Matt handover note

# Variations analysis

### File location: [Variations Analysis](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis?csf=1&web=1&e=lqpStr)

* The 2018/19 based version of the tool has a subfolder: [Benchmarking tool 1819 model base](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201819%20model%20base?csf=1&web=1&e=rTBDyp). This has all the early iterations of the benchmarking tool within it.
* The 2019/20 based version of the tool has a subfolder: [Benchmarking tool 1920 model base](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base?csf=1&web=1&e=2xAuod). This is where the current version of the benchmarking tool lives.
* The current version of the benchmarking tool is here: [20230321 - Specialised need variation benchmarking tool v1.01.xlsm](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/20230321%20-%20Specialised%20need%20variation%20benchmarking%20tool%20v1.01.xlsm?d=w3405e983140647e99e724a01ac0750ea&csf=1&web=1&e=b5yTH5). Note that, because of the autosave feature in SharePoint (and the ability to find version history), I don’t tend to create new versions very often.
* There is a version without links to other documents and with calculation and data sheets hidden here: [20230321 - Specialised need variation benchmarking tool v1.01 - NO LINKS.xlsm](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/20230321%20-%20Specialised%20need%20variation%20benchmarking%20tool%20v1.01%20-%20NO%20LINKS.xlsm?d=wad1607a98e2e485ba7c551dea46b1fbe&csf=1&web=1&e=piXvH9). This is the version that I send to people for engagement/playing around. Note that this will need to be overwritten any time the main file is updated.

