK pathway that disproportionately benefit better off groups will, without mitigating action elsewhere, increase inequalities, including against the Mayor's key measure of Healthy Life Expectancy.[10]

10 For a discussion of the evidence linking the elimination of arthrosis (the key diagnosis associated with elective orthopaedic surgery) to tangible increases in Healthy Life Expectancy, see: Ritsuno, Y., Kawado, M., Morita, M. et al. "Impact of musculoskeletal disorders on healthy life expectancy in Japan", BMC Musculoskelet Disord 22, 661 (2021). https://doi.org/10.1186/s12891-021-04539-4

Background	Commentary
Supplementary questions 3&4, do proposals: *3. Ensure that services do not become less accessible to vulnerable groups?* *4. Ensure that unwarranted variations in outcomes do not worsen?* The proposed EOC will be for "high volume, low complexity" cases	An allied concern is that the proposed NWL EOC is conceived as a "high volume low complexity" hub which will not be co-located with emergency care facilities. As such, the PCBC is clear that patients with multiple comorbidities – particularly those with conditions that are poorly managed – and/or have ASA scores[11] of 3 or above – will be ineligible for treatment at the proposed EOC. A recent retrospective analysis of high volume low complexity (HVLC) surgical hubs in London found that before the pandemic, approximately 25% of elective orthopaedic patients were classified as ASA 3 or 4– indicating a level of complexity which would currently exclude patients from the scope of the proposed EOC at Central Middlesex[12]. By the time of the analysis (completed in 2021) the proportion had increased to around 35% although it is not yet known if this increase is temporary and due to patients being deconditioned through long waits, or if the marked increase is likely to be sustained, as part of a demographic shift. In either event, the proportion of patients ineligible for treatment at the EOC is likely to be substantial and more needs to be known about these patients, their relevant characteristics (including, but not limited to those protected under the 2010 Equality Act) their needs and the likely outcomes they can expect from their elective surgeries in NWL, including waiting times. As the incidence of multi-comorbidities increases significantly with deprivation (and also with old age)[13] it would be reasonable to expect that, all other factors being equal, the cohort of patients eligible to be treated at the EOC would likely be less deprived than those deemed ineligible. While the PCBC does acknowledge that patients ineligible for treatment at the EOC will be less likely to benefit directly from reduced waiting times, it claims they would still experience "equal" clinical outcomes compared to patients treated in EOCs. As the chief clinical benefit to treatment in a ring-fenced EOC is lower rates of complications such as surgical site infections due to the separation of elective and emergency care[14], it is unclear how this benefit will be secured by elective patients who continue to be treated in non-ringfenced theatres and wards.

11 ASA grades are the American Society of Anaesthesiologist's patient classification system, indicating level of complexity linked to the patient's condition and diagnoses, with 1 indicating low complexity. The ASA grading system is standardly used throughout the NHS. For more information, see Anaesthesia UK : ASA Physical Status Classification System (frca.co.uk)

12 "Equality and Health Inequalities Impact Assessment: High volume low complexity surgical hubs – Orthopaedics" – Health Innovation Network South London and Imperial College Health Partners, Dec 2021

13 See for example: "The influence of socioeconomic deprivation on multimorbidity at different ages: a cross-sectional study", McLean, G et al., British Journal of General Practice 2014; 64 (624): e440-e447. DOI: 10.3399/bjgp14X680545; and "Inequalities in incident and prevalent multimorbidity in England, 2004–19: a population-based, descriptive study", Head, A., et al, The Lancet, Vol 2 (8), 2021

14 https://gettingitrightfirsttime.co.uk/surgical_specialties/orthopaedic-surgery/

