



## **HCHS PAYBILL METRICS & PAYBILL DRIVER QUANTIFICATIONS**

### **Introduction**

1. This note presents DH estimates relating to the size of the HCHS paybill and its component historical drivers.
2. It covers:
  - An explanation of the terminology used in describing HCHS paybill drivers;
  - DH's Experimental Headline HCHS Paybill Metrics;
  - DH's Experimental Headline HCHS Paybill Driver Estimates.
3. It should be read alongside accompanying spreadsheets, highlighted below, which provide detailed data tables.

## HCHS Pay Pressures Terminology

Often the most important driver is **Basic Pay Settlements** – the uplifts applied to pay scales. This is the most controllable pay pressure.

**Pay Drift** is the combined term for all of the factors, other than Basic Pay Settlements, that explain changes in average paybill per FTE. **Paybill per FTE Drift** would be a more accurate label.

Paybill per FTE Drift can be thought of as having two main sources:

- **Workforce Mix Effects**
- **Unit Cost Effects**

Workforce Mix Effects are related to the composition of the workforce across staff groups and levels of seniority and experience. The average paybill per FTE will change in response to changes in the:

- **Staff Group Mix** across broad occupations.
- **Grade Mix** within broad staff groups.
- **Increment Mix** (or Pay Point Mix) within grades.

The Increment Mix is a combination of two separate pressures:

- **Incremental Progression** – individuals, not at the top of pay bands, moving up pay scales as they gain experience.
- **Joiners vs Leavers Experience Balance** – the impact of the pattern of joiners and leavers on the distribution of staff across incremental points. For example, with many new joiners average experience levels and average pay are likely to fall.

Note: It is often the case that the incremental progression pressure is greater than the overall increment mix pressure as the latter is depressed by the Joiners Vs Leavers Experience Balance.

Unit Cost Effects are the other factors that can increase average paybill per FTE even if the composition of the workforce remains unchanged. These are:

- **Additional Earnings Drift Impact** – from additional earnings per FTE growing at a disproportionate rate to basic pay per FTE. Where they grow faster there is an upwards pressure on Paybill per FTE Drift and vice versa.
- **Pay Reform Impact** – from changes in the structure of pay scales or contract terms.
- **On-Cost Drift Impact** – from employer on-costs growing at a disproportionate rate to earnings per FTE. When on-costs increase relative to earnings there is an upward pressure on Paybill per FTE Drift and vice versa.

The On-Cost Drift Impact can be split into:

- **National Insurance Contributions Drift Impact** – from, most noticeably, significant changes in national insurance rates and thresholds, but also from changes in part-time working patterns and the precise interaction between individual earnings patterns and the routine uplift of contribution thresholds.
- **Pension Contributions Drift Impact** – from changes in pension scheme membership patterns, changes in the pensionable share in earnings or changes in the employer contribution rate. The last factor would be expected to have the most notable impact.

## **HCHS Paybill Metrics**

4. A detailed data set is required for financial planning analysis, including assessments of paybill drivers and the cost implication of pay decisions, but there is no ready made source available.
5. Accounting data on paybill costs is not available at sufficient detail. Highly detailed administrative data is available from the Electronic Staff Record (ESR) Data Warehouse, but this information is not validated.
6. However, the Health and Social Care Information Centre (HSCIC) use the ESR data, after the application of data validation processes, to produce and publish reasonably detailed estimates of staff numbers and average earnings.
7. DH use these published estimates of staff numbers and average earnings as the main basis for producing Experimental Headline HCHS Paybill Metrics. The published material can be used to produce estimates of the aggregate cost of staff earnings, but it does not capture employer on-costs (employer national insurance and pension contributions), which also need to be included in paybill metrics.
8. DH use ESR data, after the application of data validation processes, to estimate staff group specific on-cost rates (expressed as a share of earnings). These on-cost rates are then applied to the aggregate earnings estimates, based on the published HSCIC data, to estimate aggregate on-cost values.
9. An accompanying spreadsheet provides summary outputs, and further methodological notes, from DH's Experimental Headline HCHS Paybill Metrics. These are available back to 2008/9, but the ESR data (which underlies all the component data sources) is not available any earlier.
10. They are termed experimental metrics as, whilst analogous to previous paybill metrics, the methodology has been changed to accommodate and make best use of changes in a key data source (the HSCIC earnings publication). A historical time series has been produced on the new basis, which replaces the previously available paybill metrics for the period. The experimental tag allows for the possibility of further developing the metrics after user comments and resolving any issues that may emerge with the new approach.
11. The label headline is meant to indicate a level of detail consistent with the published HSCIC data. Some analytical questions, such as the distribution of staff across pay points, cannot be answered with this data. These questions are answered using supplementary ESR based analysis. Longer term, DH aim to produce more detailed supplementary data sets to support the analysis such as an even greater disaggregation of paybill pressures that can be supported with the Headline Metrics.

