Cyflwynwyd yr ymateb i ymgynghoriad y Pwyllgor Iechyd a Gofal Cymdeithasol ar ddyfodol meddygaeth deulu yng Nghymru

This response was submitted to the Health and Social Care Committee on the future of general practice in Wales

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Urgent Additional Information Relating to GMS Funding: 2026

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Executive Summary

Purpose

This paper presents new analysis of the Carr-Hill funding formula for General Medical Services (GMS) in Wales, informed by recently released practice-level index data obtained via Freedom of Information from NHS Shared Services. The findings highlight structural features within the formula that may unintentionally amplify funding variation between practices beyond what is supported by current evidence on workload or cost.

The intention of this work is not to replace Carr-Hill, but to support its ongoing review by identifying opportunities to improve stability, fairness, and alignment with real-world practice costs.

Key Findings

1. Funding variation is driven by a small number of multipliers
Analysis shows that three components — Rurality, Practice Additional Needs Index (PANI), and Age/Sex — account for most variation in funding allocations. Other indices (Nursing Home, Market Forces, and New Patient Registrations) have relatively narrow ranges and limited system-wide impact.

2. Multiplicative design amplifies differences
Because indices are multiplied rather than added, small negative adjustments compound. This can produce large differences in total funding between practices with otherwise similar workload profiles.

3. Fixed costs are not reflected within the current model
Carr-Hill assumes costs scale proportionally with weighted list size. In practice, a substantial proportion of expenditure — premises, core staffing, regulatory compliance, and IT infrastructure — is fixed or semi-fixed. When these costs are ignored, reductions in weighting disproportionately affect discretionary clinical capacity rather than overall efficiency.

4. Historic indices may no longer reflect present-day need
PANI values derive from survey data collected between 1998 and 2001, and Rurality multipliers are based on historic cost assumptions. Current variation appears wider than expected from contemporary evidence on deprivation or workload, suggesting that periodic recalibration may be warranted.

5. Application of DDRB uplifts through Carr-Hill may introduce unintended redistribution.
DDRB uplifts are intended to meet nationally mandated cost pressures. Applying them through Carr-Hill can result in uneven compensation for uniform pay and expense increases across practices.

Implications for Service Delivery

Where Carr-Hill indices fall below the mean, practices may experience a disproportionate reduction in discretionary clinical spend after fixed costs are met. Over time this may affect workforce capacity, access to appointments, and practice sustainability — particularly in urban and younger populations where Age/Sex and Rurality indices are lower.

The issue is therefore not solely one of funding distribution, but of system resilience and equitable access to primary care services.

Proposed Stabilisation Measures

The following proposals are offered to support ongoing Welsh Government and GPC Wales discussions:

- Introduce reasonable bounds or compression around high-variance indices to reduce extreme outliers while retaining the core Carr-Hill structure.
- Replace historic deprivation measures with a live index linked to WIMD data.
- Incorporate a fixed-cost element within weighting calculations to better reflect real expenditure patterns.
- Apply DDRB uplifts outside of Carr-Hill to ensure consistent protection against national cost pressures.
- Consider phased implementation with transitional protection to maintain stability across practices.

These changes are intended as stabilisation measures rather than redistribution, aiming to narrow structural variation while preserving the underlying principles of weighted funding.

Projected Outcomes

Modelling of a "Modified Carr-Hill" approach suggests that modest adjustments to index ranges and inclusion of fixed-cost assumptions significantly compress the distribution of practice weightings toward the national mean. This reduces extreme disparities while maintaining differentiation based on workload and need.

Conclusion

The release of detailed Carr-Hill index data provides an important opportunity to refine the funding model using contemporary evidence. The analysis presented here suggests that targeted adjustments — rather than wholesale reform — could improve fairness, reduce volatility, and support long-term sustainability of general practice in Wales.

The author would welcome further engagement with Welsh Government, Health Boards, and professional representatives to discuss these findings and support ongoing review work.

Generating the GMS allocation formula

The Carr-Hill funding allocation for GP practices is determined by multiplying six distinct indices:

$$\text{Total Funding} = \text{Age/Sex} \times \text{Rurality} \times \text{Practice Additional Needs Index (PANI)} \times \text{Nursing Home Patients} \times \text{New Patient Turnover} \times \text{Market Forces}$$

Each index acts as a multiplier on the overall funding envelope. This means that positive or negative factors compound, significantly influencing the final allocation. The impact of each index is driven by its variance around the baseline value of 1.0 — indices with a wider range exert a stronger effect on funding outcomes.

New information:

The table produced from the FOI request to NHS Shared Services demonstrates how the Carr-Hill formula works in practice. For each GP practice, six indices are multiplied together to determine the overall funding allocation. When the indices for all practices are multiplied, the combined result is normalized to 1.00, ensuring that the total allocation across all practices remains balanced. This structure highlights that the calculation is fundamentally multiplicative, not additive, and that each index directly influences the final funding outcome.

	Age/Sex	Rurality	PANI	New Registrations	Nursing Home	Market Forces	Carr Hill
Practice A	1.0	1.0	1.0	1.0	1.0	1.0	**1.0**
Practice B	0.99	0.95	0.95	0.99	0.99	0.99	**0.87**
Practice C	0.99	1.05	1.02	0.99	0.99	0.99	**1.03**
Practice D	1.02	1.02	1.03	1.01	1.03	1.01	**1.13**
Practice E	1.0	0.98	1.0	1.01	0.99	1.01	**0.98**
X	1.00	1.00	1.00	1.00	1.00	1.00	**1.0**

Working through examples:

Practice A – 10,000 patient practice @ 100% = Total funding of £1,341,500.

Practice B – 10,000 patient practice @ 87% = Total funding of £1,153,690.

Practice C – 10,000 patient practice @ 103% = Total funding of £1,381,745.

Practice D – 10,000 patient practice @ 113% = Total funding of £1,515,895.

Practice E – 10,000 patient practice @ 98% = Total funding of £1,314,670.

Practice B receives £362,205 less that Practice D per year.