Background	Commentary
	It is relevant to note in this regard that while South West London's EOC is widely regarded as a successful "high volume low complexity hub", the aforementioned 2021 retrospective equity analysis found that in the first three months of 2021, South West London patients falling into the poorest national IMD quintile made up just 4% of elective orthopaedic patients treated in the area (with no patients coming from the poorest 10%). While it is not clear what population denominators are relevant to this unpublished study,[15] this is likely to represent a significantly lower than expected share of activity relevant to population size. More analysis is needed to establish the impact of HVLC hubs on equitable access to care, including the impact on patients with more complex needs who do not qualify for treatment in these centres. It is important to stress that an unequal distribution of the direct benefits resulting from the proposals are not in themselves a reason to reject or devalue them. However, where implicit trade-offs have been made between different patient and demographic groups (as well as between competing NHS priorities, such as health equity, waiting times, and limited resources) it would be useful to set these out, as doing so can help inform discussions and investment decisions about other related services, where there may be an opportunity to address or mitigate the imbalance in benefits and outcomes.
The PCBC flags risks to the stability of urgent and emergency care services at surrounding hospitals.	A risk that is particularly pertinent to the trade-offs entailed in competing NHS priorities and pressures is noted throughout the PCBC as the risk to urgent and emergency care services at "referring" hospitals, if staffing arrangements at the EOC lead to a depletion of available staff for emergency care. This is explored in more detail in the bed test below. However, as emergency care is disproportionately consumed by patients from the poorest quintile (while elective care is under-consumed by the same group) this operational and resource risk also poses a risk to healthcare equity. Nationally, in 2019, 24.4% of all emergency admissions were of patients living in the poorest quintile of the population, whereas only 16.1% were of patients living in the least deprived quintile.

15 The Nuffield Trust has been unable to verify the analytical approach used in this unpublished London-wide study, elements of which are reproduced in the NWL PCBC. In particularly, it is not clear which version of the IMD was used to assign London ICS populations to national deciles. However, under all likely possibilities it seems the most deprived two deciles were underrepresented in South West London's EOC activity. In IMD2010, roughly 1.3% and 6.2% of SWL's population fell into the two most deprived deciles, whereas in IMD 2019, this reduced to 0.7% for the most deprived decile and remained constant for the second most deprived decile.

Background	Commentary
Travel The PCBC assesses whether or not situating the proposed EOC at CMH might exacerbate healthcare access inequalities by making travel times for patients deemed particularly vulnerable to healthcare inequalities longer than the general population. The analysis shows that the CMH location will offer the shortest median travel time by car and the second shortest median travel time by public transport for all NWL residents, although all residents will need to travel through the ULEZ to access the site, incurring a charge if their vehicle is non-compliant. It is notable that the median travel times to CMH by both public and private transport are expected to be lowest from the poorest neighbourhoods.	While travel times under the preferred location (CMH) will be shortest for the poorest neighbourhoods, these are defined in the travel analysis within the PCBC as the "CORE20" group, which comprise (under IMD 2019) 12% of the NWL population. It is not clear what the impact will be on relative deprivation beyond this group – that is, on the further 8% of the NWL population who do not live in the most deprived neighbourhoods nationally, but who, together with the "CORE20" neighbourhoods, make up the most deprived 20% of NWL neighbourhoods. It is also unclear how the assessed future travel times differ from current travel times from the highlighted neighbourhoods, which may be an important factor to consider alongside an analysis of any current inequalities in elective orthopaedic surgery, as what is relevant to obstacles to accessing care is not just how one group's travel times (and costs) might differ from another's, but perhaps more importantly, the differing abilities of different groups to absorb or tolerate travel time and costs.[16] The PCBC notes that some patients travelling by car will need to pay the ULEZ charge (if their vehicles are non-compliant) as well as substantial car parking charges. Travel cost as well as time are factors which will need to be examined in more detail through the public consultation, paying particular attention to low income groups and groups who may struggle to travel longer distances – such as disabled people, older people and those who do not speak English and so may find it harder to navigate public transport. In order to explore how travel issues affect access inequalities (including how they affect patient decisions to seek elective care) it is vital that the consultation involve people who are not currently and have never been elective orthopaedic patients, as well as those who are already on the waiting list or who are receiving care.
Supplementary question 5, do proposals set out specific, measurable goals for narrowing health inequalities and mechanisms for achieving this, for example through credible plans to make services more accessible to vulnerable groups (and/or to) reduce unwarranted variation in outcomes?	Concerns about travel times have been flagged by local councillors. In particular, councillors sitting on Hammersmith and Fulham's Health and Adult Social Care Policy and Accountability Committee have raised concerns about transport, with some proposing that the ICS provides a dedicated transport service to alleviate potential inequalities. Councillors on the same committee have also raised concerns about the potential over-reliance of virtual clinics both in the proposed model and more generally since the Covid-19 pandemic as a potential source of inequalities and poorly coordinated care.[17]

