

NHS

Network Capacity and Resource Utilisation

Investigating Capacity Metrics &
Recommendations For Resource Allocation



General Recommendations:

- Staff levels are insufficient. Capacity needs to be expanded.
- There is a disconnect between capacity expectation and reality.
- Communicate the value of NHS' resources to the public.
- Adjust modality of appointments to increase attendance.

The problem:

- The NHS has finite resources and a duty to use them effectively.
- Increasing system capacity is expensive.
- Current capacity is unclear due to 'waste' in the system.

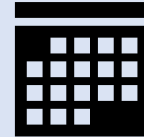
The goal:

- To identify whether current capacity is sufficient.
- To identify waste, if any, in the system.
- To find the most cost-effective way to reduce waste.

What does Sufficient Capacity Look Like?

Government targets:

- See patients within 14 days of them booking an appointment.
- Allocate 15 minutes to patient consultations.
- Attendance.....as high as possible! But this is outside of our direct control.



A More Complicated Scenario:

What if capacity was sufficient but 'waste' in the system made it appear insufficient? What is 'waste'?

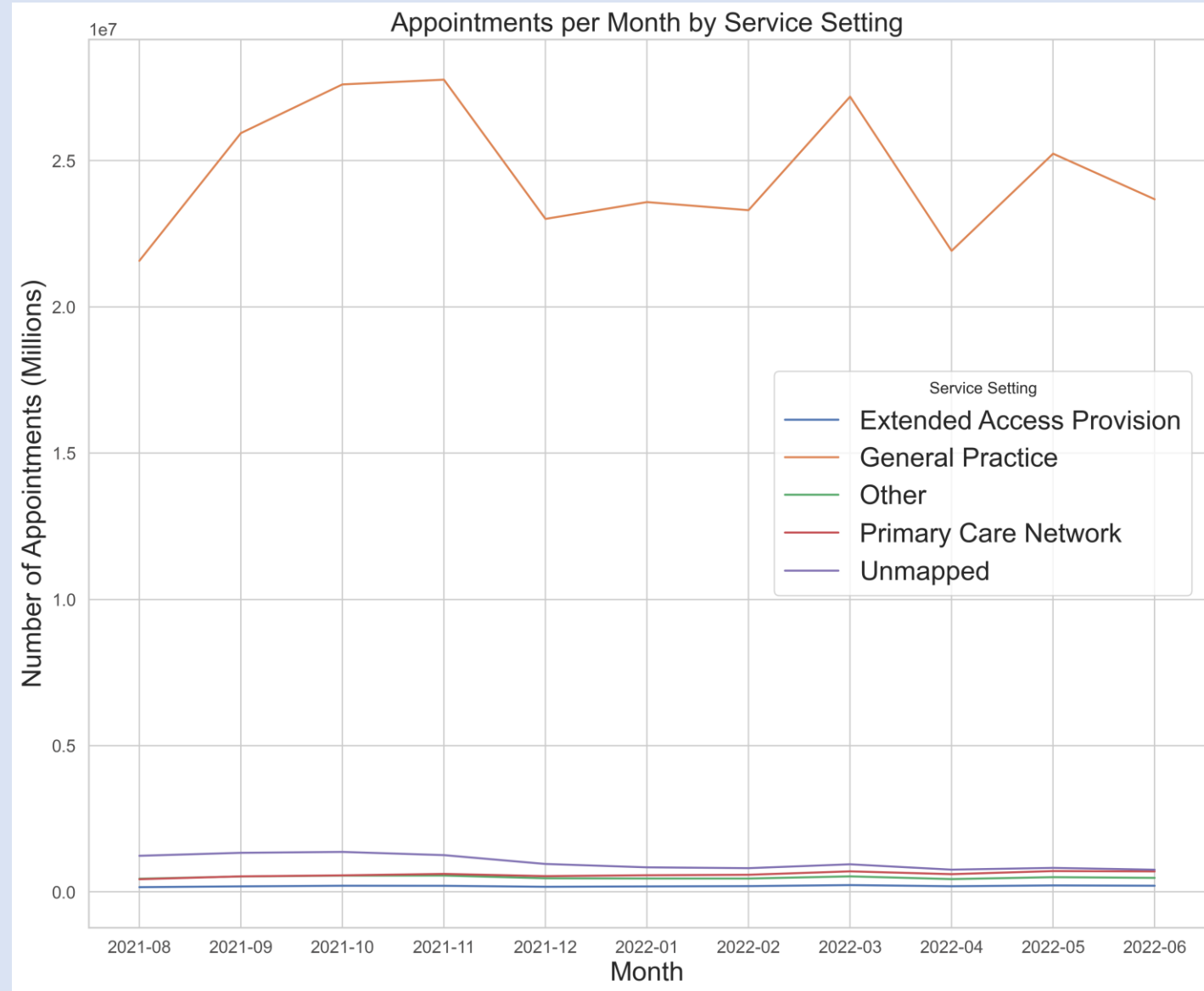
- Greater attendance (less waste) would correlate with better performance.
- When appointments are missed, the workforce is artificially suppressed.