The main data sources for the benchmarking tool are: -

1. [20221117 - ICB level estimates of baseline expenditure - activity, drugs and devices - v3.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/20221117%20-%20ICB%20level%20estimates%20of%20baseline%20expenditure%20-%20activity,%20drugs%20and%20devices%20-%20v3.xlsx?d=w8e33808579b44ea9b1bb8d99db0e4c2e&csf=1&web=1&e=llY0ns) .This is the “actual” spend that we use to benchmark on unit costs etc. See section below for more detail about how this was produced.
2. [20221130 - Disaggregation - all services - 22\_23 PLCM based v0.02.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/20221130%20-%20Disaggregation%20-%20all%20services%20-%2022_23%20PLCM%20based%20v0.02.xlsx?d=w46d89a9c7614458082d871d7375bd7b1&csf=1&web=1&e=ysI3ex) This is the PLCM activity data that we use to assess access. See below for more detail on how this is calculated.
3. [2019\_20 Allocations models](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models?csf=1&web=1&e=F6xDkE) This subfolder contains the output from the various allocations models which are used in the variations analysis, namely
   1. [L13 - ICB\_Specialised\_NeedsValues.xls](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models/L13%20-%20ICB_Specialised_NeedsValues.xls?d=w6bf0aaaf9356438c89776edadfcfa5e5&csf=1&web=1&e=aJ0y9c). This is the overall physical health model values, provided in an email from Daniel on 04/11/22 ([RE\_ Updated estimated of weights for NCC and HIV.msg](https://nhsengland.sharepoint.com/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/RE_%20Updated%20estimated%20of%20weights%20for%20NCC%20and%20HIV.msg))
   2. [L13 - ICB\_Specialised\_NeedsValues\_Sd.xls](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models/L13%20-%20ICB_Specialised_NeedsValues_Sd.xls?d=w1160fd24bf3c4996b86adbaa967ccdc9&csf=1&web=1&e=uYb6oI). This is the age-, and sex- standardised version of the physical health model, which Daniel sent us on 24/11/22 ([FW\_ Standardised weighted populations and need indices.msg](https://nhsengland.sharepoint.com/:u:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/FW_%20Standardised%20weighted%20populations%20and%20need%20indices.msg?csf=1&web=1&e=NdJ60y))
   3. [ICB23CD\_201920\_specialised\_Wgts cardiac\_mod\_1920.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models/ICB23CD_201920_specialised_Wgts%20cardiac_mod_1920.xlsx?d=wa53aa3feb7764490b3b48a126601f7aa&csf=1&web=1&e=hoaU4g). This is the cardiac model outputs, shared by Daniel on 30/11/22 ([RE\_ Cardiac OLS model.msg](https://nhsengland.sharepoint.com/:u:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/RE_%20Cardiac%20OLS%20model.msg?csf=1&web=1&e=Ovi8Bi))
   4. [1920need\_index\_renal\_cancer.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models/1920need_index_renal_cancer.xlsx?d=w4f4ef915dd60415aab12cf9b4f7083a4&csf=1&web=1&e=xjZEeK) This is the renal and cancer outputs, shared by Sion on 6/12/22 ([renal and cancer need indeces.msg](https://nhsengland.sharepoint.com/:u:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/renal%20and%20cancer%20need%20indeces.msg?csf=1&web=1&e=v7x2Oz))
   5. [NCC\_Index\_Derivation\_v5.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models/NCC_Index_Derivation_v5.xlsx?d=w86861492f0d54b038ac68bfa23de1f09&csf=1&web=1&e=uUyP2G). This is the NCC output, shared by Ashley on 2/12/22 ([RE\_ Updated estimated of weights for NCC and HIV.msg](https://nhsengland.sharepoint.com/:u:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/RE_%20Updated%20estimated%20of%20weights%20for%20NCC%20and%20HIV.msg?csf=1&web=1&e=wbjrcr))
   6. [HIV\_Index\_ICB.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Allocations%20models/HIV_Index_ICB.xlsx?d=w2b905e59b84140269d27ae49fd4a9a00&csf=1&web=1&e=u5UuOO). This is the HIV index, shared by Ashley on 29/11/22 ([HIV material for the variations benchmarking tool.msg](https://nhsengland.sharepoint.com/:u:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/HIV%20material%20for%20the%20variations%20benchmarking%20tool.msg?csf=1&web=1&e=wPJOax))
4. [20221121 - Groups based on similarity of modelled need.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/2019_20%20Similarity%20of%20need%20benchmarking%20groups/20221121%20-%20Groups%20based%20on%20similarity%20of%20modelled%20need.xlsx?d=wddd948b88e30448986aa21b09eccd417&csf=1&web=1&e=nJNdKA) This is the calculation of the benchmarking groups (apart from the RightCare groups). It takes the modelled need indices from the outputs in the “2019\_20 Allocations models” folder. The groups are defined, for each ICB, as the five ICBs with the most similar value of modelled need.
5. [RightCare Docs](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/RightCare%20Docs?csf=1&web=1&e=ilr8o0) – This is the RightCare material that was sent to me by Bryn Shorney ([bryn.shorney@nhs.net](mailto:bryn.shorney@nhs.net)) on 08/11/22 ([FW\_ Similar Peer Files.msg](https://nhsengland.sharepoint.com/:u:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/Emails%20-%20Audit%20trail/FW_%20Similar%20Peer%20Files.msg?csf=1&web=1&e=zWIx9t)) and is from where we take the RightCare benchmarking peer groups.

To produce the PLCM activity estimates in this file, [20221130 - Disaggregation - all services - 22\_23 PLCM based v0.02.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/20221130%20-%20Disaggregation%20-%20all%20services%20-%2022_23%20PLCM%20based%20v0.02.xlsx?d=w46d89a9c7614458082d871d7375bd7b1&csf=1&web=1&e=ysI3ex), there are two bits of SQL script within the file. Firstly, in the tab “SQL\_variations\_tool\_breaks”, there are two blocks of SQL code. The code in columns A-C calculates a 12-month total of spend and activity for delegable specialised physical health services between October 21 and September 22. We were originally using this for the underlying activity but realised that ICB boundary changes were only applied to data in 22/23 financial year. To address this, the code in columns F-H generates the data for the first ~~9~~ 11 months of 22/23, which respects the current boundaries. We then adjust the data to uplift for the remaining ~~3~~ month. Note that this adjustment is only necessary until we can rerun the query for the whole of 22/23. The same applies to the SQL code in tab “SQL\_no\_serv\_line”, which we use to get the overall total patient numbers (note that patients can be double counted in the service line version of the data as they may receive treatment in more than one specialty during the year).

