

NHS Resource Utilization and Missed Appointments: Data-Driven Insights

Context

NHS faces increasing demand with a growing population.

Budgetary decisions for capacity expansion require understanding current resource utilization.

Stakeholders debate whether to increase capacity or optimize existing resources.



Business Questions

Adequacy of Staff and Capacity:

- Do current staff and resources efficiently handle the patient load across different settings and service types?

Resource Utilization:

- Are resources underutilized, and efficiently used?
- Can we identify trends and potential inefficiencies in appointment patterns?

Missed Appointments:

- Can we understand the reasons behind missed appointments and explore cost-effective solutions for reduction?



Expected Outcomes



Data-driven insights on resource utilization and potential optimizations.



Recommendations for informed budget allocation and capacity planning.



Exploration of factors impacting missed appointments and potential interventions.



The analytic process



Data
ingestion

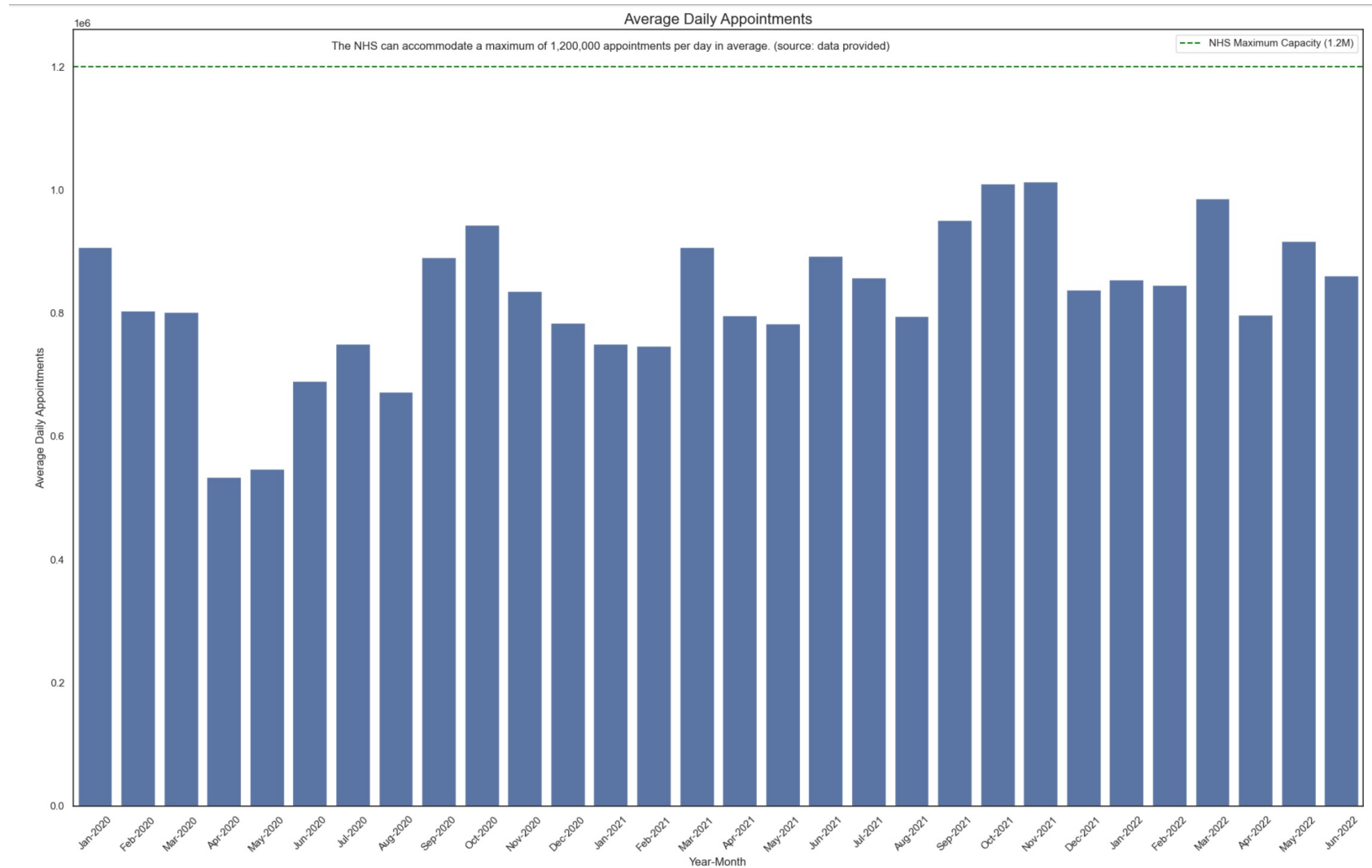
Data
wrangling

Visualization
and
predictions

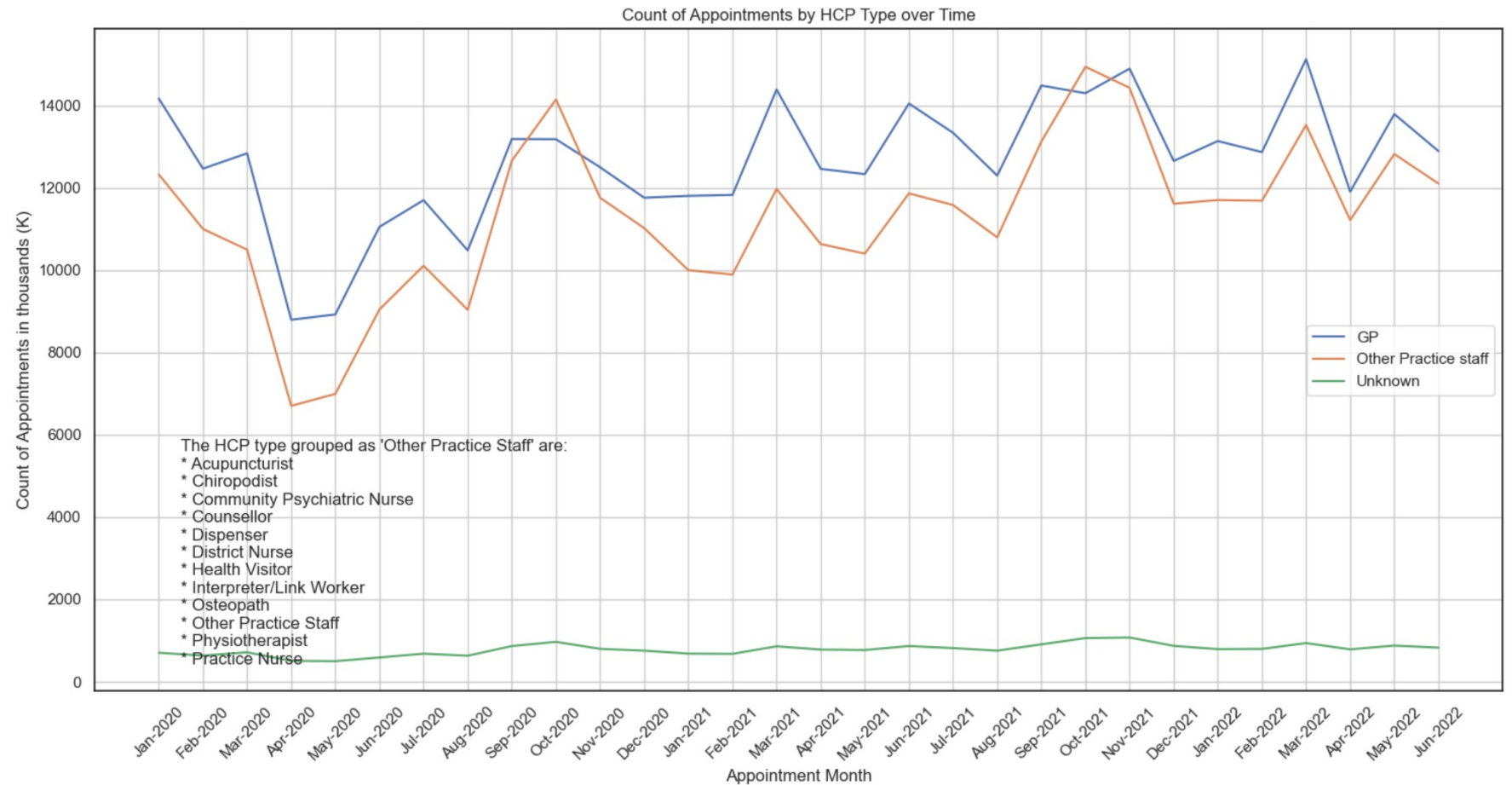
Insights and business
recommendation



Should the NHS start looking at increasing staff levels?



How do the healthcare professional types differ over time?



Are there significant changes in whether or not patients are attended?