Fixed Costs and Discretionary Clinical Spend

Carr-Hill assumes that all practice costs scale proportionally with workload. In other words, it treats cost as if they were variable and adjustable up and down in line with your weighted list. This assumption is the key problem.

These fixed costs do not fall when funding falls.

- Premises (rent, mortgage, rates, utilities, repairs)
- Core staffing (receptionists, practice managers, prescription clerks, nurses)
- IT systems, telephony, indemnity,
- Accountancy and legal costs
- Minimum safe staffing levels.

Whether you have 9500 or 7500 weighted patients these costs stay the same.

If you have a Carr Hill of 86% you can't fix 86% of a boiler, offer your Accountant 86% of their fee or fulfil 70% of regulatory obligations. The cuts must be made on what little flexibility you have. This is the discretionary clinical spending.

This would be on GP sessions, additional Nurses, Pharmacists, Paramedics or Physios. It could also translate into longer appointment times or training and development.

Estimates of fixed and non-compressible costs represent around 40% of expenditure in a GP Practice (excluding clinical staff costs).

This is a worked example of how discretionary clinical spend is squeezed from lower Carr Hill GP Practices.

	Practice A (1.0)	Practice B (0.86)	Practice C (1.03)
TOTAL FUNDING	100	86	103
FIXED COSTS	40	40	40
DISCRETIONARY CLINICAL SPEND	60	46	63

Practice C receives 20% more total funding than Practice B, shown by the calculation 86 x **1.2** = 103.

However, the difference in discretionary clinical spend is even greater. Practice C has 37% more than Practice B. This means that Practice C could offer 37% more discretionary clinical budget than Practice B: 46 x **1.37** = 63. This means that Practice C could offer 37% more GP appointments or clinical services compared to Practice B.

Key Concept: Compounding Multipliers

It is important to understand that percentage increases and decreases do not simply cancel each other out in a multiplicative formula. For example: 1.0 x 1.2 x 0.8 = 0.96. A 20% increase followed by a 20% decrease does not return you to the baseline of 1.0. Instead, the result is 0.96—a net decrease. Any multiplier below 1.0 disproportionately reduces funding, and these effects compound across indices.

Another way to look at it is to compare two practices that are slightly different from each other in all indices.

Practice 1: 0.98 x 0.98 x 0.98 x 0.98 x 0.98 x 0.98 = 0.88

Practice 2: 1.02 x 1.02 x 1.02 x 1.02 x 1.02 x 1.02 = 1.12

Very minor changes in these indices can produce large differences overall.

Key Information: Fixed Costs
The GMS contract suggests that 58% of expenditure is based on expenses. However, in the current context, this figure might be too high. A more realistic estimate is around 40%, which better reflects the proportion of fixed and non-compressible costs in GP practices.[1]

[1] Welsh Government (2023) *ANNEX B – Global Sum: Part 1 – The Global Sum Allocation Formula*. Available at: Global Sum Allocation Formula (PDF) (Accessed: 23 February 2026)

The New Information: Understanding Variation in Carr Hill Indices.

The recent data reveals how significant variations in certain indices can lead to wide differences in funding allocations across GP practices.

Nursing Home Index:

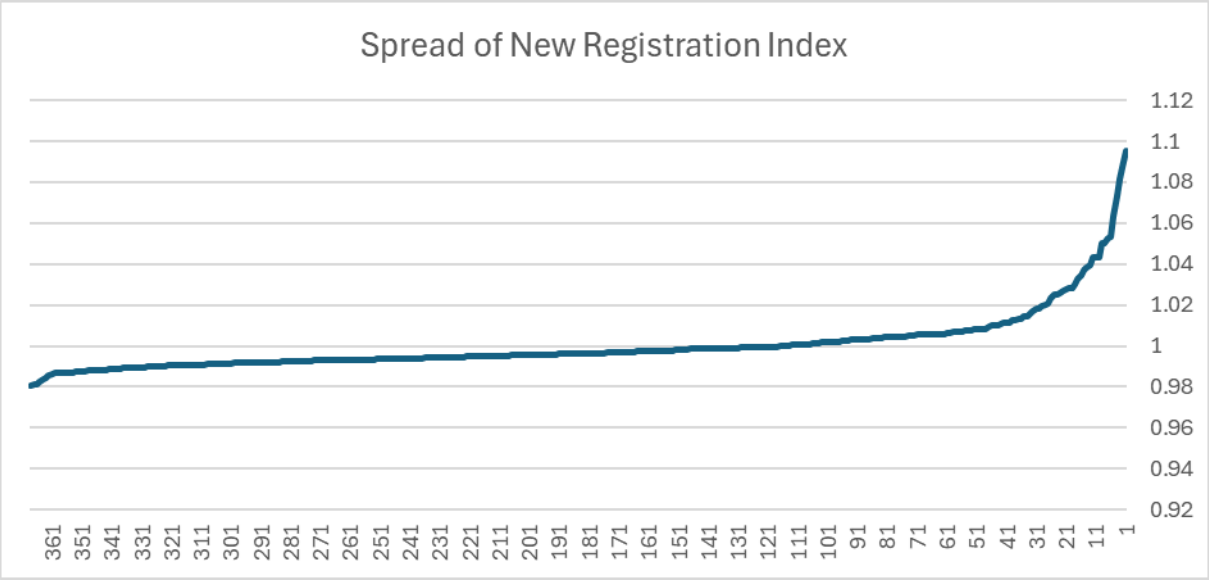
This ranges from **0.997-1.020**. For having a patient registered in a Nursing Home there is an uplift of ≈ 40%. This has a minimal impact on funding allocations throughout Wales.

Market Forces Index:

This ranges from **0.98-1.02.** This is meant to represent the costs of employing staff in certain areas. This has minimal impact on funding allocations in Wales.

New patient registrations Index:

This ranges from **0.98-1.07.** This has an impact on funding for a very small number of GP Practices. Only 20 practices in Wales have an index of 1.03 or greater. The spread is shown below. A newly registered patient gains an uplift of ≈ 40% for 12 months post registration.