I recommend that the SQL is updated to pull through the whole of 22/23 once we know that the full year is available in the PLCM. **[DN – I may be able to do this if the PLCM is updated by the end of May] [DN 2 – I have now run the PLCM analysis on the whole year and saved it here** [**20221130 - Disaggregation - all services - 22\_23 PLCM based v0.03.xlsx**](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Specialised%20Allocations/3.%20Variations%20Analysis/Benchmarking%20tool%201920%20model%20base/20221130%20-%20Disaggregation%20-%20all%20services%20-%2022_23%20PLCM%20based%20v0.03.xlsx?d=web88115561f3472f9db2be3d4fa19a1f&csf=1&web=1&e=SvulZb) **and have also updated the figures in the tool. Note that the earlier version of the disaggregation file may be useful if you need to do updates when there isn’t a full year available.]**

## Benchmarking tool overview

Worksheets are colour-coded – dark green and dark red tabbed sheets are the output for users to look at. Orange tabbed sheets contain the calculations that underpin the tables and charts in the output based on user selections etc., blue tabbed sheets are reference data files and green tabbed sheets are the input files (from the models and PLCM data etc.)

|  |  |
| --- | --- |
| Tab | Description |
| Notes | Overview of the tool and key information for users – could do with expanding based on Q&A from engagement events etc. |
| ICB input | Selection of ICB of interest  Overview of key data; demographics etc.  Note that there is an info pop-up linked to the age chart which gives averages and older population % |
| Benchmark groups | Overview of the three main benchmarking groups for the selected ICB  VBA code to add/remove the different groups |
| Construction of need index | An overview of how the elements of the overall need index are put together. Note that you can get a different set of changes depending on the order in which you line up the different elements |
| Summary | Text based overview of the key statistics relating to the overall relative need index and underlying data |
| Distance from target | Charts of DfT by ICB. Smaller charts are subset of the main chart |
| Spend per head population | Chart of actual (22/23 baseline) and modelled spend per head of GP registered population. Figures have MFF stripped out to make comparable between regions. Spend is nominal based on 22/23 baseline (with glidepath adjustment for modelled spend). |
| Spend per head chart 1-4 | Hidden charts that contain more detail of the spend per head of population, broken down by service level for both actual and model |
| Spend per head of popn detail | Hidden chart that shows actual spend per head of population against averages for benchmark group. Note that check boxes allow to simplify chart by removing groups. |
| Spend per patient | Chart of actual spend per patient, based on 22/23 baseline and PLCM patient numbers. Need to remember that PLCM patient numbers are not adjusted for coverage issues between PLCM and baseline spend. |
| Spend per patient detail | Hidden chart that shows actual spend per patient against averages for benchmark group. Note that check boxes allow to simplify chart by removing groups. |
| Patients per head | Chart of actual number of unique patients treated (PLCM patient numbers) per 100,000 registered population |
| Patients per head detail | Hidden chart that shows unique patients per 100,000 registered population against averages for benchmark group. Note that check boxes allow to simplify chart by removing groups. |
| Spending & Access | Scatter plot showing patients per head against spend per patient. Isoquant lines show constant spend per head of population. Clicking on a point brings up info box about the ICB. Benchmarking group can be switched using the radial check boxes at the foot of the chart. |
| Comparison with core allocation | A simple table of figures showing spec comm physical health DfTs against core services DfTs. We convert to Distance from Fair Shares (to remove the national DfT and centre the figures on zero) for more understandable comparisons. We present minimal (based on cancer analysis by Rob Konstant-Hambling) and maximal (based on cancer plus analysis of neurosciences) estimates of how much of the DfT might be misclassified as spec comm when it might be more like core activity and vice versa. Note that this analysis is not very robust but is included to show that there is variation in the scope of services classified as specialised by ICB. |
| HIV overview | This sheet provides an overview of the HIV model and compares with actuals. Note that patient numbers for HIV are taken from Ashley’s analysis of HARS data, and not PLCM as for other services. |
| HIV spending & access | This is the same as the overall spending and access chart but restricted to HIV services |