16 For example, a low paid worker on a zero hour contract may find it significantly harder to spend two hours travelling and attending an outpatient appointment than a patient working in a salaried profession. Even if both were required to take unpaid time off work to attend the appointment, the relative hit of this income loss their household disposable incomes would likely differ very widely

17 LBHF, Health and Adult Social Care Policy and Accountability Committee Draft Minutes Wednesday 16 November 2022 http://democracy.lbhf.gov.uk/documents/g7304/Printed%20minutes%2016th-Nov-2022%2019.00%20Health%20and%20Adult%20Social%20Care%20Policy%20and%20Accountability%20Committ.pdf?T=1. Other scrutiny committee meetings were monitored over the course of The

Background	Commentary
The revised elective orthopaedic pathway will include investment in virtual outpatient clinics including "joint school" appointments to prepare patients for surgery. To address the digital divide, outpatient appointments will also be available face-to-face at their current local hospital.	Initiatives designed to widen access to outpatient clinics are likely to help reduce healthcare inequalities, for example if they lessen inequalities driven by low-wage or insecurely employed patients finding it harder to take time of work (or caring responsibilities) to access appointments (provided they are made available alongside face-to-face appointment options for the cohort of the population that experiences difficulties using or accessing technology). However research by the Institute of Fiscal Studies suggests that significant inequalities in follow-up outpatient activity persist, even when inequalities in working-time flexibility are controlled by focusing on retired patients. In a 2020 study, the IFS found that retired patients with the highest educational attainment level attended 17% more outpatient appointments than patients with the lowest educational attainment level, after adjusting for need[18]. This suggests that nationally there is a stark social gradient in patient abilities to seek and take up outpatient care, even after the impact of loss of earnings has been removed or limited. As Joint School is conceived as playing a key role in preparing patients for procedures ("pre-habilitation") this will be a key area for NWL to monitor to ensure equitable access to the entire surgical pathway. Due to the higher incidence of comorbidities in both the most deprived group as well as in the Black Caribbean group, well-resourced and readily accessible pre-habilitation care, through outpatient clinics and community services will be particularly significant to these groups, especially if they can improvement the management of comorbidities and thus lower patient ASA risk scores. More information on specific plans for this would be useful. One emerging form of good practice with regards to inequalities in access to outpatient appointments is the monitoring of "did not attends" by factors such as deprivation and ethnicity. This can provide insights into the accessibility of services for different groups as well as guide targeted and measurable action on addressing access inequalities.[19] It is notable that at present, none of the KPIs proposed for the proposed scheme relates to healthcare equity. The starting point to addressing this would be a more comprehensive analysis of existing rates of access to elective orthopaedic surgery, relative to need, to identify unwarranted gaps and establish appropriate means to close them and measures of progress in doing so.

18 Stoye, G., Zaranko, B., Shipley, M., McKee, M. and Brunner, E.J. (2020), "Educational Inequalities in Hospital Use Among Older Adults in England, 2004-2015" The Milbank Quarterly, 98: 1134-1170. https://doi.org/10.1111/1468-0009.12479

19 See for example https://www.england.nhs.uk/wp-content/uploads/2022/07/B1779-Actionable-Insights-Tackling-inequalities-in-healthcare-access-experience-and-outcomes-guidance-July-202.pdf

Bed test

Background	Commentary

Supplementary question 1: Do proposals maintain/increase current bed capacity?