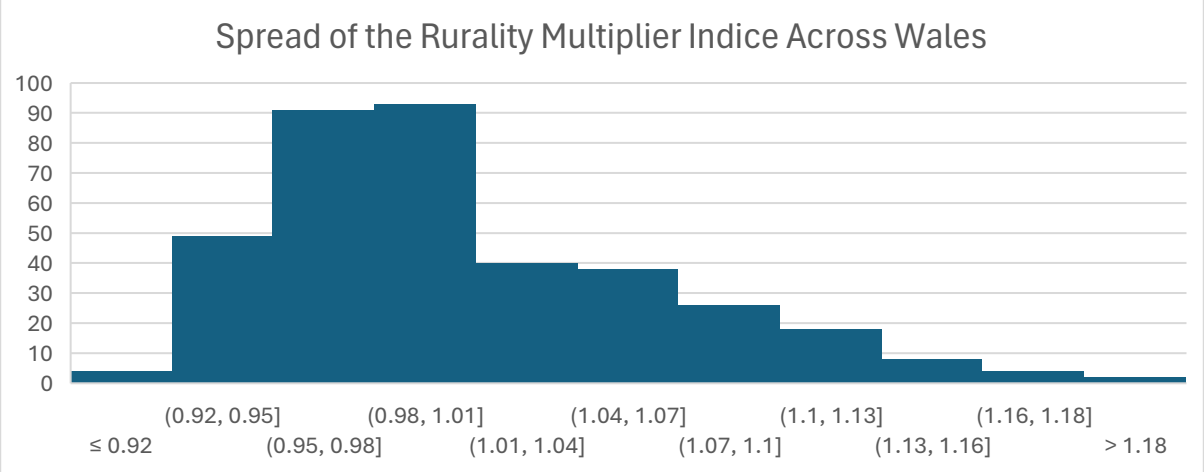
It is important to observe that the minimum value for the Nursing Home, Market Forces, and New Patient Registration indices is 0.98. This limited range means their influence on funding is relatively modest. In contrast, the next three indices—Rurality, Practice Additional Needs Index (PANI), and Age/Sex—have much wider ranges and exert a far greater impact on the overall funding allocation for GP practices.

Rurality: Impact on GP Funding:

Average patient distance from the main GP site (Rurality) is a key component of the Carr-Hill formula, with index values ranging from **0.89 to 1.19**. Originally, this multiplier was introduced to compensate for unavoidable costs faced by some GPs, based on data submitted to the Inland Revenue in 2001. It is also important to note that the Carr Hill Formula was designed for use in England. The population density of England is four times greater than Wales which may have led to inadvertent overpowering when the formula is applied in isolation to Wales.

There are several important observations about the rurality index:

- **Uncapped Multiplier:** The rurality index is not capped, making it as influential in determining funding as the Age/Sex index. Practices with higher rurality scores can see substantial increases in their funding allocation.
- **Urban vs. Rural Clustering:** Most urban practices cluster around a value of **0.95**, while rural practices can reach values of **1.05** or higher. For example, an average rural practice (1.05) receives an 11% increase in total funding and a 22% increase in discretionary clinical spend compared to an average urban practice (0.95), assuming all other indices are equal. In a 10,000-patient practice, this equates to an additional **£134,150 per year**.



These differences raise critical questions:

- Is the additional funding justified by actual differences in costs between urban and semi-rural practices?
- Should increase costs for smaller branch surgeries be addressed through a separate funding stream with greater oversight?
- If the concern is longer travelling times for home visits, should costs be capped at the equivalent of one full-time paramedic or a set number of GP sessions?

It is also important to note that the rurality index can unintentionally advantage practices that merge, as merged practices attract higher rurality multipliers due to patient registration at a single site. Moreover, the current system may inadvertently disadvantage deprived urban practices, as the positive rurality factor is often negatively correlated with deprivation.

Table 1: The 20 GP Practices with the Lowest Rurality Indices in Wales

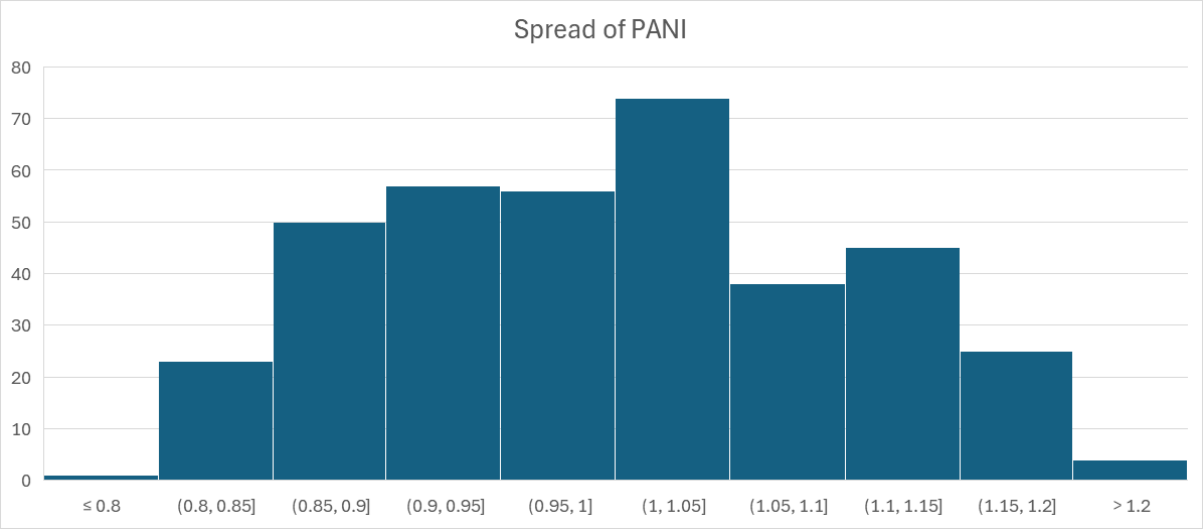
The following table lists the 20 practices with the lowest rurality indices, highlighting how some urban practices receive significantly less funding due to their location:

Name of GP Practice	Rurality
MEDDYGFA ALBANY SURGERY	0.897272962
City Surgery	0.907033
Cathays Surgery	0.917702333
KINGS ROAD SURGERY	0.92052981
THE CLIFTON SURGERY	0.921749478
MEDDYGFA CANNA SURGERY	0.924323543
Roath House Surgery	0.927731172
NORTH ROAD MEDICAL PRACTICE	0.929283647
ROATHWELL SURGERY	0.929935277
WHITCHURCH ROAD SURGERY	0.930184516
LLANDAFF NORTH MEDICAL CENTRE	0.930246505
LLANDAFF FIELDS MEDICAL PRACTICE	0.930423188
THE PENYLAN SURGERY	0.930960753
FAIRWATER HEALTH CENTRE	0.931388811
CRWYS MEDICAL CENTRE	0.932055842
THE RUGBY SURGERY	0.932117982
RICHMOND CLINIC	0.932137406
THE TAFF RIVERSIDE PRACTICE	0.933536648
ST JULIANS MEDICAL CENTRE	0.934218737
WESTFIELD MEDICAL CENTRE	0.934224741

Albany Road Surgery receives only 89% of the total contract value due to its urban location. Yet the actual difference in expenses between these urban practices may not exist. The formula, however, is designed to seek out differences in a normal distribution curve. This situation may suggest that the funding model is based on theoretical indices rather than real-world costs.

Practice Additional Needs Index:

The Practice Additional Needs Index (PANI) ranges from **0.79 to 1.26**. These values are based on self-reported health surveys conducted between 1998 and 2001, which resulted in each electoral ward being assigned a fixed score. As a consequence, two patients with identical health needs could receive different funding by living in different electoral wards—each carrying its own historic multiplier. This approach is clearly problematic, as it locks practices into outdated funding levels that may no longer reflect the true needs of their patient populations.



It's important to highlight just how wide the range of PANI values is. Multiple studies have consistently shown that consultation rates are absolutely higher in the most deprived areas compared to the least deprived—typically around 20% higher. Even the most generous interpretations suggest that a 30–40% uplift would be sufficient to cover the increased complexity and medical needs in these populations.[2] The current spread of PANI values, however, goes well beyond what the evidence supports, raising concerns about the fairness and accuracy of the formula.

	Practice X (0.79)	Practice Y (1.00)	Practice Z (1.26)
TOTAL FUNDING	79	100	126
FIXED COSTS	40	40	40
DISCRETIONARY CLINICAL SPEND	39	60	86

Practice Y (1.00) has 54% more discretionary clinical spend than Practice X.

Practice Z (1.26) has 121% more discretionary clinical spend than Practice X.

I can find no empirical evidence supporting more than a two-fold difference in discretionary service capacity between comparable populations once safe minimum staffing is met. Effects

[2] Mercer, S.W., Blane, D., Donaghy, E., Henderson, D., Lunan, C. and Sweeney, K. (2023) 'Health inequalities, multimorbidity and primary care in Scotland', *Future Healthcare Journal*, 10(3), pp. 219–225. doi:10.7861/fhj.2023-0069.

of that magnitude are more consistent with artefacts of historic funding formulas than with measured clinical need.

Table 2: The 20 GP Practices with the Lowest Practice Additional Needs Index in Wales

The PANI values form a classic bell curve, or normal distribution. However, this does not reflect the real-world evidence on deprivation and healthcare need. In reality, patients living in the bottom 20% of deprivation require significantly more access to GP services than those in the bottom 20-40%. Beyond this most deprived group, the need for GP access levels off and becomes much more similar across the remaining population.[3]

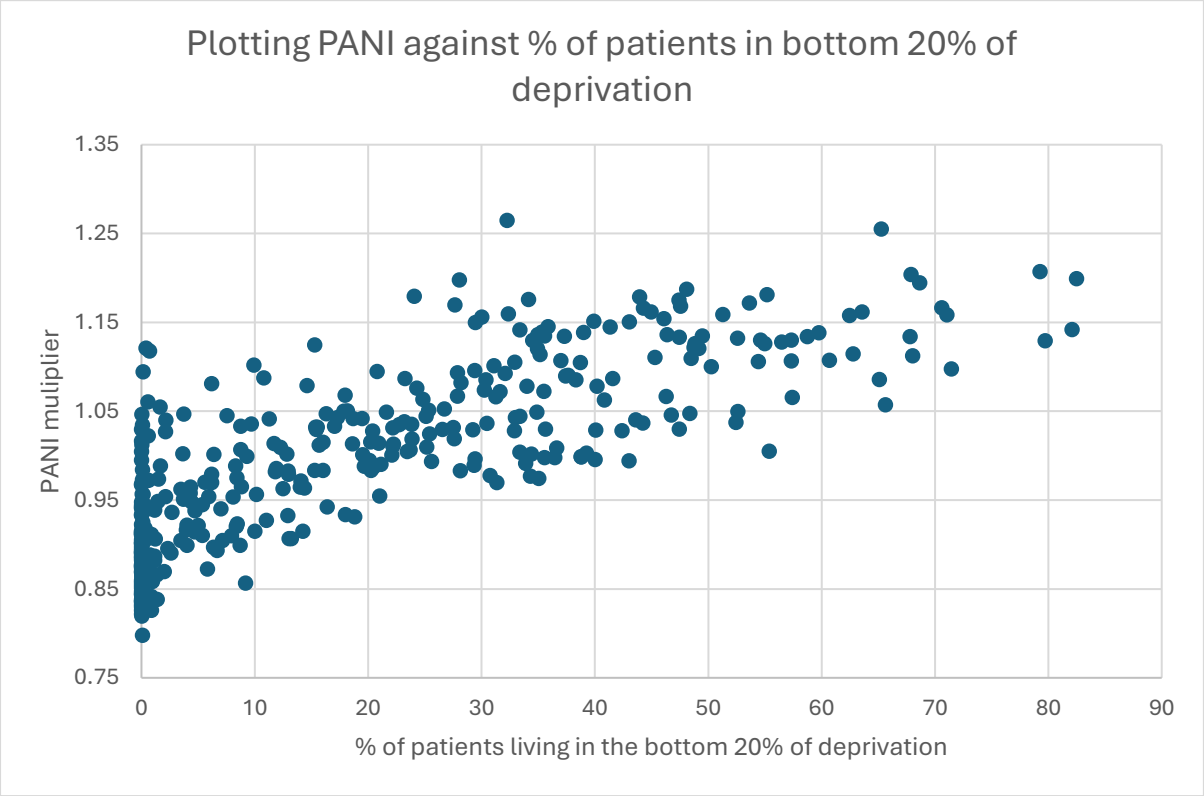
Name of GP Practice	PANI Multiplier
RADYR MEDICAL CENTRE	0.798018136
WYE VALLEY PRACTICE	0.819626037
PRESTEIGNE MEDICAL PRACTICE	0.82166835
BIRCHGROVE SURGERY	0.824677317
ST ISAN ROAD SURGERY	0.826099749
COWBRIDGE & VALE MEDICAL PRACTICE	0.826247179
Usk Surgery	0.829886129
WYLCWM STREET SURGERY	0.832536695
Hanmer Surgery	0.835474753
SCURLAGE SURGERY	0.835989605
MEDDYGFA BALA SURGERY	0.836129542
PLAS MEDDYG	0.837357662
Dixton Surgery	0.837895514
CAEREINION MEDICAL PRACTICE	0.838282889
THE CLINIC SURGERY	0.839256246
MOUNT PLEASANT PRACTICE	0.839772093
CYNCOED MEDICAL CENTRE	0.841576977
NORTH CARDIFF MEDICAL CENTRE	0.842572531
MARCHES MEDICAL PRACTICE	0.843788307
DEE VALLEY MEDICAL PRACTICE	0.843953435