| NCC overview | This sheet provides an overview of the NCC model and compares with actuals. PLCM provides the patient numbers and baseline exercise provides the spending. |
| NCC spending & access | As per HIV for NCC |
| Cancer overview | As per NCC but for cancer sub model |
| Cancer spending and access | As per NCC but for cancer sub model |
| Cardiac overview | As per NCC but for cardiac sub model |
| Cardiac spending and access | As per NCC but for cardiac sub model |
| Renal overview | As per NCC but for renal sub model |
| Renal spending and access | As per NCC but for renal sub model |
| Provider income | This tab summarises the baseline exercise data by provider. Note that we can only do this for the activity spend (excluding high-cost drugs and devices) as the HCDD baseline spending wasn’t coded to providers. |
| Provider income per patient | Overall provider income (excluding HCDD) per patient (patient numbers taken from the PLCM) |
| Prov income patient service | Provider income per patient broken down by broad service lines |
| Control | This is the first of the (orange) backing sheets. This sheet takes the selected ICB and provider and pulls through the relevant benchmarking groups etc. |
| ICB\_calculations | For the overall model, and for each of the sub models, this tab provides calculations of 2022/23 Baseline expenditure index, Relative need index, Distance from target, DfT – Core, and Age-standardised index as well as calculating various comparisons between these figures against national averages and benchmark group averages. There are also automatically produced text blocks that are used in the “summary” tab comparisons. |
| Distribution\_calculations | In this tab, various demographic calculations are made, e.g. age distributions etc. |
| Benchmark\_chart\_data | This is the backing sheet for the “Benchmark groups” tab. |
| Waterfall\_chart\_data | This is the backing sheet for the “Construction of need index” tab |
| Phys\_hlth\_charts\_data | This tab contains the data used in the “Distance from target” sheet. The smaller tables on the right pull out the various benchmark group sets from the full table on the left. |
| Service\_charts\_data | As with the above, this sheet contains all the DfT chart data for the various sub models. The data are listed first by model name (column A), then ordered by DfT from smallest to largest. |
| Expenditure\_charts\_data | This sheet pulls together the various baseline and model spend figures that are used in the patients per head, spend per head, spend per patient charts etc. |
| HIV\_spend\_charts\_data | Pulls out the HIV data from the Expenditure\_charts\_data for the HIV specific tab |
| NCC\_spend\_charts\_data | Pulls out the NCC data from the Expenditure\_charts\_data for the NCC specific tab |
| ACC\_spend\_charts\_data | Ashley’s work |
| Cancer\_spend\_charts\_data | Pulls out the cancer data from the Expenditure\_charts\_data for the cancer specific tab |
| Cardiac\_spend\_charts\_data | Pulls out the cardiac data from the Expenditure\_charts\_data for the cardiac specific tab |
| Renal\_spend\_charts\_data | Pulls out the renal data from the Expenditure\_charts\_data for the renal specific tab |
| Spend\_breaks | Calculates the spend per head, spend per patient, and patients per head for the selected ICB, and the various benchmarking groups and orders them appropriately for the breakdown charts |
| Provider\_calculations | Takes the selected provider and calculates a number of simple descriptive stats for the provider tabs |
| Provider\_charts\_data | Pulls together the data for the provider charts tabs |
| Lists | This is a reference tab for the dropdown menus |
| PlaceLookUp | All of the various provider and ICB codes and names for look up calculations |
| ICBBenchmarkingGroups | The lookup file for the various benchmarking groups |
| Pop22\_23 | The GP registered population for 22/23 by age, gender and ICB |
| Specialised\_MFF | The specialised MFF by ICB (based on the model) |
| IMD | Index of Multiple Deprivation by ICB |
| Rurality | ONS rurality measure by ICB |
| Glidepath\_envelope\_calcs | This takes the glidepath envelope (from the allocations team convergence) and pro-rates it across the various services |
| Disaggregation | This is a breakdown of all of the various measures of expenditure and activity by service and ICB |
| BaselineExpenditure | A summary of the baseline expenditure calculations by ICB and service |
| Model\_outputs | Pulls together all of the various model outputs (from allocations team, Sion and Ashley) into one place |
| Core\_allocations | A copy of the core allocations worksheet, with some additional summary calculations in the right hand columns |
| cancer\_31\_day\_waits\_1920 | Annual summary of cancer waiting times stats (2019/20) |
| ICB\_Prov\_physical\_health - Prov\_ICB\_patients | All of the “prov” charts are based on the PLCM and are different cross tabs of provider and commissioner activity %s |