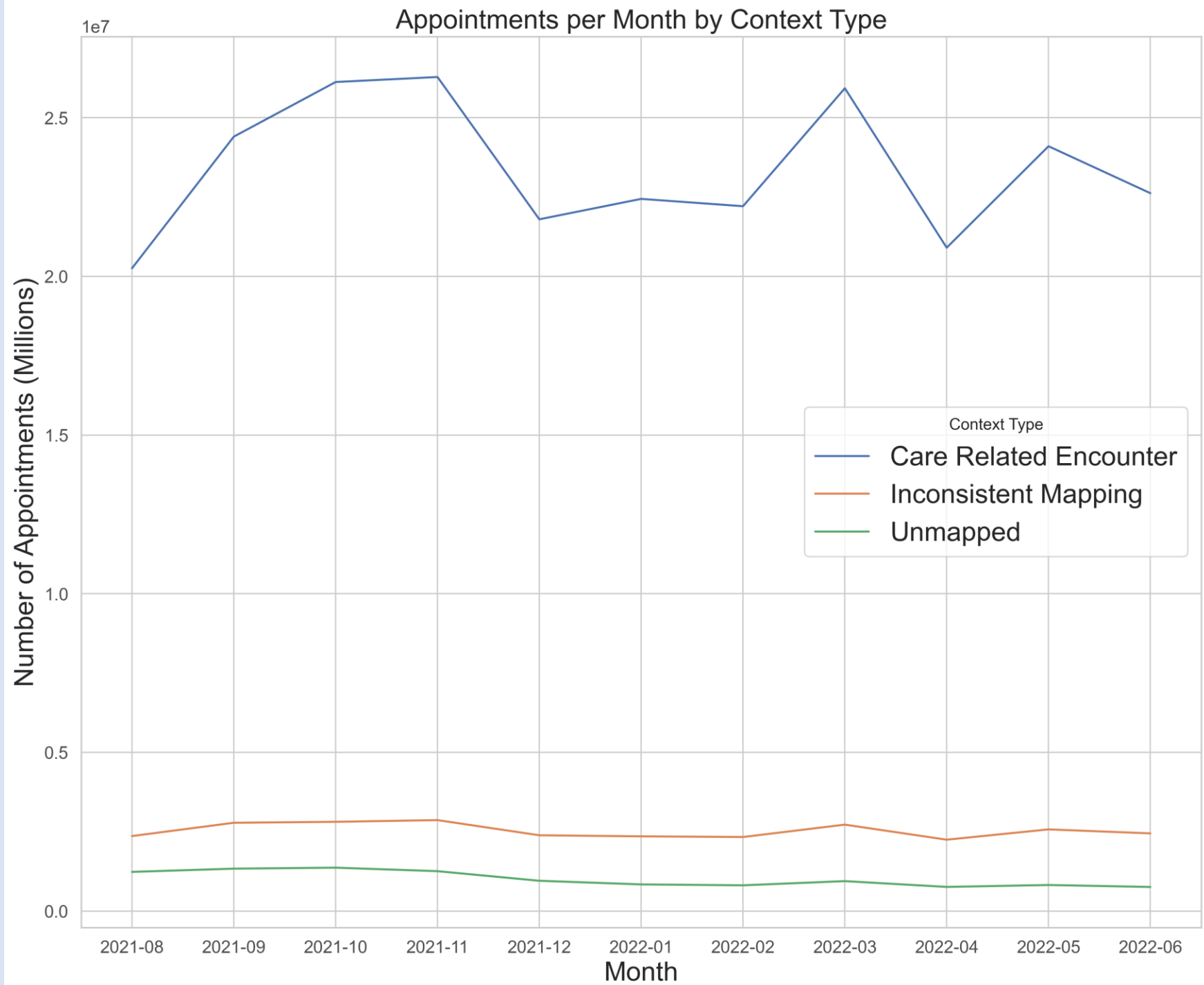
The Analysis:

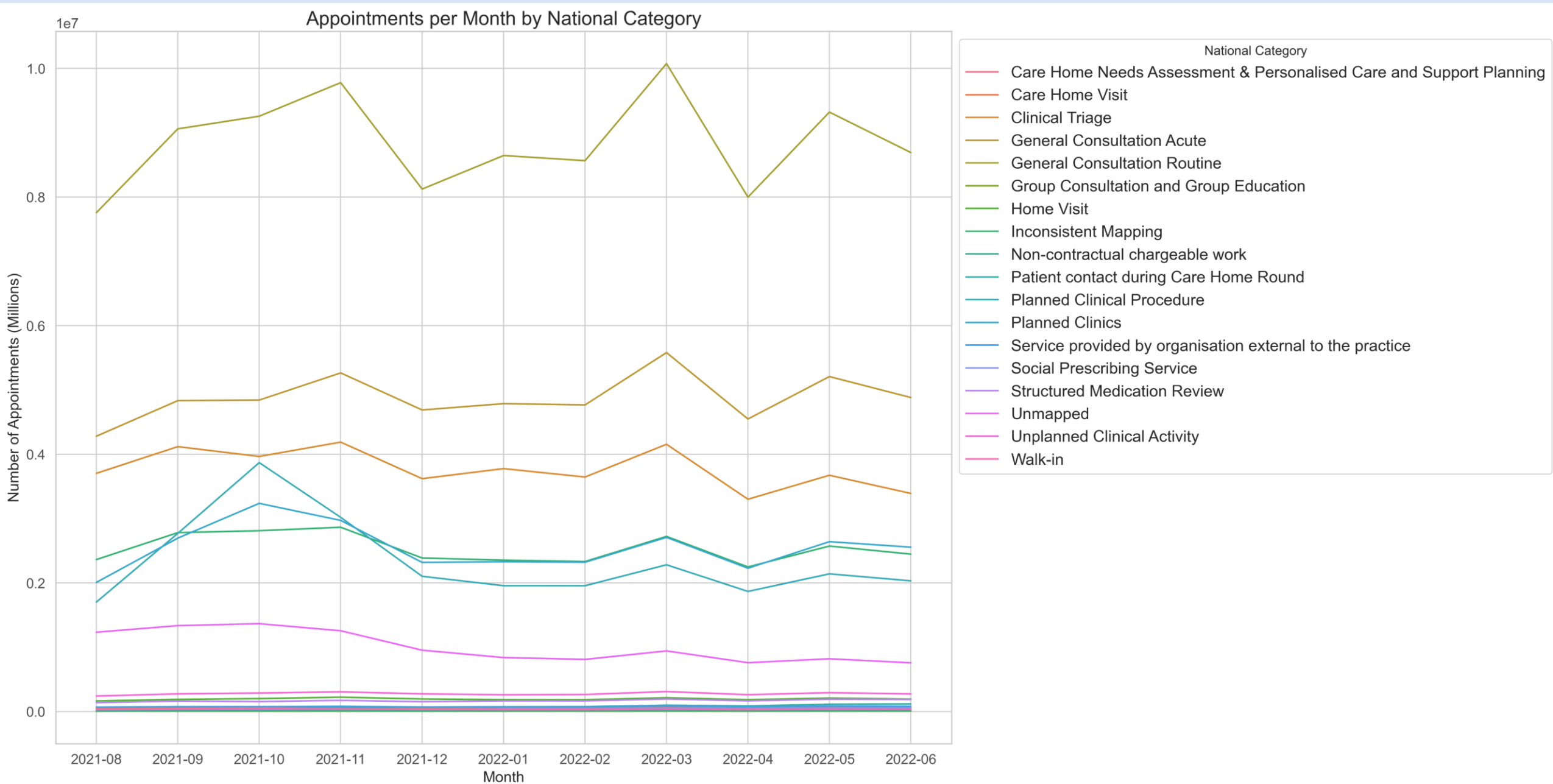
- Derive a measurement for attendance, appointment length and lag time, in each ICB.
- Establish whether capacity was sufficient in any ICB.
- Investigate relationships between these measurements.
- Further investigate by ICB population and staff level.
- Identify ways to ameliorate poor performance.