The PCBC envisages a substantial increase in bed and theatre capacity at CMH, from 13 dedicated inpatient beds at 2019 levels to 41 by 2024. This will represent a marked increase in bed capacity available for elective orthopaedic patients in NWL, as beds at CMH will be ringfenced for this activity only, whereas current practice is for this capacity to be frequently absorbed in dealing with surges in emergency admissions, leading to elective care cancellations. Beds and theatre slots at other NWL hospitals "freed up" by the transfer of inpatient elective orthopaedic patients to CMH are expected to remain open but be made available for other forms of care (including emergency care and more complex elective orthopaedics). The productive use of these beds (and the staffing capacity which goes with them) will be a challenge and will be considered under the finance test.

Although the proposals do not include any reduction in bed or clinical capacity over all, they will involve a substantial shift in clinical resource from "referring" hospitals to CMH, to staff the new EOC. The PCBC estimates that in total, the EOC will require a staff of 351, including 243 nurses and 53 doctors. Some of these staff will transfer permanently to the CMH from other NWL trusts while others (particularly consultants) will "follow" their patients to CMH when they receive their inpatient procedure, but will continue working also at their current hospitals (where they will treat day case patients, run outpatient clinics and work

While dedicated clinical capacity for dealing with elective orthopaedic activity that is in-scope (that is, surgery for patients with an ASA score at or below 2 and who do not require spinal or revision procedures) is set to increase under the proposals, there is substantial uncertainty about clinical capacity for related and co-dependent services, including trauma and paediatric care; elective orthopaedic care for out-of-scope conditions and multi-morbid patients; and also for in-scope activity that will remain at patients' "local" hospitals (for example outpatient clinics and therapists).

At present, such activity makes use of beds and clinical capacity that the proposals will see strictly ringfenced and moved to CMH. This creates a risk and uncertainty for those co-dependent services and the PCBC is unclear how much clinical capacity will transfer to CMH and how much will remain and be available for continued use by the NWL healthcare system. Regardless of decisions over funding for the remaining capacity, the chief concern will be staff availability to maintain service safety and sustainability.

This uncertainty is flagged at several points throughout the PCBC which notes the risk that "residual services" at Chelsea and Westminster, Imperial and Hillingdon hospitals trusts may be "denuded" of relevant staff if the establishment of the EOC was to lead to a reduction of staff available to work at these "referring" hospital trusts. The concern was also been raised by Hammersmith and Fulham councillors.[20]

This risk is three-fold:

1. Recruitment into EOC posts might come at the cost of staffing levels in surrounding hospitals. The PCBC envisages that EOC recruitment will lead to additional staffing levels across NWL. However, this may prove overly optimistic for some staff groups.
2. For some staff groups at referring hospitals, there may not be sufficient elective orthopaedic patients left – or a sufficient case mix of activity left – to sustain local services and retain staff. The PCBC flags this risk in particular in relation to some allied health professional staff working with elective and emergency care patients at The Hillingdon Hospital;

20 LBHF, Health and Adult Social Care Policy and Accountability Committee Draft Minutes Wednesday 16 November 2022 http://democracy.lbhf.gov.uk/documents/g7304/Printed%20minutes%2016th-Nov-2022%2019.00%20Health%20and%20Adult%20Social%20Care%20Policy%20and%20Accountability%20Committ.pdf?T=1.