To try to make things simple to follow, I have used defined names for cells/ranges of cells that are used in calculations. I haven’t listed them all here, but they can be viewed through the **formulas>name manager** button in Excel.

## FutureNHS page for sharing tool: [Specialised need variation benchmarking tool - Specialised Commissioning Incentives Workspace - FutureNHS Collaboration Platform](https://future.nhs.uk/CQUINimp/view?objectID=40173968)

Once we have agreed on the approach to convergence and published the allocations, we can post a (link-free) version of the benchmarking tool here to share it with colleagues in the NHS prior to engagement sessions.

# 2022/23 Baseline calculations

### File location: [Baseline reset documents](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents?csf=1&web=1&e=9i5qx2)

The underlying figures all came from Doug Siebert and Stuart Margiotta (see emails in this folder: [Email audit trail](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/Email%20audit%20trail?csf=1&web=1&e=lyD5lU)). There are three components to the baseline reset data.

1. The activity-based spend: -

[Copy of ICB 22.23 allocation baselines v0.5 (merge NHS non NHS).xlsb](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/Copy%20of%20ICB%2022.23%20allocation%20baselines%20%20v0.5%20(merge%20NHS%20%20non%20NHS).xlsb?d=wb4587a61529a4267923e661bd71281c1&csf=1&web=1&e=aJjXUG)

2. The drugs spend: -

[20221101 - High cost drugs - estimated allocation by service.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/20221101%20-%20High%20cost%20drugs%20-%20estimated%20allocation%20by%20service.xlsx?d=wee80692233964bdaa637851cfaf189f0&csf=1&web=1&e=kgVUle)

For which we did some specific analysis, with Alison Leung, to estimate the HIV drugs spend and then apportioned the remaining drug spend to service lines according to historic proportions (in Stuart’s 2019/20 contract monitoring data).

The calculations for HIV drug spend are in this folder: [Copy of CCG 2223 121022 - HIV v2.xlsb](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/Copy%20of%20CCG%202223%20121022%20-%20HIV%20v2.xlsb?d=w3e83c2a38a034f54866b2769107d26d6&csf=1&web=1&e=JDtSms). Alison identified the drug names that are associated with HIV treatment to create the HIV costs (with some further adjustments based on service line codes). We were not able to do this for all of the services that we are interested in, so we used historic proportions to allocate the non-HIV drug spend.

3. The devices spend: -

[20221013 - High Cost Devices reallocation for rebasing.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/20221013%20-%20High%20Cost%20Devices%20reallocation%20for%20rebasing.xlsx?d=wb1005079bfb44b0a88894efb4927f617&csf=1&web=1&e=Trn9i0)

For which we initially only had an England total figure, so we worked with Kate Turner to calculate an ICB-level apportionment using SUS data and unit costs from NHS Supply Chain. We then also used Stuart’s 2019/20 contract monitoring data to apportion to service lines.