While Radyr Medical Centre is located in a relatively affluent area, the extent to which it is defunded by the current formula may be disproportionate.

The funding allocation reflects outdated assumptions rather than real-world need, resulting in an unjustifiable reduction for this practice. This table highlights how the current PANI multipliers are disconnected from actual deprivation levels and no longer reflect real-life patient needs or the realities faced by these practices.

[3] Fisher, B., Loftus, L., Holdroyd, I. and Ford, J. (2024) *Fairer funding for general practice in England: what's the problem, why is it so hard to fix, and what should the government do?* Briefing. London: Nuffield Trust and Health Equity Evidence Centre. Available at: https://www.nuffieldtrust.org.uk/resource/fairer-funding-for-general-practice-in-england (Accessed: 23 February 2026).

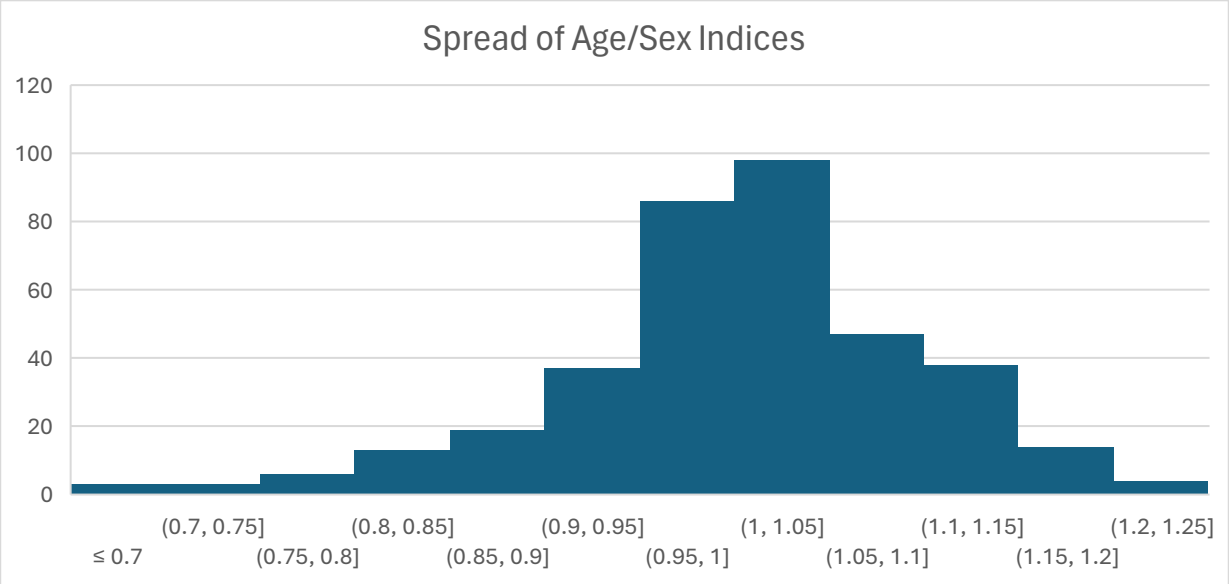
Name of GP Surgery	PANI Multiplier	% of patients who live in bottom 20% deprivation
Llan Healthcare	1.00	55.39
Greenmount Surgery	0.99	43.00
Brynderwen	0.99	42.03
Porthcawl Medical Centre	0.97	0.63
CANOLFAN IECHYD AMLWCH	1.01	0



I have created a graph that plots the Practice Additional Needs Index (PANI) against the proportion of patients living in the bottom 20% deprivation in Wales, using statistics published by Stats Wales. This visualisation demonstrates the variation in PANI values compared to current deprivation levels, revealing discrepancies that are outside any reasonable or acceptable range. These mismatches alone equate to differences of hundreds of thousands of pounds in funding between practices.

Age/Sex Index:

The Age/Sex index in the Carr-Hill formula ranges from **0.58 to 1.21** and is distributed in a bell curve with a slightly longer left-hand tail. This means most practices cluster around the average, but there are some with notably lower values.



Each practice's Carr-Hill index is determined by the average value of its patient population, calculated using a reference table.[4] For example, a GP practice with only three patients, all 80-year-old males, would have an average value of 5.81.

