Prescribing for diabetes: England, 2005/06–2013/14

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Steve Chaplin analyses the statistics for drugs prescribed for diabetes in England between 2005/06 and 2013/14, which reveal that prescribing and spending continues to rise in this therapeutic area.

Drugs prescribed for diabetes have, since 2007/08, been the biggest single BNF category by cost in primary care in England. The latest analysis from the Health and Social Care Information Centre (HSCIC) covers the nine years to 2013/14 and reveals that the number of items dispensed has risen by 67 per cent and spending has risen by 56 per cent over this period. For comparison, overall volume and cost growth was 42 and 8 per cent respectively.

Such trends might be expected in the QOF era, when the proportion of people aged ≥17 diagnosed with diabetes has risen from 5.1 per cent in 2008/09 to 6.0 per cent in 2012/13 (excluding gestational diabetes), but there are also signs that the rate of change in some areas is slowing.

**Variation in diabetes prevalence**
Marked variation in prescribing between NHS organisations is normally interpreted as an indicator of poor quality but the data for diabetes should be interpreted carefully. There are marked differences between clinical commissioning groups (CCGs) in diabetes prevalence in the over-17s, ranging from 3.5 per cent in Richmond to 8.9 per cent in Bradford City. But this seems unlikely to explain why the cost per patient ranged from £213 in Erewash CCG to £369 in Crawley, when Bradford City (80th lowest cost) ranked not far from Richmond (50th) among the 216 CCGs.

**Overall growth**
Volume and spending on treatments for diabetes have increased steadily over the past nine years. Antidiabetic drugs other than insulins account for the greatest increases. Whereas insulin prescribing rose by much less, cost increased slightly more.

The rate of change in prescribing all drugs in this category – that is, the percentage difference from the preceding year – of both volume and (with high variability) cost was falling until 2012/13, when both increased. Drugs for diabetes continue to account for a growing proportion of the total NHS drugs budget (see Figure 1), presumably reflecting cost controls in other BNF categories as well as higher spending on diabetes.

The HSCIC identifies several factors underpinning growth, including the increasing prevalence of diabetes, greater use of human analogue insulins
and newer oral drugs, changes in the costs of category M medicines and the impact of the Pharmaceutical Price Regulation Scheme.

**Insulins**

Prescribing of insulins increased throughout the period covered by this report and was 37 per cent greater in 2013/14 compared with 2005/06. This growth was entirely due to higher prescribing of human analogue insulins, which almost doubled and accounted for 60 per cent of insulins in 2005/06 but 83 per cent in 2013/14. Costs increased correspondingly, up by 49 per cent for all insulins and from 69 to 88 per cent for the proportion prescribed as human analogue insulins. The overall rate of increase in both volume and cost of insulin prescribing was falling – until an upturn in 2012/13.

These increases have been due to higher prescribing of short-acting insulins (volume and cost up by 71 and 63 per cent since 2005/06) and biphasic insulins (77 and 82 per cent respectively). Insulin aspart (NovoRapid) now makes up 74 per cent of prescriptions for short-acting insulin and biphasic insulin aspart (NovoMix 30) has seen the fastest growth in prescribing, accounting for greatest proportion of volume and costs. Use of biphasic insulin lispro (Humalog Mix25/Mix50) has been increasing slowly and, following several years of decline, biphasic isophane insulin has been increasing since 2010/11.

The contribution to growth from intermediate and long-acting insulins was smaller (27 and 44 per cent). Increased use of insulin detemir (Levemir) and particularly insulin glargine (Lantus) explains most of the growth in nonbiphasic longer-acting analogue insulins but prescribing of isophane insulin has increased since 2010/11.

The proportion of intermediate and long-acting insulins prescribed as insulin detemir, insulin glargine and insulin degludec (Tresiba) is a QIPP indicator. CCG performance averages 82 per cent and ranges from 38 to 97 per cent, with only a slight fall since 2009/10.

**Metformin and sulfonylureas**

It is clear from the volume of metformin prescribed that management guidelines have succeeded in establishing it as the drug of first choice for people with type 2 diabetes but whereas the use of newer drugs is comparatively low, their costs are far greater.

Prescribing of metformin has doubled since 2005/06, with an overall doubling of cost despite the vagaries of Category M pricing (up by 15 per cent in the year to 2013/14 alone). Use of sulfonylureas rose by 50 per cent but costs increased by only 7 per cent. The proportion of all antidiabetic drugs pre-
scribed as metformin and sulfonylureas is another QIPP indicator. The CCG average in 2013/14 was 84 per cent (range 75–94 per cent), with a small but steady decline since 2009/10.

Other antidiabetic drugs
As with human analogue insulins, this category includes many of the innovations in antidiabetic drugs. By contrast with insulins, it is less clear whether the rate of increase in volume and cost in this category is changing.

Prescribing of DPP-4 inhibitors has increased greatly since 2009/10 whereas prescribing of the GLP-1 agonists has grown more slowly. The thiazolidinediones have declined following safety warnings and the withdrawal of rosiglitazone in 2010 but pioglitazone (Actos) is still frequently prescribed. The SGLT2 inhibitors were introduced too recently for these data to describe their impact.

Sitagliptin (Januvia) dominates both the volume and costs of this category, with pioglitazone accounting for most of the remaining prescribing and liraglutide (Victoza) and exenatide for the largest remaining proportions of costs (see Figures 2 and 3). The use of sitagliptin continues to increase: volume rose by 29 and 20 per cent in the last two years of this analysis, with similar increases in cost. Prescribing of liraglutide, which has the highest cost per item in this category (£99.33), continued to rise in 2012/13 (16 per cent) but at a much slower rate than in the previous year (42 per cent).

Glucose monitoring
Prescribing of blood glucose monitoring products has grown modestly compared with the growth in drug treatment, with a 14 per cent increase in volume and a 21 per cent increase in cost between 2005/06 and 2013/14. The already low use of urine testing products decreased further and there was a small increase in prescribing of blood ketone testing products.

Conclusion
As the number of people diagnosed with diabetes continues to rise so too does prescribing and spending on drug treatment. There are signs that the rate of increase in insulin prescribing may be starting to level off but sustained growth in volume and cost over many years has placed antidiabetic drugs among the highest ranking of any BNF category – and therefore a prime target for monitoring prescribing performance. There is wide variation between CCGs in prescribing costs and QIPP indicators show large differences in prescribing of older, less expensive agents.

Declaration of interests
None to declare.

Steve Chaplin is a pharmacist who specialises in writing on therapeutics