The work on calculating the apportionment is all in the main file. The SUS code and data which were used to apportion to ICBs is in the spreadsheet, as well as the contract monitoring data which was used to apportion across services.

The other thing to remember is that the baseline reset data was collected/calculated on M1-6 (for activity based spend) and M1-4 (for drugs and devices spend) and then grossed up to an annual figure.

This file is where I bring together the activity spend, drugs and devices for the benchmarking tool: -

[20221117 - ICB level estimates of baseline expenditure - activity, drugs and devices - v3.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Baseline%20reset%20documents/20221117%20-%20ICB%20level%20estimates%20of%20baseline%20expenditure%20-%20activity,%20drugs%20and%20devices%20-%20v3.xlsx?d=w8e33808579b44ea9b1bb8d99db0e4c2e&csf=1&web=1&e=llY0ns)

There are a couple of final adjustment that we make to the total spend once we’ve aggregated to ICBs and service lines. Column Q of the tab “By Service” has some small final adjustments that were made late in the day at an ICB level. I simply apportion these to the service lines pro-rata (using activity spend to split).

Finally, the tab *“By Service - with ENIC adjustme”* reduces the spend on activity (excluding HCDD) by the value in cell E1 – this is to account for some changes to accounting for national insurance in the year, which are expected to reduce spending by 0.452% and which we use to stay aligned with the allocations team calculations.

# 2024/25 Convergence options

### File location: [Convergence in 2024\_25](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Convergence%20in%202024_25?csf=1&web=1&e=3IKa6c)

The initial work on the convergence options for specialised physical health services was done by Stephen Lorrimer ([stephen.lorrimer@nhs.net](mailto:stephen.lorrimer@nhs.net)) and team.

I then worked up an additional option which allowed a little bit more convergence growth for the ICBs that are below target at the expense of the most over-target ICBs having to converge further.

The details are set out in this slide pack:-

[20230221 Spec comm allocation options sl df (003).pptx](https://nhsengland.sharepoint.com/:p:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Convergence%20in%202024_25/20230221%20Spec%20comm%20allocation%20options%20sl%20df%20(003).pptx?d=w9ca4b12547104f7d8f016d0e3ea648fa&csf=1&web=1&e=4MeZGc).

The impact of the convergence option is calculated in this spreadsheet:-

[MATT VERSION 3 2324 2425 Spec Comm convergence v0.23.b (Glidepath and COVID quantum fix - alternate HCDD).xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Convergence%20in%202024_25/MATT%20VERSION%203%202324%202425%20Spec%20Comm%20convergence%20v0.23.b%20(Glidepath%20and%20COVID%20quantum%20fix%20-%20alternate%20HCDD).xlsx?d=w841fe8545f584c22bf062c5243f780b3&csf=1&web=1&e=2fuCHI)

Note that this is a AIF spreadsheet that I adjusted to develop the new option – Stephen and Sam Leat are the experts on the detail of the spreadsheet.

We then use the convergence growth for ICBs to estimate the impact on providers (using PLCM to obtain a provider-commissioner spend matrix). This calculation can be found here:-

[20230223 - 24\_25 Convergence growth impact on providers v0.01.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Convergence%20in%202024_25/20230223%20-%2024_25%20Convergence%20growth%20impact%20on%20providers%20v0.01.xlsx?d=wd7a1fc6fe37d46cb90142e61bc9548a2&csf=1&web=1&e=o7d5yU)

There is an overview of the impact of the convergence plan on ICBs and providers, alongside the 2023/24 financial plans in this file:-