	0-4	5-14	15-44	45-64	65-74	75-84	85+
Male	3.97	1	1.02	2.15	4.19	5.81	6.27
Female	3.64	1.04	2.19	3.36	4.9	6.56	6.72

Upon reviewing the Age/Sex indices, it becomes clear that to achieve a Carr-Hill index of 1.00, a practice must have an average patient value of 2.75. The relationship between Age/Sex indices and average patient values is illustrated below:

Age/Sex Indices	Average Value of Patient
1.2	3.3
1.09	3.0
0.98	2.7
0.87	2.4
0.77	2.1

[4] Welsh Government (2023) *ANNEX B – Global Sum: Part 1 – The Global Sum Allocation Formula*. Available at: Global Sum Allocation Formula (PDF) (Accessed: 23 February 2026)

This demonstrates how the age and sex composition of a practice's patient list directly influences its funding allocation.

Examining the Age/Sex index closely, the difference in workload between a GP practice with an average patient Age/Sex value of 2.4 and one with a value of 3.0 is 25%. The corresponding Carr-Hill indices are 0.87 and 1.09, respectively, which translates to a 25% increase in the total funding envelope for the higher value practice. While this uplift appears plausible—unlike the more extreme variations seen with PANI and Rurality—it is important to note that the calculation fails to account for any fixed costs. This omission means that the formula does not fully reflect the financial realities faced by practices, potentially leading to funding disparities that do not align with actual service needs.

	Practice 1 (0.87)	Practice 2 (1.09)
TOTAL FUNDING	87	109
FIXED COSTS	40	40
DISCRETIONARY CLINICAL SPEND	47	69

In this example, Practice 1 (with a Carr-Hill index of 0.87) has £47 available for discretionary clinical spend, while Practice 2 (with an index of 1.09) has £69. This represents a 47% increase in discretionary spend, despite the calculated additional workload being only 25%. In other words, the increase in discretionary funding is almost double what would be expected based on workload alone.

Table 3: The 20 GP Practices with the Lowest Age/Sex Index in Wales

Name of GP Surgery	Age/Sex
UNIVERSITY HEALTH CENTRE	0.582821587
City Surgery	0.632239447
Cathays Surgery	0.688034422
BUTETOWN MEDICAL PRACTICE	0.719357668
MEDDYGFA ALBANY SURGERY	0.732021294
ST DAVIDS COURT SURGERY	0.749381026
FOUR ELMS MEDICAL CENTRE	0.770092832
CARDIFF BAY SURGERY	0.77856051
CAIA PARK SURGERY	0.788666149
ST PAULS CLINIC	0.788690979
CLARE ROAD MEDICAL CENTRE	0.789128145
MEDDYGFA PADARN SURGERY	0.799332917
WHITCHURCH ROAD SURGERY	0.80227843
Roath House Surgery	0.813710145
GRANGETOWN HEALTH CENTRE	0.814835779
NORTH ROAD MEDICAL PRACTICE	0.817893332
KINGS ROAD SURGERY	0.830153358
WILLOWBROOK SURGERY	0.831311786
THE RUGBY SURGERY	0.834191591
BODNANT	0.834643955

Analysis and potential solution:

While it has long been recognised that funding differences between GP practices are substantial, the newly available data reveals that the range of multipliers in the Carr-Hill formula is extreme. [5] The formula itself is almost functional, but its main flaw lies in the absence of checks, balances, and safety nets. There is a clear determination to fit GP practices into bell-curve distributions, creating artificial differences where none may exist.

Crucially, the evidence required to justify stripping a GP practice of funding should be stronger than that needed for positive reimbursement.

One major concern is that urban deprived practices are being underfunded. However, this issue is more nuanced than simply blaming an insufficient PANI; the range of this multiplier, like all others, is arguably too large. The effect is compounded by intrinsically negative rurality indices and a low Age/Sex component that fails to account for fixed costs, incorrectly amplifying the multiplication factor.

Based on the data, several practical reforms are recommended:

1. **Cap Rurality at a minimum of 0.98.**

   Rurality weightings could be recalibrated by compressing values closer to a mean of 1.00. The current spread may no longer fully reflect contemporary operating costs, and there is limited clear evidence that semi-rural practices experience substantially higher expenses than urban counterparts. While genuinely remote practices, particularly those maintaining smaller branch surgeries, are likely to require additional support, the present variation — for example, factors around 1.19 compared with 0.89 in some urban areas — may be disproportionate when considered against modern service delivery models. A moderated compression would retain a positive funding adjustment for rural practices but align weightings more closely with current expenses, while potentially allowing greater redistribution towards areas of deprivation.

2. **Cap the lower limit of PANI at 0.94 and upper limit at 1.25.**

   Capping the lower limit of PANI at 0.94 and the upper limit at 1.25 ensures that the absolute difference in contractual value—33%—and the difference in discretionary clinical spend—57%—aligns with what the evidence suggests is optimal between the most affluent and most deprived areas in the country. This approach avoids excessively low funding for any population and reflects the real-world variation in healthcare needs.

3. **Replace the PANI with a value linked to a live WIMD score.**

   Using a dynamic score eliminates the argument that outdated data is causing funding disparities. Consider the following uplifts:

[5] Jones, M. (2025) *A review of the Carr-Hill Formula in Wales*. Response to the Senedd Health and Social Care Committee consultation on the future of general practice in Wales. Available at: https://business.senedd.wales/documents/s162264/GP18%20-%20Dr%20Matthew%20Jones.pdf (Accessed: 23 February 2026).

Deprivation level	Multiplier
0-10%	1.20x
10-20%	1.15x
20-30%	1.08x
30-40%	1.04x

Below these levels, differences in funding requirements are less clear-cut, and GP access should remain unchanged.[6]

4. **Apply a fixed costs to the Age/Sex indices.**

   The question is not whether fixed costs should be included, but how much is reasonable—20%, 30%, 40%, or 50%. Incorporating fixed costs would dramatically dampen funding differences and better reflect the realities faced by practices. I think 40% is a reasonable figure to choose from my research.

These recommendations aim to create a fairer, more evidence-based funding model that avoids penalizing practices based on outdated or theoretical indices and ensures equitable access to GP services across Wales.

[6] Holdroyd, I., Dehn Lunn, A., Harasgama, S., Painter, H., Pearce, H., Torabi, P., Vodden, A., Wong, Y.-L. and Ford, J. (2024) *What works: Funding models to address health inequalities*. London: Health Equity Evidence Centre. Available at: https://www.heec.co.uk/wp-content/uploads/2024/12/What-works-Funding-models-to-address-health-inequalities.pdf (Accessed: 23 February 2026)

Projected Outcomes of Formula Adjustments: The "Modified Carr Hill" Formula.