- Face-to-Face: Has the highest "DNA" rate (5.51%) and the second highest "Unknown" rate (5.23%). This suggests potential challenges with scheduling, reminders, or access for this mode.

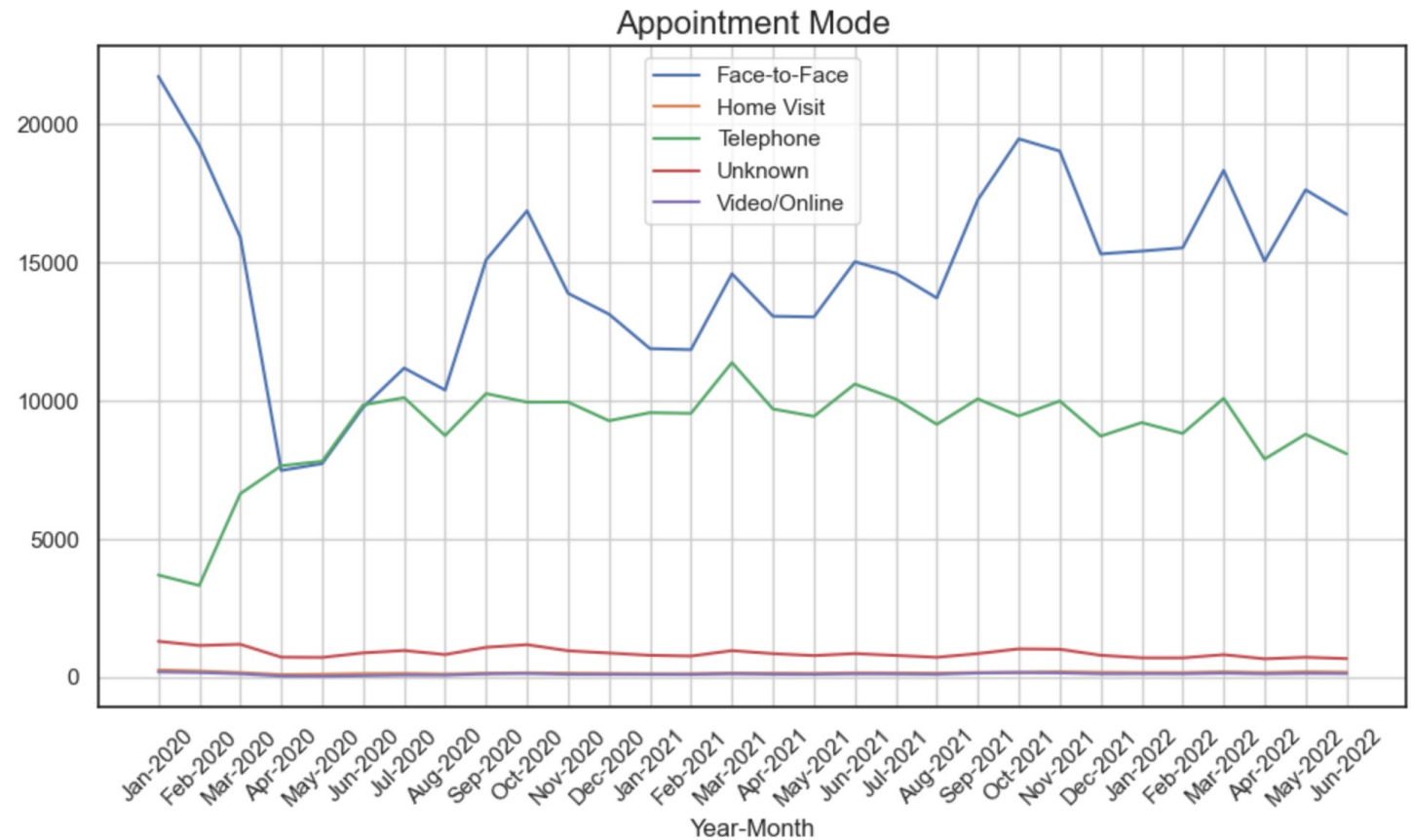
- Home Visit: Has the lowest "Attended" rate (73.89%) and the highest "Unknown" rate (22.26%). This could indicate logistical difficulties or patient accessibility issues for home visits.

- Telephone: Has the highest "Attended" rate (95.12%) and the lowest "DNA" and "Unknown" rates. This suggests that telephone appointments might be more convenient and reliable for patients.