[March Plan Financial Performance with convergence assessment.xlsx](https://nhsengland.sharepoint.com/:x:/r/sites/CFO/schjaf/fci/pi/ResLib/Population%20Benchmarking/Specialised%20Allocations/Convergence%20in%202024_25/March%20Plan%20Financial%20Performance%20with%20convergence%20assessment.xlsx?d=w48fee3e7b4194e378d8aef2a03c931d7&csf=1&web=1&e=CbAp5j)

# Undiagnosed need analysis

### File location: [4. Undiagnosed Need adjustment](https://nhsengland.sharepoint.com/:f:/r/sites/CFO/schjaf/fci/pi/ResLib/Specialised%20Allocations/4.%20Undiagnosed%20Need%20adjustment?csf=1&web=1&e=4SUAjd)

Most of the work on this recently was done by Ethel, who wrote a handover note when she left the team - [20221022 - Handover Document - Ethel.docx](https://nhsengland.sharepoint.com/:w:/r/sites/CFO/schjaf/fci/pi/ResLib/Specialised%20Allocations/3.%20Variations%20Analysis/20221022%20-%20Handover%20Document%20-%20Ethel.docx?d=w3ce86db911b3479e84ec8f8b5e1a2c1b&csf=1&web=1&e=4racAT). When Ethel left the team, we agreed that she would “owe” us a couple of days of handover/support when someone new picked up this work. This might be useful to bear in mind when revisiting this analysis.

We have been recently discussing the linked mortality approach with the NIHR-funded team at Liverpool. They were generally supportive of our approach, and we felt that it might provide a useful triangulation for their work.

The potential next steps for this work include:-

* Requesting more linked data from data services
  + Olga suggested that three years of data would allow more of the transition equations to be solved.
  + Ethel knows the process for requesting the linked data so would be well placed to help guide someone else in the team to do this.
* Further assessment of the relevant mortality rate to use to convert undiagnosed deaths to undiagnosed prevalence – currently we use the midpoint between diagnosed mortality rate and overall mortality from other conditions. The Liverpool team is using different assumptions for this, and it would be worth thinking through the options here. We also need to bear in mind that we have a different, and broader, definition of undiagnosed need than they do.

# CQUIN monitoring SUS queries

Anna has saved these somewhere in the CQUIN part of the collaboration drive. There were two main queries that I created; one to support the NVR CQUIN and one to support the NVR CQUIN. The files that I created have the SUS code in them so it should be straightforward to replicate the analysis in future quarters/years if needed.

# Annexe 1: VBA code in benchmarking tool

There is code behind the following worksheets: -

* Notes
  + Code to hide and unhide the backing sheets
* ICB input
  + Code to clear user-defined benchmark group
  + Code to select all other ICBs in the same region
  + Clear user-defined sections of other worksheets when no selection made
  + Clear user-defined group when selected ICB is changed
* Benchmark groups
  + Code to hide/unhide the different benchmark groups linked to buttons on chart
* Summary
  + Code linked to sheet buttons to hide/unhide rows with additional information
* Spend per head population
  + Code that is triggered when bars in the chart are clicked on (and then unhides the details sheet)
  + Code linked to the orange button to unhide the additional detail chart
* Spend per head chart 1; Spend per head chart 2; Spend per head chart 3; and Spend per head chart 4
  + All have code to hide tab and return to spend per head population tab when mouse clicks anywhere on page
* Spend per patient
  + Code that is triggered when bars in the chart are clicked on (and then unhides the details sheet)
* Spend per patient detail
  + Code to hide tab and return to spend per patient tab when mouse clicks anywhere on page
  + Code for each of the checkboxes to include/exclude the averages bars
* Patients per head
  + Code that is triggered when bars in the chart are clicked on (and then unhides the details sheet)
* Patients per head detail
  + Code to hide tab and return to patients per head tab when mouse clicks anywhere on page
  + Code for each of the checkboxes to include/exclude the averages bars
* Spending & Access
  + Code to show info when point is clicked on
* Comparison with core allocation
  + Code to highlight selected ICB row and benchmark ICB rows
* HIV spending & access
  + Code to show HIV info when point is clicked on
* NCC spending & access
  + Code to show NCC info when point is clicked on
* Cancer spending & access
  + Code to show cancer info when point is clicked on
* Cardiac spending & access
  + Code to show cardiac info when point is clicked on
* Renal spending & access
  + Code to show renal info when point is clicked on

There is also a lot of code linked to various buttons and click throughs in “Module 1” which can be found through the VBA editor.

