



Audio File

# COST-OF-ILLNESS ANALYSIS OF PERTUSSIS AMONG ADULTS 50 YEARS OF AGE AND OLDER IN THE UNITED KINGDOM



SCAN ME

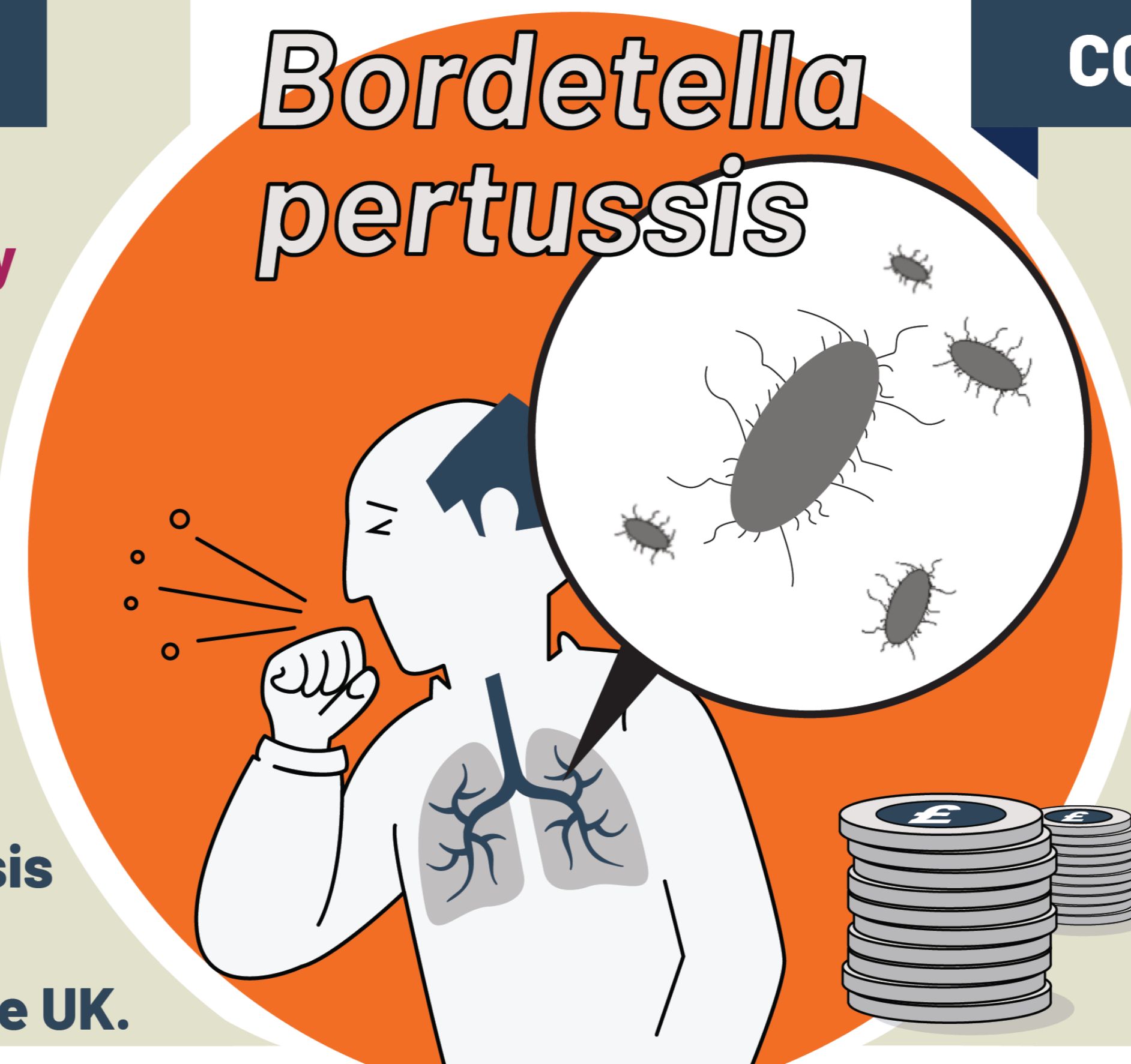
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## BACKGROUND AND OBJECTIVE

