Meeting abstract

The application of ACG predictive models to the English population for the purposes of funding allocation

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Introduction
The current budgetary allocation in the UK to primary care trusts is based on capitation adjusted for demographic, socio-economic and population morbidity utilising aggregate and survey statistics.

The ACG system has been used to stratify populations according to risk and investigate adjusting budgets using person-based morbidity data as an alternative. The ACG predictive models utilised hospital secondary care data, GP primary care data, and pharmacy and individual resident population data up to 50 million individuals.

Methods
The data sources were linked to form a single health record for each individual, comprised of inpatient, outpatient, Accident and Emergency (Emergency Room) and primary-care activity data (including pharmacy) and related costs for two years.

Crosswalks were designed to convert the primary care morbidity codes (READ codes) into ICD10 and the pharmacy codes into ATC (WHO Anatomical Therapeutic Chemical classification). The data was grouped using the ACG software with the resultant grouping variables used to form a number of predictive models:

- Restrictive models, using secondary-care data only

- Full models, using secondary- and primary-care morbidity data

- Combined morbidity and pharmacy models

- Parsimonious models, utilising a reduced number of markers (non-parsimonious 300+ markers)

Comparative statistics were produced to look at the overall performance of the models. They were also used to provide performance benchmarks for provider activity and utilisation.

Results
The results for the morbidity models showed a significant improvement in prediction over age/sex-adjusted models, with increased improvement for the combined model (including pharmacy). The results were also compared to US data and showed higher predictive results for the English data.

Conclusion
The ACG grouping system can be applied to UK morbidity and pharmacy data from both secondary and primary care activity, with the predictive modeling demonstrating the strength of utilising such data for future budgetary allocation, evaluation of provider performance and case identification.