## HCHS Paybill Drivers

12. The Experimental Headline HCHS Paybill Metrics can be used to quantify the drivers of historical paybill growth. An all HCHS summary of this analysis is provided in the table below. This is also labeled experimental as it is both a new approach to quantifying paybill drivers and based on a new approach to newly available source data.

### Experimental HCHS Headline Paybill Driver Estimates (All HCHS)

	2008/09	2009/10	2010/11	2011/12	2012/13
<b>Basic Pay Settlement</b>		<b>2.2%</b>	<b>1.8%</b>	<b>0.3%</b>	<b>0.3%</b>
<b>Basic Pay per FTE Drift</b>		0.9%	1.3%	1.1%	0.8%
<i>Staff Group Mix Impact</i>		0.0%	0.0%	0.3%	0.3%
<b>Excluding Staff Group Mix Impact</b>		<b>0.9%</b>	<b>1.2%</b>	<b>0.8%</b>	<b>0.5%</b>
Basic Earnings per FTE Growth		3.1%	3.1%	1.4%	1.02%
<b>Additional Earnings per FTE Drift Impact</b>		-0.6%	-0.7%	-0.1%	0.1%
<i>Staff Group Mix Impact</i>		-0.1%	0.1%	0.2%	0.1%
<b>Excluding Staff Group Mix Impact</b>		<b>-0.5%</b>	<b>-0.8%</b>	<b>-0.3%</b>	<b>0.1%</b>
Additional Earnings per FTE Growth		-0.6%	-1.7%	0.5%	1.9%
<b>Total Earnings per FTE Drift</b>		0.3%	0.5%	1.0%	0.9%
<i>Staff Group Mix Impact</i>		-0.1%	0.1%	0.5%	0.3%
<b>Excluding Staff Group Mix Impact</b>		<b>0.4%</b>	<b>0.4%</b>	<b>0.5%</b>	<b>0.6%</b>
Earnings per FTE Growth		2.5%	2.4%	1.3%	1.2%
National Insurance Contributions Drift Impact		0.0%	0.0%	0.2%	0.0%
Pensions Contributions Drift Impact		0.0%	0.0%	0.0%	-0.1%
<b>Total On-Costs per FTE Drift Impact</b>		0.0%	0.1%	0.2%	-0.1%
<i>Staff Group Mix Impact</i>		0.0%	0.0%	0.0%	0.0%
<b>Excluding Staff Group Mix Impact</b>		<b>0.0%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>-0.1%</b>
Employer On-Costs per FTE Growth		1.7%	-1.1%	2.2%	-1.1%
<b>Paybill per FTE Drift</b>		0.3%	0.6%	1.2%	0.8%
<i>Staff Group Mix Impact</i>		-0.1%	0.1%	0.5%	0.4%
<b>Excluding Staff Group Mix Impact</b>		<b>0.4%</b>	<b>0.5%</b>	<b>0.7%</b>	<b>0.5%</b>
<b>Paybill per FTE Growth</b>		<b>2.5%</b>	<b>2.4%</b>	<b>1.5%</b>	<b>1.1%</b>
<b>Average FTE Growth</b>		<b>4.5%</b>	<b>1.0%</b>	<b>-1.6%</b>	<b>-0.2%</b>
<b>Aggregate Paybill Growth</b>		<b>7.0%</b>	<b>3.4%</b>	<b>-0.2%</b>	<b>0.9%</b>

#### Notes

Derived from DH's Estimated Headline HCHS Paybill Metrics (see separate notes on the construction of this data set).