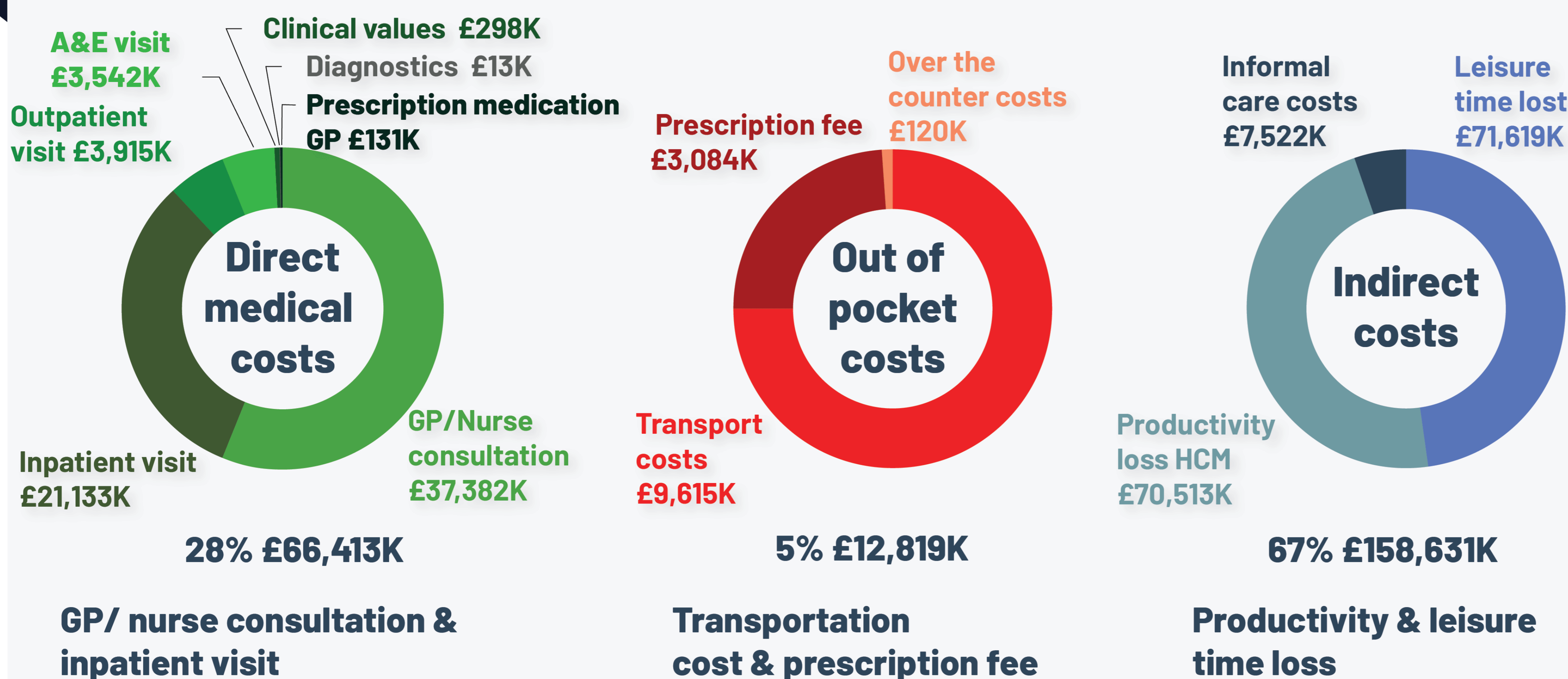
- 1** Pertussis is a bacterial respiratory tract infection leading to a **substantial morbidity in older adults** and for which **age is a risk factor** for severe infection.<sup>1-3</sup>
- 2** Pertussis is **underreported** among adults as it is frequently **misdiagnosed**.<sup>4,5</sup> In the United Kingdom (UK), there's currently no preventative measure in place for the adult population again pertussis.
- 3** The objective of this cost-of-illness analysis was to **quantify the economic burden of pertussis** among adults over 50 years in the UK.



## COST-OF-ILLNESS ANALYSIS METHOD

- We obtained **age-specific incidence**, **healthcare resource use (HCRU)**, and **cost data** from the **clinical practice research datalink (CPRD)**.
- We used the **Sum Diagnosis Specific** method and calculated **direct medical**, **out of pocket**, and **indirect costs** of 5-year age groups of adults aged  $\geq 50$  years of age (YOA) in the UK.
- We performed **sensitivity** and **scenario** analyses to assess the robustness of the outcomes.