Background	Commentary
emergency care rotas). NWL is also clear that a substantial component will need to be additional staff, but flags that qualified and unqualified nursing posts are currently particularly hard to fill.	3. The provider collaborative is yet to complete its workforce modelling and baseline analysis of its current workforce establishment. This means the PCBC does not provide any detail on what proportion of time staff currently working at "referring hospitals" spend dealing with "in scope" activity that will be transferred to the EOC, and what proportion of their working time is spent on out-of-scope activity, including surges in emergency admissions. This information is vital to the safe and sustainable staffing of services – both in and out-of-scope. The PCBC states that this data collection is ongoing and will be used to monitor staffing levels at referring trusts. This is vital information that should be made transparent before any final decision is made on the proposals. Transparent metrics should also be developed so this risk can be monitored throughout any implementation of the EOC model. Until this work is completed and made transparent, it is unclear whether or not the proposals will lead to an over-all reduction in clinical capacity in NWL hospitals as there is a risk they will increase capacity for low complexity elective care at the price of reduced capacity or resilience for higher complexity care, urgent and emergency care and other related services.[21] For some staff groups – particularly consultants – staffing levels will be contingent on service ability to offer attractive job plans, including opportunities to develop through an appropriate mix of patients, and to undertake research. These issues will need to be explored further under test 5. Pay rates – in particular the difference between inner and outer London weighting - may also be a factor and this is explored in test 3 below. The proposals also flag the potential use of new clinical roles – including advanced clinical practitioners. These roles require careful planning and supervision to ensure safe practice[22] and there are currently uncertainties around the future regulatory framework for them. Successful introduction of the roles will require detailed consultation with the wider clinical team.

21 For a wider discussion, see "David Oliver: Could separating NHS "hot" and "cold" inpatient sites work?" BMJ 2021; 374 :n1814 doi:10.1136/bmj.n1814 https://www.bmj.com/content/374/bmj.n1814

22 https://www.hee.nhs.uk/sites/default/files/documents/multi-professionalframeworkforadvancedclinicalpracticeinengland.pdf

Background	Commentary
Supplementary question 2: Do any proposed bed closures meet at least one NHSE common sense condition The relevant NHSE test is for proposals to do one or more of the following[23]: A) Demonstrate that sufficient alternative provision, such as increased GP or community services, is being put in place alongside or ahead of bed closures, and that the new workforce will be there to deliver it; B) Show that specific new treatments or therapies, such as new anti-coagulation drugs used to treat strokes, will reduce specific categories of admissions; C) Where a hospital has been using beds less efficiently than the national average, that it has a credible plan to improve performance without affecting patient care (for example in line with the Getting it Right First Time programme).	The PCBC does not present explicit mitigations to bed closures as its base case is that staffing levels for non-transferred services will be maintained. However a potential mitigation would be increased efficiencies for in-scope activity, which would mean that activity could be carried out with relatively lower staffing requirements than at present (or that increased activity could be achieved on relatively static staffing levels). The PCBC indicates that activity and capacity modelling has been premised on a bed occupancy rate of 90% for the EOC and the achievement of an average length of stay of 2.3 days – upper quartile performance for the NHS as a whole. At present LNW Trust (which runs CMH) appears in the second and third quartile of England-wide performance for hip and knee replacement lengths of stay, whereas NWL's overall performance is 3.7 days for knee replacements and 3.4 days for hip replacements. This suggests that the EOC will need to see a marked decrease in NWL's average length of stay if it is to meet the assumptions within the activity and capacity modelling. Performance metrics for five established EOCs in England presented in the PCBC show a range of performance on length of stay, ranging from EOCs in South West London, Royal Cornwall and Lincoln all achieving upper quartile length of stays for hips and knees, but EOCs in Gloucester and Nottingham performing at below national average.
Supplementary question 3: Does revised bed modelling take full account of the latest demographic projections?	The PCBC states that activity growth assumptions have been based on the GLA's population projections to 2029. Correspondence from NWL ICS to the GLA further explains that these projections have been weighted in line with the age breakdown in NWL elective trauma and orthopaedic activity in 2019, which saw the largest shares of activity in patients aged between 55 and 79. This produces a projected increase in demand of around 19% by 2029.[24] NWL states that the proposed EOC will be able to cater for this level of demand increase in in-scope activity, with potential for activity levels to increase above this level if day case rates increase and the EOC were able to run theatres 7 days a week.[25]