This methodology uses staff group categories consistent with HSCIC publications. As such, it does not identify pure unit cost effects. Workforce mix effects that operate within staff groups, such as band or increment mix changes, are not separately identifiable.

DH aim to develop further methodologies, using supplementary but unpublished data, to consider these detailed workforce mix effects in order to provide further intelligence on the drivers of pay drift and paybill growth

Basic Pay Settlement reflects the headline uplift applied to payscales. If uplifts differ across staff groups, it reflects a weighted average.

Basic Pay per FTE Drift gives the growth in basic pay per FTE after allowing for the impact of the Basic Pay Settlement. This captures the effects of pay progression & increment mix, pay band mix and staff group mix.

Additional Earnings per FTE Drift Impact gives the impact of disproportionate growth in Additional Earnings per FTE, compared to Basic Pay per FTE, on Earnings per FTE Drift. This captures the effects of changing additional earnings patterns, such as changing use of overtime, including those driven by workforce mix changes.

Total Earnings per FTE Drift gives the growth in Total Earnings per FTE after allowing for the impact of the Basic Pay Settlement. This captures the effects of pay progression & increment mix, pay band mix and staff group mix as well as changes in additional earnings patterns.

National Insurance Contributions Drift Impact gives the impact of changes in National Insurance Contributions as a proportion of Earnings on Paybill per FTE Growth. This captures the effects of changes in National Insurance rates & thresholds and how changes in earnings and part time working patterns, including those driven by workforce mix changes, interact with the national insurance regime.

captures the effect of any changes in contribution rates as well as changes in scheme membership rates and pensionable earnings rates including those driven by workforce mix changes.

Employer On-Cost per FTE Drift Impact gives the combined effect of the National Insurance and Pensions Contribution per FTE Drift Impacts. It reflects the impact of changing on-cost patterns on Paybill per FTE Growth.

Paybill per FTE Drift gives the growth in Paybill per FTE after allowing for the impact of the Basic Pay Settlement. This captures the effects of changes in workforce mix, additional earnings patterns and on-cost patterns.

Staff Group Mix Impact gives the impact of changes in the mix of staff across the broad staff groups used in HSCIC publications on the drivers of Paybill per FTE Growth. Relative shifts towards more expensive staff groups generate a positive Staff Group Mix Impact and vice versa.

The driver quantifications excluding the Staff Group Mix Impact show the residual impact of the driver after allowing for changes in the mix of staff across the broad staff groups used in HSCIC publications.

Average FTE Growth compares the average numbers of FTEs over the period, assessed using monthly snapshots, to the average numbers of FTEs over the equivalent period the previous year.

13. Similar estimates at a staff group specific level are provided in an accompanying spreadsheet. Another accompanying spreadsheet shows the methodology behind the calculations using a simplified worked example.
14. The table above links to the HCHS paybill driver terminology described earlier in this note, but does not separately quantify every single paybill driver that was described. This level of detail is not supported by the Headline Paybill Metrics or their underlying published data sources.
15. The specific drivers captured by each element of the table are described in the notes, but it is perhaps worth noting that the specific cost pressure associated with Incremental Progression is not quantified. It is an element of Basic Pay Drift that will be mitigated by the effects of the Joiners Vs Leavers Experience Balance and Grade Mix changes.
16. For now, the quantified impact of this important paybill driver is estimated using supplementary analysis. DH estimate that the specific cost pressure associated with Incremental Progression is around 2% per year for both the non-medical and medical workforce. This is based on the estimated distribution of staff across pay points, and their associated expected incremental pay rises, with a further adjustment to allow for turnover from jobs.
17. In the longer term, DH aim to develop supplementary detailed metrics (using ESR data) and further methodologies to quantify paybill drivers at an even greater level of detail. This development work is a considerable project. In the meantime, supplementary specific estimates are produced as required on an ad hoc basis.