## OVERALL ANNUAL ECONOMIC BURDEN £237,863K – ON AVERAGE £1,526 PER CASE



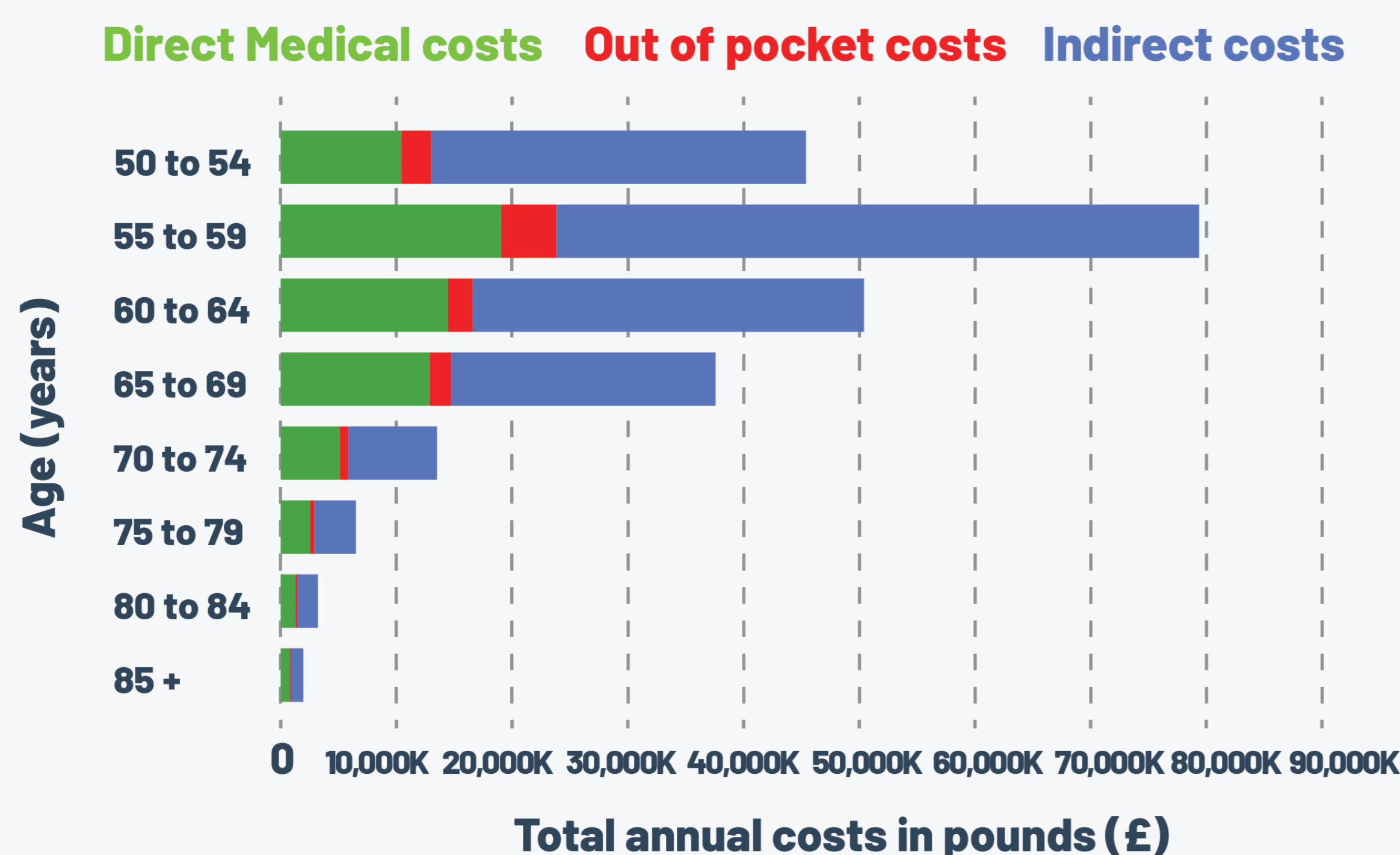
## TOTAL ANNUAL COSTS DURING AN OUTBREAK ARE £526,000K

**Scenario analyses** with the incidence rates of the 2012 outbreak was used to calculate the annual cost in an outbreak year.



## ANNUAL COSTS PER AGE GROUP

Economic burden was highest among the 55–59 YOA, mostly driven by a loss of productivity.