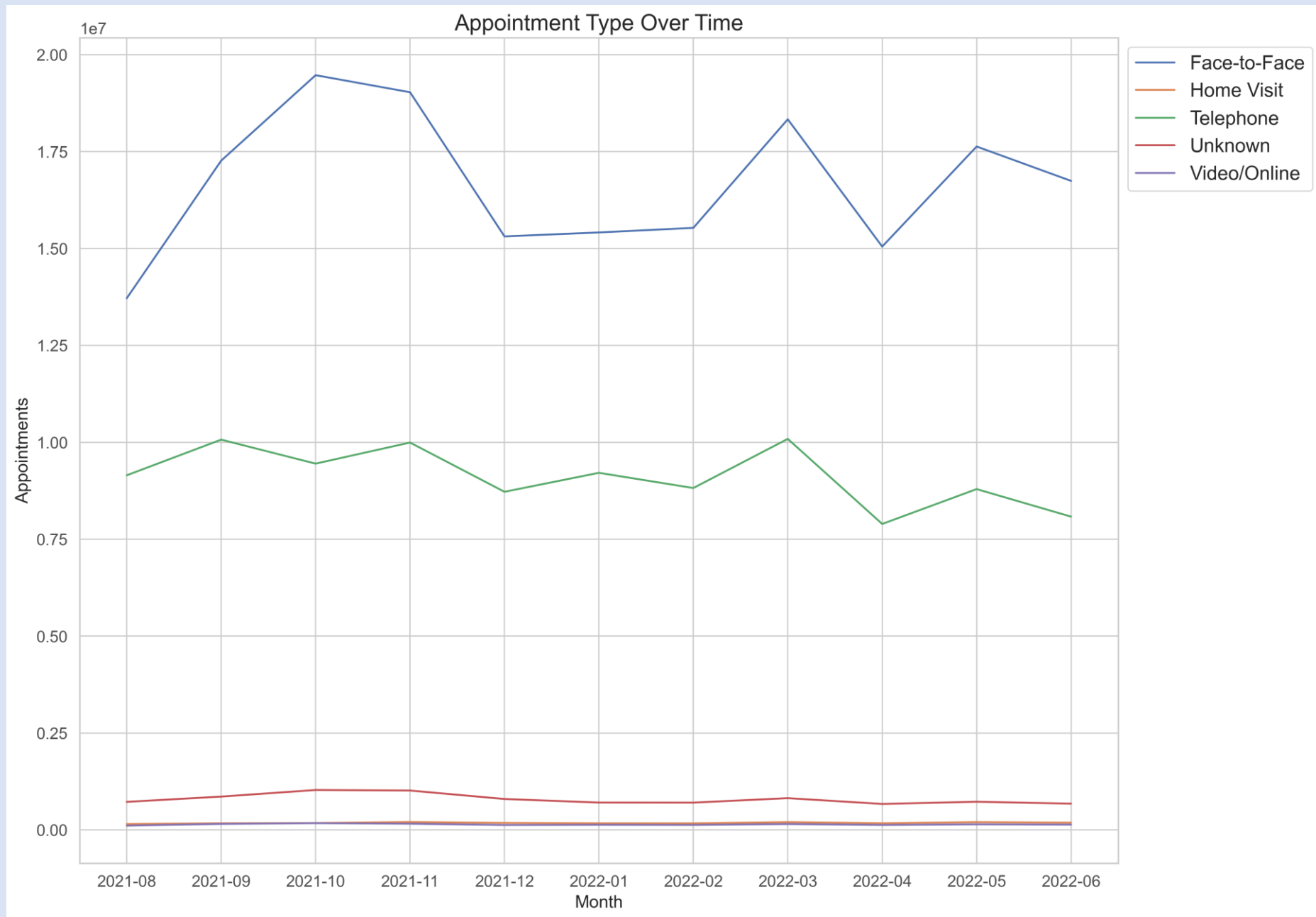
The Data:

- 7 regions, 42 ICBs, 106 Sub ICBs.
- 5 service settings, 3 context types, 18 national categories.
- Ranges from 2020-01 to 2022-06.
- Additional data brought in from NHS Digital, NHS England and the ONS.

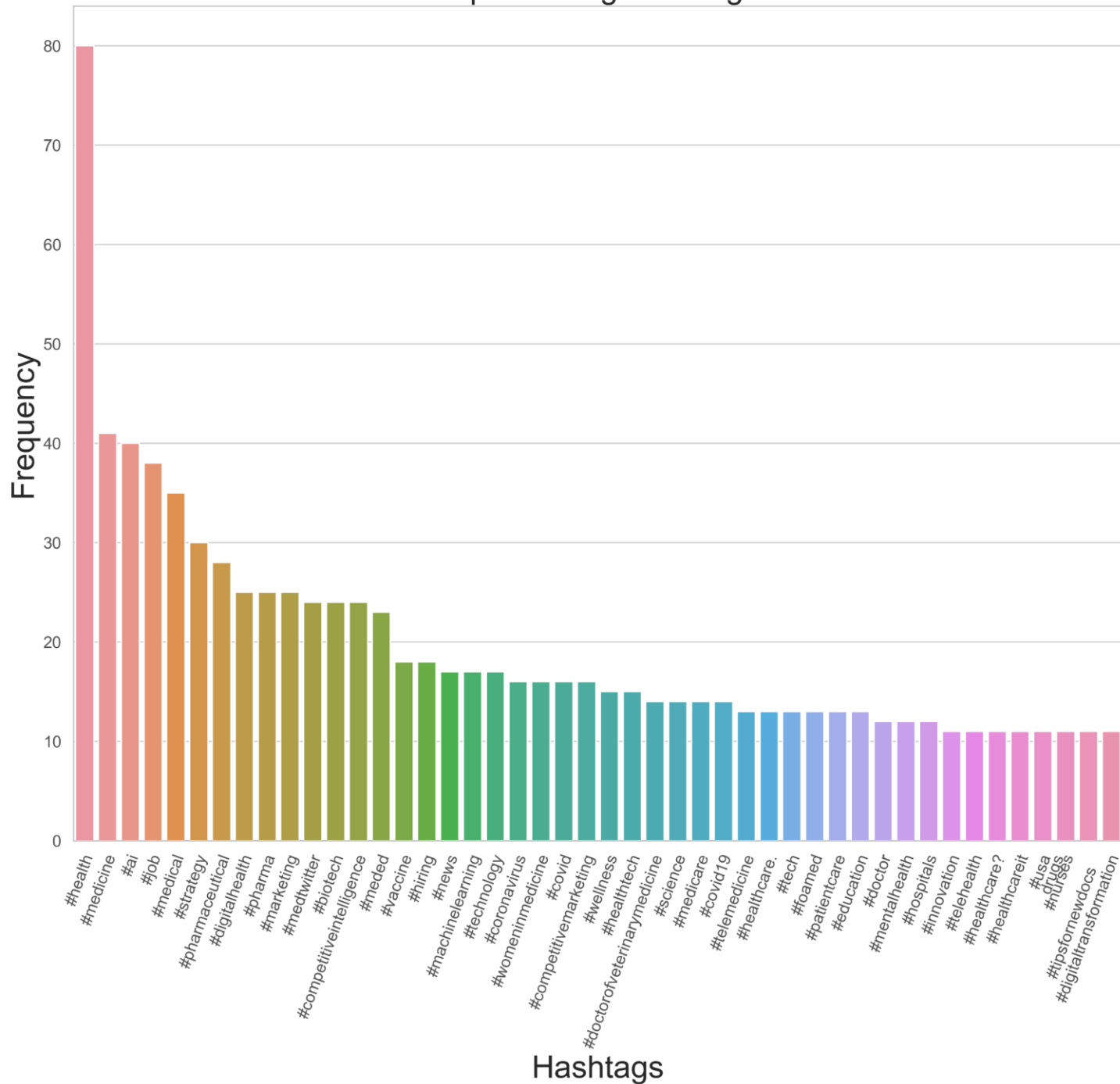








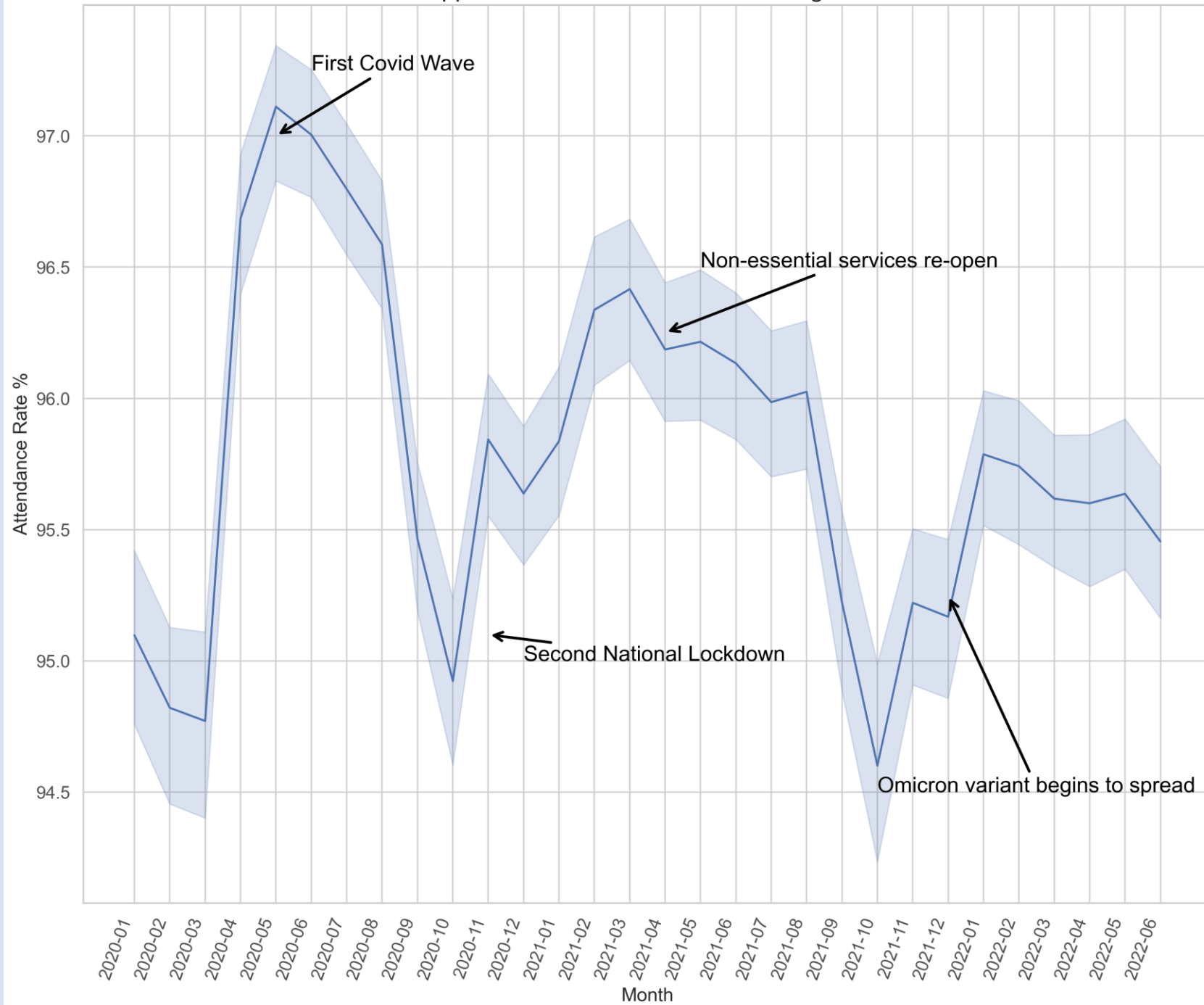
Top Trending Hashtags



Top trending hashtags:

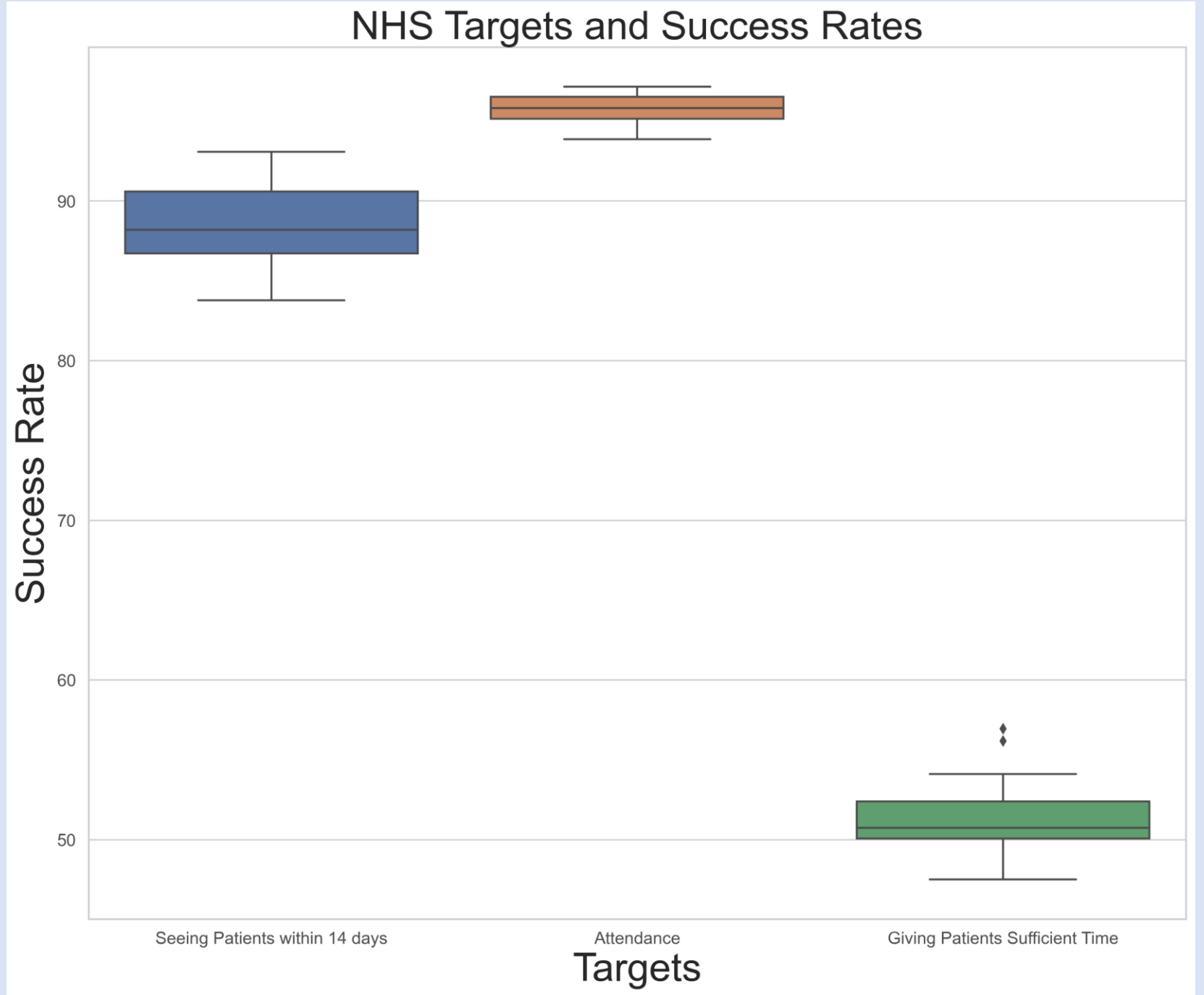
- #health
- #medicine
- #ai
- #medical
- #strategy

