# Patterns of patient interactions with primary care in Wales: the impact of the COVID-19 pandemic

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## Objectives

We aim to investigate changes in primary care activities and patient-practice interactions (e.g., face-to-face vs. remote consultations) in Wales during and after the COVID-19 pandemic, compared to pre-pandemic trends. Additionally, we will examine the impact on equity of access, utilisation, and potential health outcomes across different regions and sociodemographic groups.

## Methods

The study utilises population-scale primary care records from the Welsh Longitudinal General Practice (WLGP) data within the SAIL Databank. We conduct a retrospective population study to analyse national trends in patient-practice interactions since 2000.

Using the previously developed Research Ready Data Asset for WLGP, which includes mapped clinical codes and associated interaction types, we categorised daily GP events into key activity types. Time-series analysis techniques are applied to evaluate trends over time, assessing whether each activity type has returned to pre-pandemic levels. Seasonal and long-term trends are examined to identify periodic fluctuations and sustained shifts in consultation modes and key primary care activities.

## Results

Preliminary findings reveal a sharp decline in all primary care activities except repeat prescriptions during 2020, followed by a gradual recovery toward pre-pandemic levels. However, vaccination rates continued to exceed pre-pandemic levels. We assessed consultation modes (face-to-face, remote, home visits) and key activities such as consultations, prescriptions, test requests and results, referrals, fit-notes, chronic disease monitoring, patient screening, and immunisation. We report baseline characteristics of these interactions stratified by ethnic group, deprivation, and rural/urban characteristics for both pre-pandemic and post-pandemic periods.

Using a combination of time-series models, ARIMA and ETS, trained on pre-pandemic trends, we evaluate the difference between observed and forecasted post-pandemic activity to investigate recovery and change in primary care utilisation.

## Conclusion

The pandemic significantly disrupted healthcare services, altering patient interactions with primary care. Understanding these trends and their implications for healthcare access, utilisation, and outcomes is essential for informing future healthcare policies and ensuring equitable service delivery. These insights will help assess system resilience and guide strategies for preparedness and improvement.