**Aims**

- The GSK Ellipta portfolio contains three once-daily products (Relvar® Ellipta, Anoro® Ellipta and Iressa® Ellipta) licensed for the treatment of COPD in the UK.
- A budget impact model (BIM) was designed to explore the financial implications of prescribing the GSK Ellipta portfolio for new and/or existing COPD patients. The number of patients who experience symptoms of breathlessness or have an exacerbation are estimated using Clinical Practice Research Datalink (CPRD) data.
- The model also demonstrates the budget impact of moving a proportion of non-symptomatic patients estimated to be using non-licensed therapies or multiple inhaler devices to matched Ellipta products.
- The model does not explore differences in patient outcomes, efficacy or safety; it explores drug acquisition costs alone.
- The predicted impact of prescribing the GSK Ellipta portfolio as a treatment option in these dynamic patients is investigated in an average local health economy in the UK. The model can be amended to represent any local area.
- This analysis was conducted using dispensing data (PACT) from December 2014 and prices were correct and up to date in August 2015.

**Methods**

- This is a one-year economic model exploring the potential budget impact of managing a modelled COPD patient population with an Ellipta based strategy compared to the range of existing treatments used in a local health economy. The model does not explore differences in outcomes, efficacy or safety; it explores drug acquisition costs alone. Model flow can be seen in Figure 1.
- The model utilises local dispensing information obtained from prescribing and cost tabulation (PACT) data and drug prices from MIMS® (Figure 2) as the basis of estimating the size of the local treated COPD population.
- The PACT data includes sales for both asthma and COPD. A Cogedim Strategic Data (CSD) national patient level data® report gives an estimate for the proportion of inhaler sales allocated to COPD and an average patient annual collection rate. A further CSD analysis® gives an estimate of the proportions of COPD patients using inhaled agents alone or in combinations to generate baseline cohorts of mono-therapy, dual therapy and triple therapy patients, giving a means of avoiding double counting patients. In this data, a diagnosis of COPD takes precedence over a diagnosis of asthma. GSK cannot guarantee that this estimate is accurate and representative for all regions as this is based on national figures calculated from a subset of GP practices. Users may input their own estimate if alternative data is available. General Medical Services (GMS) data is used to identify a cohort of new incident COPD patients who enter the model having had no prior treatment.
- This model uses a Clinical Practice Research Datalink (CPRD)® data to give proportions of COPD patients who experience symptoms of moderate breathlessness (28.84%) or who might experience ≥1 exacerbations in a 12 months period (26.6%). A proportion of these dynamic patients will have their treatment intensified by adding a appropriate therapy to their baseline regimen. This allows the modelling of guidelines based on COPD phenotypes with inhaled steroid-based treatment being targeted at patients with symptoms of COPD exacerbation.
- For patients who are not in the dynamic population, the model offers medicines optimisation with symptoms of mild breathlessness; moderate breathlessness or COPD exacerbation to allow an appropriate therapy to be allocated.
- Users have the option of overriding any of the proportions of patients who are symptomatic; who are progressed; or receive Ellipta rather than existing treatment options.
- The model allows the user to specify the progression routes of patients from a baseline treatment to an intensified regimen based on the symptoms that the patient is experiencing. This allows the modelling of guidelines based on COPD phenotypes with inhaled steroid-based treatment being targeted at patients with symptoms of COPD exacerbation.
- For patients who are not in the dynamic population the model offers medicines optimisation with proportions to be moved to a matched Ellipta regimen. The default setting of the model target this intervention to patients who are estimated to be using ICS/LABA combination therapy that is not licensed in COPD or those using two different inhaler devices.

**Results**

- A large proportion of COPD patients remain inadequately controlled on their current therapies. When these patients are moved to a GSK Ellipta Portfolio therapy as per clinical guideline recommendation there are budgetary implications.
- The BIM estimates that the average health economy (e.g. CCG) in the UK has 5518 COPD patients of whom 2753 are either new, breathless or exacerbating and therefore eligible to be progressed in their medication.
- Compared to baseline costs, use of current options to treat 100% of new and dynamic progressing patients would increase spend by £247,704 compared with an increase of £119,505 if Ellipta products were used instead.
- If the medicines optimisation options based on Ellipta treatment for non-dynamic patients are considered for 50% of eligible patients, prescribing costs would reduce by a further £251,614, giving a total estimated budget saving of £132,109 compared to baseline spend (Figure 3).
- Therefore the introduction of the GSK Ellipta portfolio in COPD has the potential to reduce the budget impact and total spend on COPD therapies by £379,812 in the average UK health economy compared to current patterns of prescribing.

**Conclusions**

- The GSK Ellipta portfolio has the potential to reduce the budget impact of ICS/LABA initiation in appropriate patients compared to current prescribing patterns in the UK.
- The main limitation in the research is the attempt to look at an "average" health economy. Variability in prescribing patterns, levels of asthma control, population size, and other variables will have implications on the final budget figures when tailored for specific health regions.
- It is worth noting that the model does not account for the impact of the GSK Ellipta portfolio being a once-daily dosing schedule (current alternatives are twice per day). The model assumes that patients maintain their adherence rates from their previous medication and therefore does not account for potential improvements in outcomes and control associated with once-per-day dosing of the Ellipta portfolio but also the potential increased drug acquisition cost associated with that improved adherence.

**References**

1. Prescribing and cost tabulation (PACT) data MAT Dec 2014
5. GSK Data on File - UK/COPD/0001/14. February 2014

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- The presenting author, Tara Harding, declares the following real or perceived conflicts of interest during the last 3 years in relation to this presentation: GSK employee and holds GSK stock.

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