Note that the option buttons on the spending and access tabs **do not** link to VBA macros, they are linked to cell values in the corresponding calculation sheets.

# Annex 2: Querying PLCM data in NCDR

The PLCM is held in three separate tables in the NCDR, all are within the **NHSE\_SLAM** repository.

* The activity-based data is here:- [NHSE\_SLAM].[DWS\_Reg].[tbl\_Data\_PLD]
* The high-cost drugs data is here:- [NHSE\_SLAM].[DWS\_Reg].[tbl\_Data\_Drugs]
* The high-cost devices data is here:- [NHSE\_SLAM].[DWS\_Reg].[tbl\_data\_devices]

To get the aggregate PLCM position that we use in the benchmarking tool, we need to aggregate the three datasets in a certain way to ensure that we don’t double count any patient IDs.

An example SUS query is set out below to illustrate how this can be done (**DN – there are probably other/better ways to structure this query**).

SELECT [A].[DER\_CCG\_Code], COUNT(DISTINCT [A].[DER\_Pseudo\_NHS\_Number]) AS patients, SUM([A].[activity\_cost]) AS activity\_cost, SUM([A].[devices\_cost]) AS devices\_cost, SUM([A].[drugs\_cost]) AS drugs\_cost, SUM([A].[total\_cost]) AS total\_cost

FROM

((SELECT [DER\_CCG\_Code], [DER\_Pseudo\_NHS\_Number], [CLN\_Total\_Cost] AS activity\_cost, NULL AS devices\_cost, NULL AS drugs\_cost, [CLN\_Total\_Cost] AS total\_cost

FROM [NHSE\_SLAM].[DWS\_Reg].[tbl\_Data\_PLD] AS PLD

WHERE DER\_Activity\_Year LIKE '%22/23%'

AND DER\_NHSE\_ServiceCategory LIKE '%21%'

AND DER\_Postcode\_LSOA\_Code LIKE 'E%'

AND DER\_CCG\_Code IS NOT NULL)

UNION ALL

(SELECT [DER\_CCG\_Code], [DER\_Pseudo\_NHS\_Number], NULL AS activity\_cost, [CLN\_Total\_Cost] AS devices\_cost, NULL AS drugs\_cost, [CLN\_Total\_Cost] AS total\_cost

FROM [NHSE\_SLAM].[DWS\_Reg].[tbl\_data\_devices] AS devices

WHERE DER\_Activity\_Year LIKE '%22/23%'

AND DER\_NHSE\_ServiceCategory LIKE '%21%'

AND DER\_Postcode\_LSOA\_Code LIKE 'E%'

AND DER\_CCG\_Code IS NOT NULL)

UNION ALL

(SELECT [DER\_CCG\_Code], [DER\_Pseudo\_NHS\_Number], NULL AS activity\_cost, NULL AS devices\_cost, [CLN\_Total\_Cost] AS drugs\_cost, [CLN\_Total\_Cost] AS total\_cost

FROM [NHSE\_SLAM].[DWS\_Reg].[tbl\_Data\_Drugs] AS drugs

WHERE DER\_Activity\_Year LIKE '%22/23%'

AND DER\_NHSE\_ServiceCategory LIKE '%21%'

AND DER\_Postcode\_LSOA\_Code LIKE 'E%'

AND DER\_CCG\_Code IS NOT NULL)

) AS A

GROUP BY [DER\_CCG\_Code]

ORDER BY [DER\_CCG\_Code]