23 https://www.england.nhs.uk/wp-content/uploads/2018/03/planning-assuring-delivering-service-change-v6-1.pdf

24 The PCBC uses the GLA's housing-led population projections https://data.london.gov.uk/dataset/housing-led-population-projections. The 19% weighted demand increase referenced here is based on Nuffield Trust's calculations, using age weights provided by NWL ICS and the GLA's population projections.

25 Personal communication NWL ICS to GLA, January 2023

Background	Commentary
Supplementary question 4: Have the proposals used the NHS bed capacity modelling tool?	It is not yet clear how capacity to deal with out-of-scope demand and activity will be affected by the changes, or how the trajectory of demand for such activity might differ (or not) from the trajectory of demand for in-scope activity. For context, NHS England's current target is that overall elective capacity increase to 130% of pre-pandemic levels by 2024-25 and to permanently sustain the level of emergency care capacity put in place over winter 2022/23 (the equivalent of 7,000 beds nationally).[26] By contrast, NWL's plans are for elective orthopaedic activity to increase to 110% of pre-pandemic levels by 2024 and for this to be partly achieved by strictly ringfencing clinical capacity that is currently used to deal with surges in demand for emergency care. It may be that other factors not made explicit in the PCBC mean that NWL faces a smaller challenge than the national challenge implied by NHS England. Alternatively, it may be that locally (as well as nationally) available staffing and financial resources are insufficient to meet national goals. More clarity on NWL's position on this would be useful.

26 https://www.england.nhs.uk/wp-content/uploads/2022/12/PRN00021-23-24-priorities-and-operational-planning-guidance-december-2022.pdf

Test 3: Financial investment and savings

Background	Commentary
Supplementary question 1: Have plans secured capital and revenue investment to deliver in full, and are the sources of funding credible? The PCBC future reports that the EOC can be established at the CMH with £9.4m in capital investment, which is fully funded in the local acute capital programme. By way of illustration of the capital cost relative to revenue returns, the PCBC anticipates annual revenue savings once the EOC is fully established in the region of £4m.	The preferred location of the EOC is Central Middlesex Hospital, which is ran by London North West University Healthcare NHS trust which includes the Brent Emergency Care and Diagnostic Centre (BECaD) which was completed in 2007 under a Private Finance Initiative scheme. Out of 10 existing NHS local sites considered for the scheme, only one other – Mount Vernon Hospital, situated on the outer northern edge of the ICS geography – fit with the clinical criteria required for the scheme; namely the ability to strictly separate elective and non elective patients. As Mount Vernon Hospital is currently unable to absorb additional patient volumes without significant disruption and investment, it was rejected as an option (the site was also viewed as posing more travel difficulties than others). By contrast, CMH has historically been underused, and despite the name, its BECaD does not undertake emergency care (with the exception of an Urgent Treatment Centre for minor injuries and illnesses) as the hospital's A&E was closed in 2014. Under the terms of the PFI contract, the Trust is currently paying in the region of £12m a year in charges, connected both to the borrowing and build costs, but also for ongoing services such as cleaning and facilities management. PFI contracts typically last in the region of 30 years and in CMH's case, charges are uplifted each year through reference to a price index linked to inflation.[27] The PCBC reports that bed occupancy at CMH is currently at only 50%. The establishment of an EOC at CHM therefore presents an opportunity for the NHS to better use assets it is already contractually committed to paying for over many years.
Supplementary question 2: Are plans to make efficiency savings sufficiently detailed and credible? The ~£4m annual savings are estimated using 2019/20 NHS reference costs (and patient-level costing data from individual trusts) which are uplifted	There are a number of material uncertainties in NHS funding and finance at present that are not unique to NWL but which make projections of future cost and income difficult. This includes an approximate 30% increase in elective care unit costs between 2019-20 and 2020-21 reflecting both the increased costs of the pandemic but also lower activity rates see since that time.[28]