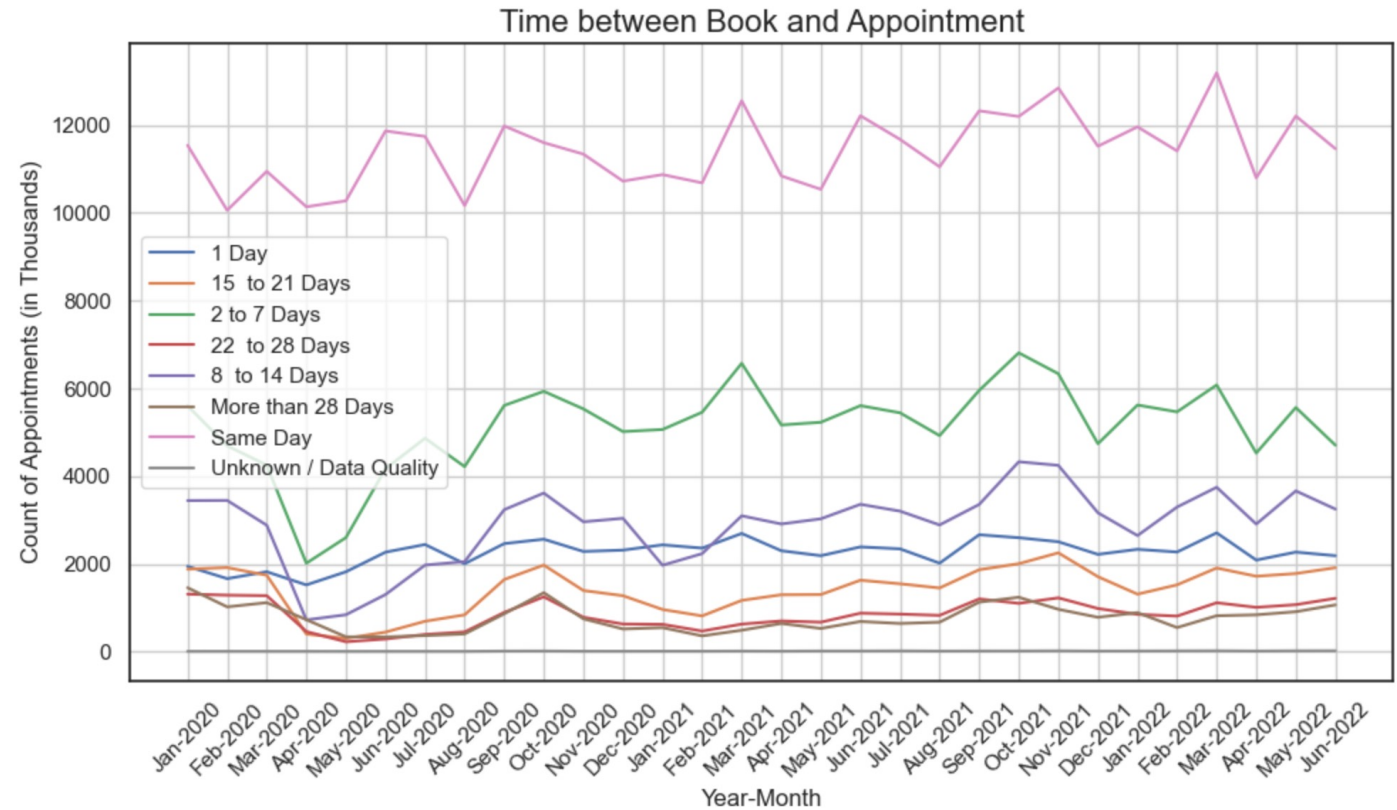
- Unknown: Similar to Face-to-Face, has a high "DNA" rate (3.97%) and "Unknown" rate (7.81%). This could be due to the inherent uncertainty of this mode.

- Video/Online: Has a high "Attended" rate (91.23%) and moderate "DNA" and "Unknown" rates. This suggests potential for online appointments.

Are there changes in terms of appointment type and the busiest months?



Are there any trends in time between booking an appointment?



Summary and Recommendation

Analysis revealed:

- General practice dominates appointments, often booked on the same day and conducted face-to-face.
- Monthly healthcare professional trends, combined with appointment forecasts shows that there is no need of increasing staffing capacity.
- Inconsistent data mapping requires improvement to ensure data accuracy.

Recommendations:

- Investigate potential for increased daily appointments based on capacity analysis.
- Conduct a follow-up study to understand factors impacting appointment utilization.
- Address data mapping inconsistencies to improve data quality.

Thank you
