UKHSA report

Introduction

Influenza is a highly infectious and rapidly evolving respiratory virus circulating seasonally around the world [@cope2018]. The World Health Organisation (WHO) estimates that between 290000-650000 deaths occur due to the respiratory virus, not including deaths not due to seocndary infections caused by influenza [@WHO2022].

Antigenic shifts may result in uncontrolled extensive spread causing an epidemic (e.g. 1918-2009) [@cope2018]

Progression may lead to deaths in at risk groups (children <2 y.o., pregnant women, people >65 y.o. and people with underlying medical conditions) [@zarocostas2009]

Seasonal influenza circulation puts a burden on NHS e.g. emergency room and GP services [@cope2018]

Vaccination averts between 180,000 and 626,000 cases of influenza per year in England [@franklin2018]

Flu vaccination helps avert between 5,678 and 8,800 premature deaths per year [@franklin2018]

The NHS flu vaccination programme costs £50,610 per death averted [@franklin2018]

Understanding the circulation patterns can help UKHSA:

effectively allocate resources

forecast future season dynamics

to aid early detection of anomalous seasons

Methods

methods for R nought (or effective) can be cited from Lipsitch (https://royalsocietypublishing.org/doi/10.1098/rspb
2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%200pubmed)

Data sources and extraction

Results

Source

Season

Log graphs and R_0 value

Stratified by Flu strain type

Discussion

Conculsion

References