27 LNW NHS Trust annual accounts, 2021-22 https://www.lnwh.nhs.uk/download.cfm?doc=docm93jijm4n9889

28 Nuffield Trust analysis of NHS National Cost Collection data 2020-21, https://www.england.nhs.uk/publication/2020-21-national-cost-collection-data-publication/

Background	Commentary
to current prices to give a "no change" total cost of relevant orthopaedic care in NWL of £33m. Modelling for the PCBC anticipates that efficiencies gained through the establishment of the EOC – including moving to upper quartile performance on length of stay – will reduce the total cost to £29.6m, with savings to be distributed between the four trusts.	The figures used in the PCBC model do not use these higher actual unit costs, but instead uplift 2019-20 costs by around 3%. Actual costs and savings in year one and two of the EOC will depend on how fast each trust and hospital site is able to reduce its cost base down to pre-pandemic levels. Planning guidance for 2023-24 has stated that the contract default for elective care activity for the next two years is that it will be funded on a unit cost basis, with reference to the national tariff[29]. Funding on a unit cost basis may provide some stability for elective care providers, but may also expose the commissioning budget to pressures should activity growth outstrip funding growth. As the elective orthopaedic case mix will substantially change at referring hospitals in particularly, this could also expose those trusts to financial pressures – for example if national tariff prices do not reflect the average cost of units of that activity – bearing in mind that patients remaining at referring hospitals are likely to be of a higher complexity and with longer than average length of stays. The provider collaborative will need to grapple with these issues and develop sufficiently flexible mechanisms for ensuring that unforeseen changes in the distribution of costs and savings, as well as unavoidable higher costs where they occur, are appropriately covered. A more significant overall risk is the £17m of worth of elective orthopaedic activity that is proposed to move from Imperial College Healthcare Trust, The Hillingdon Hospitals Foundation Trust and Chelsea and Westminster Hospital Foundation Trust to the EOC ran by LNW NHS Trust. Although the PCBC models anticipates that activity can be performed at a lower cost at the EOC, realising those potential savings ICS-wide will be dependent on the three "referring" trusts being able to either export the full cost of those patients out of their own cost bases when the activity is moved (which would typically involve transferring staff) or productively re-use it for other forms of patient care. Their ability to do this represents the largest financial risk in the plans and is acknowledged in the PCBC. In the current funding context in particularly, it is important to note that re-purposed hospital capacity will not only need to be actively employed in patient care, but will need to be done so in a way that is fully funded. By way of understanding the relative significance of this ~£17m cost to the NWL health economy, it is the equivalent of just under 0.5% of the Integrated Care Board's recurrent resource allocation for 2022-23, at a time when core ICB funding allocations are flat in real terms.

29 https://www.england.nhs.uk/wp-content/uploads/2022/12/PRN00021-23-24-priorities-and-operational-planning-guidance-december-2022.pdf and https://www.england.nhs.uk/wp-content/uploads/2022/12/23-25NHSPS-Consultation-A-Policy-proposals.pdf