The following modelling should be interpreted as exploratory and indicative rather than definitive, as it was undertaken without access to the full underlying contractual datasets or all relevant cost variables. Using modern AI-assisted workflows and Python-based data analysis, I modelled a series of approximate adjustments to illustrate potential impacts. Rurality values were capped at 0.98, and the PANI range was constrained between 0.94 and 1.25. For illustrative purposes, PANI was replaced with a proxy deprivation adjustment based on a live WIMD score for the most deprived 20% of practices, applying a 1.2× multiplier where detailed local statistics were unavailable. In addition, a simplified assumption of a 40% fixed-cost component was applied to the Age/Sex indices.

These assumptions are necessarily simplified and should not be interpreted as precise policy recommendations; rather, they provide a conceptual demonstration of how redistribution might operate under alternative weighting approaches. The resulting output — a list of the 25 practices most positively affected — highlights how targeted, data-informed reforms could potentially rebalance funding more towards deprivation, while acknowledging that full modelling with comprehensive datasets would be required before any real-world implementation.

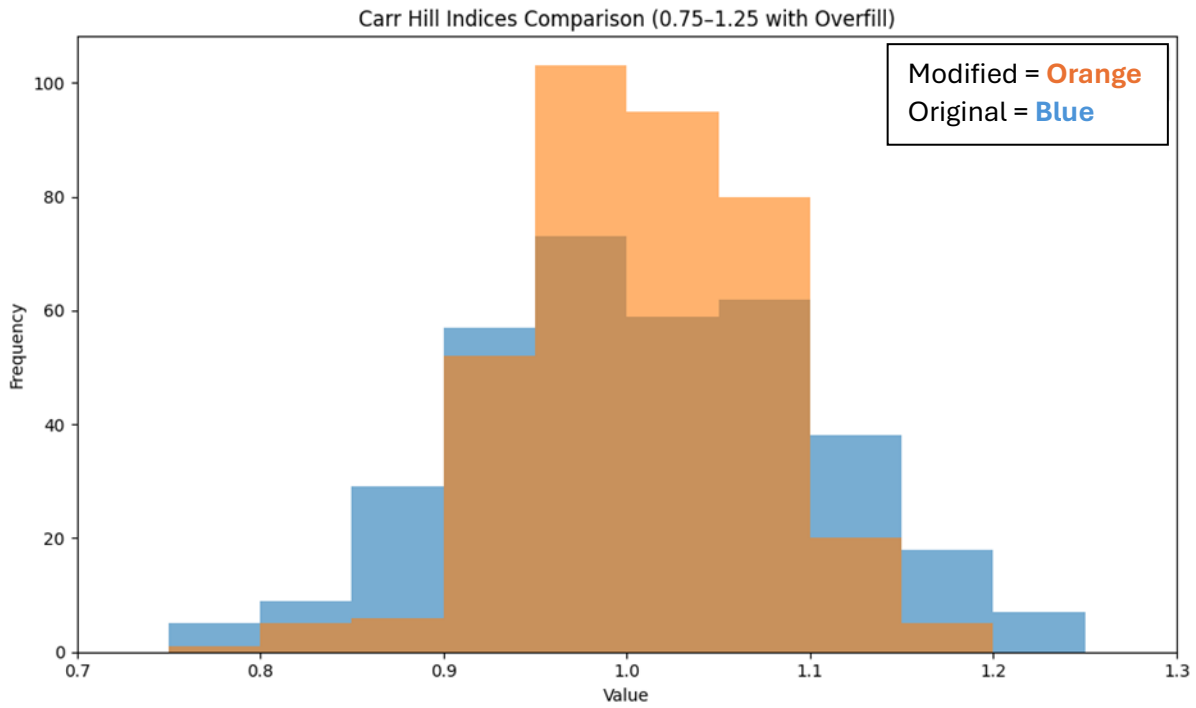
Table 4: The 25 GP Practices benefitting the most from additional safety modifications.

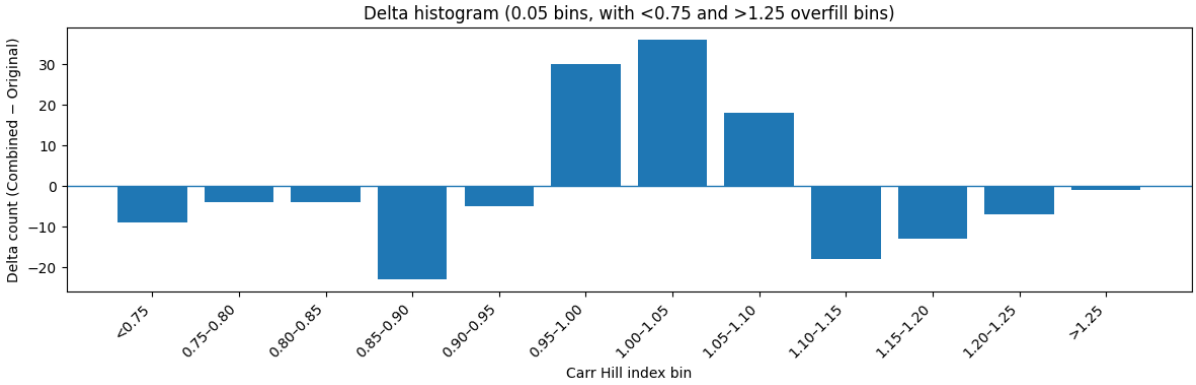
	Old Carr Hill	Modified Carr Hill	Difference
ST PAULS CLINIC	0.887552622	1.10392	0.21636
KINGS ROAD SURGERY	0.83022266	1.04097	0.21074
ST DAVIDS COURT SURGERY	0.781532882	0.97884	0.19731
CLARE ROAD MEDICAL CENTRE	0.880685603	1.06964	0.18896
City Surgery	0.657090996	0.84420	0.18711
THE RUGBY SURGERY	0.8493095	1.03348	0.18417
LLAN HEALTHCARE	0.8824757	1.06245	0.17998
Cathays Surgery	0.641976316	0.82058	0.17860
THE TAFF RIVERSIDE PRACTICE	0.954296065	1.13266	0.17836
UNIVERSITY HEALTH CENTRE	0.626106382	0.79884	0.17274
WOODLANDS SURGERY	0.97515929	1.14384	0.16869
ELY BRIDGE SURGERY	0.938620786	1.09896	0.16034
NORTH ROAD MEDICAL PRACTICE	0.762357914	0.92129	0.15893
THE PONTPRENNAU MEDICAL CENTRE	0.717886613	0.87336	0.15548
LLANDAFF FIELDS MEDICAL PRACTICE	0.928690596	1.08294	0.15425
RINGLAND MEDICAL PRACTICE	0.957398258	1.1102	0.15280
CAIA PARK SURGERY	0.843103501	0.99557	0.15246
MOUNTAIN VIEW HEALTH CENTRE	0.936879184	1.08543	0.14855
Roath House Surgery	0.744306291	0.88108	0.13678
CLOUGHMORE MEDICAL CENTRE	0.944999238	1.08143	0.13643
MEDDYGFA ALBANY SURGERY	0.70604379	0.84215	0.13610
AFON ELAI PARTNERSHIP	0.901146229	1.03524	0.13409
WILLOWBROOK SURGERY	0.821230903	0.95502	0.13379
WHITCHURCH ROAD SURGERY	0.726159172	0.85853	0.13238

