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Compare hospital activity provided to people with type 1 and type 2 diabetes with non-diabetes to measure longer term impact on resources and effect of previous glycaemic control

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Background and aims: Total prescribing costs for diabetes in primary care in the National Health Service (NHS) in England are now over £1billion/year. The National Diabetes Audit (NDA) has been published levels of glycaemic control being achieved in GP practices since 2013_14. The 2017_18 NDA inpatient audit showed that 20% of hospital beds are occupied by the 7% of the population with diabetes. We compared the mix of hospital activities consolidated at GP practice levels provided to people with diabetes with the non-diabetes population, and to evaluate the impact of different historic levels of glycaemic control on hospital activity.

Materials and methods: NHS Digital Hospital Episode Statistics in England provided 2017_18 data on the various services provided aggregated at GP practice level for patients with recorded diagnosis of T1 & T2 diabetes vs non-diabetes population. The national diabetes audit provided totals number in practices of people with T1 and T2 diabetes and historic glycaemic control in previous 5 years. Activity differences between populations must be adjusted for the age differences between them, compared and correlated with historic glycaemic control.

Results: Results from 7013 GP practices with 54 million non-diabetes population, with 2.9m T2 and 0.24m T1, were analysed for their elective (planned), emergency/admissions/length of stay/tariff charges, plus outpatient and A&E activity. It was found that T2 require 3xElective Care, 4xEmergency care, and T1 require 5xElective and 10xEmergency care. Of total hospital costs of £32 billion/year, £5.2 billion were associated with people with diabetes. The total additional, after adjustment for normal cost associated with similar age, hospital activity costs provided to people with diabetes was calculated as £3.5billion/year (£2.9billion T2 & £0.6billion T1), over 10% of the NHS hospital budget. Rounding and suppression for data protection reduced accuracy. However GP practices with historical lower % HbA1c results >86mmol/mol had lower current hospital activity rate. Exact quantification due to possible confounding factors is still ongoing. (SEE FIGURE BELOW)

Conclusion: The results show that increasing investment in management of diabetes has improved patient outcomes and reduced hospital costs. Nevertheless there are still opportunities to improve glycaemic control and reduce these potential future additional costs further through increased investment in local services and medication.

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2017_18 Hospital Activity in 7,013 NDA Practices	Non Diabetes population		Type 2 population		Type 1 population	
	Total	/pop	Total	/pop	Total	/pop
Total Population	54,864,617		2,914,825	5.3%	243,090	0.5%
% >65	15%		53%		22%	
Headcount Attended	26,522,464	0.48	1,573,410	0.54	230,003	0.95
Elective Admissions	9,949,936	0.18	1,519,695	0.52	268,369	1.10
Elective Bed-days	9,046,530	0.16	1,356,947	0.47	195,276	0.80
Elective Tariff Costs	£7,911,708,842	£144	£1,309,966,225	£449	£166,284,574	£684
Non-Elective Admissions	4,816,520	0.09	959,365	0.33	165,422	0.68
Non-Elective Bed-days	11,146,882	0.20	2,812,066	0.96	450,829	1.85
Non-Elective Tariff	£6,853,917,339	£125	£1,836,266,888	£630	£292,457,455	£1,203
A&E Attendances	18,340,205	0.33	1,467,135	0.50	263,908	1.09
Outpatient Attendances	101,548,840	1.85	12,249,874	4.20	2,357,655	9.70