Background	Commentary
The PCBC outlines a number of financial risks which the plans face if assumptions about staff pay rates, use of agency staff, and clinical efficiencies prove overly optimistic	The total downside risk modelled is for costs to be £7.9m higher than anticipated, which exceeds the total £4m modelled savings in the base case. However the PCBC states that the ICS is confident that not all these risks would materialise, or that where they to, they would be significantly less extensive in value. The following risks are briefly set out in the PCBC: Staff pay and London weighting: the modelled savings assume that staff working at the EOC are paid the outer London weighting, as is currently the case for all LNW Trust staff. However, as some of these staff will transfer from NWL trusts that currently attract the inner London pay weighting, it is possible that the EOC will only be able to recruit and retain staff if it pays at the inner London weighting rate also. If this were the case, the PCBC states that ICS-wide costs would be in the region of £0.8m higher. There is a further risk referenced in the bed test above that higher pay rates paid at the EOC might undermine recruitment and retention at other "outer London" hospitals, including other, non EOC services ran by LNW Trust. Use of agency staff: The PCBC anticipates a 14% workforce gap at the EOC, of which 10% would be filled using bank staff and 4% using agency staff. It models a maximum risk of £2.8m higher costs if all of the vacancies were alternatively filled with agency staff, which are more costly than bank staff. Length of stay reductions: The PCBC assumes an average length of stay at the EOC of 2.3 bed days. The PCBC anticipates that for every 0.2 days excess above the average length of stay target, the EOC will face additional ward staff costs of £0.2m, up to £1.3m higher than planned costs if average length of stay at the EOC is 3.5 days. Theatre utilisation: If theatre utilisation rates do not meet GIRFT case-per-theatre session standards, the PCBC models higher costs of up to £2m, representing the cost of "waiting list initiatives" such as overtime theatre sessions. However the PCBC states there is a high confidence of meeting GIRFT theatre productivity standards due to the relatively low-complexity of patients who will be treated at the EOC.

Test 4: Social care impact

Background	Commentary
The PCBC does not set out how the proposals will affect adult social care services, either operationally or financially.	This is a gap in the plans that needs to be filled. At a minimum, plans need to consider: 1. Current discharge destinations of elective orthopaedic patients treated at the four hospital trusts and differences between the HVLC cohort and more complex patients; 2. Current adult social care capacity (including reablement and home equipment services) within NWL boroughs and gaps within this; 3. How the plans to substantially increase elective orthopaedic activity and change the location of surgery will increase and change the profile of demand for post-operative adult social care services in the area; 4. How demographic changes (including the aging population but also increased longevity in people with life-long disabilities) will also change the shape of demand for adult social care and elective orthopaedic surgery; 5. How existing and future modelled shortfalls in social care support can be addressed; 6. What the optimal integration of adult social care into the elective orthopaedic pathway (including pre-operating care and "pre-habilitation") looks like and what is needed to achieve this; 7. A down-side scenario whereby gaps in social care support are not filled, modelling the impact this will have on both the EOC and elective orthopaedic activity and the other hospitals (for example delayed transfers of care impacting on ability to undertake elective activity and increased inequalities if more complex patients are unable to access pre-operative support and pre-habilitation) Further, the plans envisage a substantial shift in patients from multiple NWL hospitals to CMH for their operations. This is likely to require CMH to develop relationships with significantly more adult social care departments and providers than it has at present. It is not clear if the workforce model for the EOC includes the capacity to do this.

Background	Commentary
The Equalities Impact Assessment notes research finding that single and widowed patients are more likely than those living with a potential carer to be discharged from orthopaedic surgery into long-term residential nursing care, rather than into their own home. Such patients also experience longer lengths of stay	This point is noted in the Equalities Impact Assessment as it is viewed as potentially relevant to the protected characteristics of "marriage and civil partnership", with the assessment proposing that experience against marital status be monitored as the plans are implemented. However the point requires more direct consideration in the care pathway as it highlights the centrality of social care and support for optimal post operative recovery.[30] This is especially the case for female patients who are more likely to be widowed and/or without adequate unpaid carer support at home and who make up the larger proportion of elective orthopaedic patients.

30 In addition to the recent 2020 research on orthopaedic trauma surgery cited in the PCBC, see also, on elective orthopaedic surgery: de Pablo P, L. E, et al "Determinants of discharge destination following elective total hip replacement", Arthritis Rheum. 2004 Dec 15;51(6):1009-17. doi: 10.1002/art.20818. PMID: 15593323. https://onlinelibrary.wiley.com/doi/epdf/10.1002/art.20818

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