## SENSITIVITY ANALYSES

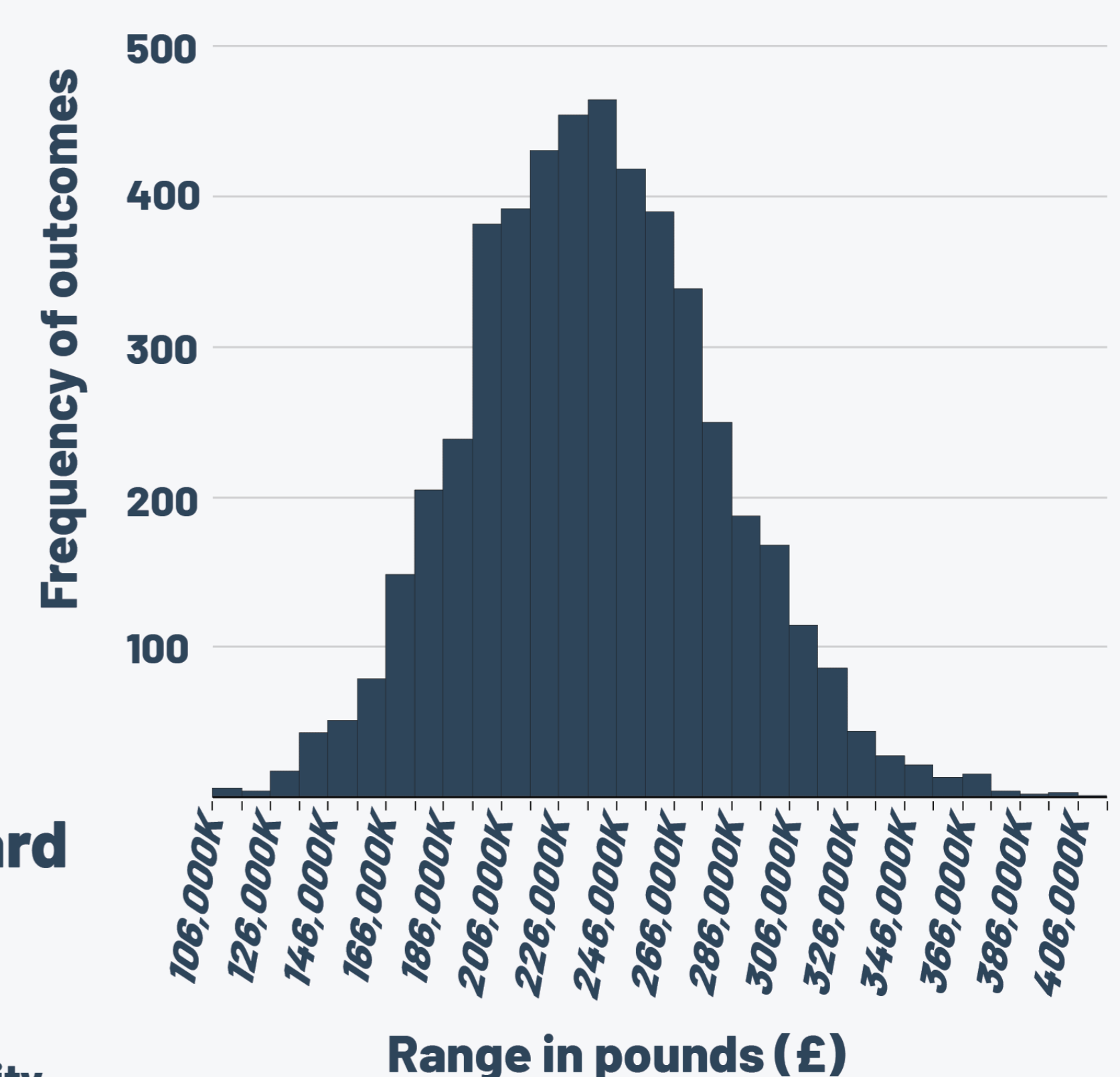
**Deterministic sensitivity analyses** parameters with largest, though still limited, effect on outcome:

- Workweek duration
- Cost of inpatient visit
- Underreporting in age group 55–59 YOA

**Probabilistic sensitivity analyses**

When assessing parameter uncertainty, we found that 95%\* of total economic burden simulations were within 2 standard deviations of the lower and upper range.

\*The confidence interval (95%) approach presented in the abstract is not presented in the poster due to the limited utility of this approach to test the robustness of the model assumptions.



## KEY MESSAGES

- Pertussis in older adults imposes a substantial economic burden that is highest in the group 55–59 YOA.
- The economic burden weighs on society with productivity and leisure time lost, on payers with consultation and inpatient costs, and on patients with transportation costs and prescription fees.
- Increased awareness and reporting, efficient preventative strategies, and timely access to treatments are key to reduce the pertussis burden.

**Abbreviations:** A&E: accident and emergency; GP: general practitioner; HCM: human capital method; YOA: years of age.

**Conflict of interest:** NJ is employed by GSK and declare no other financial and non-financial relationships and activities. JWV and KR declare no financial and non-financial relationships and activities and no conflicts of interest.

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