The scale of the proposed adjustments to the Carr-Hill formula would represent a meaningful redistribution of funding across GP practices. While some practices may see notable increases under this modelling, the projected effects are likely to be approximate, as the deprivation indices used to replace PANI apply a capped multiplier of 1.2 for patients within the most deprived 20%. Taking this into account, the modelling suggests that practices experiencing the greatest benefit might see an indicative increase of around 0.15 in their Carr-Hill index, although this should be interpreted cautiously given data limitations.

Any reform that results in reductions to existing Carr-Hill indices would require careful transition planning. In practice, maintaining system stability may depend on additional investment in general practice funding or phased implementation approaches to avoid sudden financial pressures at practice level.

Rather than viewing reform primarily through the lens of relative gains or losses, the central objective should be equity of access to GP services across Wales. If accompanied by appropriate funding support, changes to the weighting system could be implemented in a way that maintains overall stability while gradually aligning future funding growth with measures of population need.





The accompanying delta histograms illustrate a clear convergence of Carr-Hill index values towards the mean of 1.00 under the modified model. Comparison with the original formula suggests a notable compression of the distribution, with fewer extreme outliers at either end of the funding spectrum. This narrowing of variance indicates a more consistent allocation of resources between practices, while still retaining relative adjustments for differing population needs. The intention of this modelling is not to remove weighting factors, but to moderate their range so that funding reflects contemporary service costs and supports a more equitable baseline for primary care provision across Wales.

Doctors' and Dentist' Review Body Uplifts:

Continuing to route Doctors' and Dentists' Review Body (DDRB) uplifts through the current Carr-Hill formula creates a serious and structural problem for general practice funding. DDRB uplifts are intended to compensate practices for nationally mandated pay and cost inflation. They are not a redistribution mechanism. Applying these uplifts via Carr-Hill fundamentally alters their purpose and leads to predictable and significant financial losses for practices that already receive lower Carr-Hill weightings.

Carr-Hill weightings were designed to distribute core funding based on estimated workload, not to determine whether practices can afford nationally agreed pay increases. Staff pay, employer pension contributions, National Insurance, locum rates, indemnity, and utilities rise uniformly across practices, regardless of Carr-Hill status. When DDRB uplifts are diluted by Carr-Hill, practices with lower weightings are effectively expected to absorb national pay awards from existing income, which is neither sustainable nor equitable.

The financial impact is not marginal. Because DDRB uplifts apply across the entire global sum, even small percentage differences created by Carr-Hill weighting translate into large absolute losses, often amounting to tens of thousands of pounds per practice per year. Over successive contract years this compounds into substantial under-funding. These practices are delivering the same contractual services, employing staff on the same national pay scales, yet receiving materially less funding to meet those obligations.

This approach risks accelerating practice instability, partner retirements, and contract hand-backs, particularly in areas that are already financially vulnerable. It also undermines confidence in the GP contract by blurring the distinction between workload allocation and cost-pressure protection. DDRB uplifts should be applied cleanly and transparently, either through a uniform uplift to the global sum value or as a separate payment, ensuring that all practices are able to meet nationally imposed cost increases without unintended redistribution.

In summary, using Carr-Hill as a mechanism for distributing DDRB uplifts transforms a pay-protection measure into a funding cut for some practices. This is not consistent with the purpose of the DRB process and poses a real risk to the sustainability of general practice in Wales.

I would urge the Welsh Assembly Government to consider moving the agreed DDRB uplift for the 2026/27 term outside of the Carr Hill formula give the current scrutiny.

Summary:

Analysis of the newly available data indicates that a small number of Carr-Hill components appear to have the greatest influence on GP funding distribution.

Any future funding formula may benefit from explicitly recognising fixed and semi-fixed costs within general practice. These costs are unavoidable and do not scale proportionally with list size or weighting, meaning that practices at the lower end of the funding range may be disproportionately affected if they are not accounted for.

Consideration could also be given to delivering DDRB uplifts outside the Carr-Hill mechanism, both during interim arrangements and within any future model. National pay awards are intended to address system-wide cost pressures and separating them from allocation weightings may improve transparency and financial stability.

Future discussions on GP funding, whether at Health Board, GPC Wales or Welsh Government level, would benefit from full use of the detailed Carr-Hill dataset now available through NHS Shared Services. Decisions informed by comprehensive evidence are more likely to avoid unintended structural consequences.

I would be pleased to present and discuss this analysis further should it assist Senedd scrutiny or stakeholder engagement. For a comprehensive evaluation, access to individual practice indices from NHS Shared Services would be valuable, although I can also provide the working dataset used in this modelling if required.