Appointment Attendance Rate in England



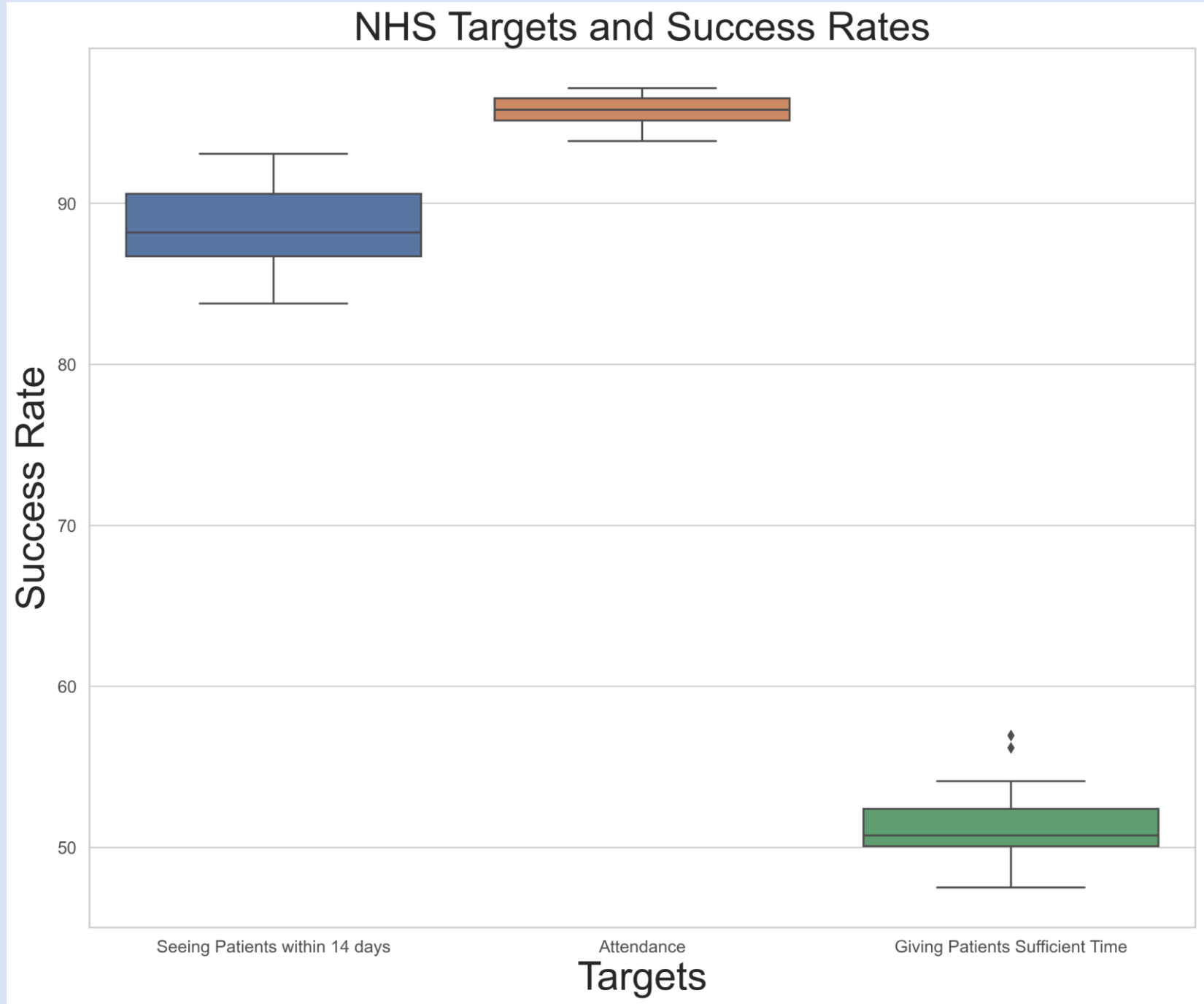
Areas of Success and Failure

- Most patients are seen within 14 days.
- Attendance, overall, is very high.
- Lots of appointments are rushed.
- More staff are needed to give patients longer consultations.

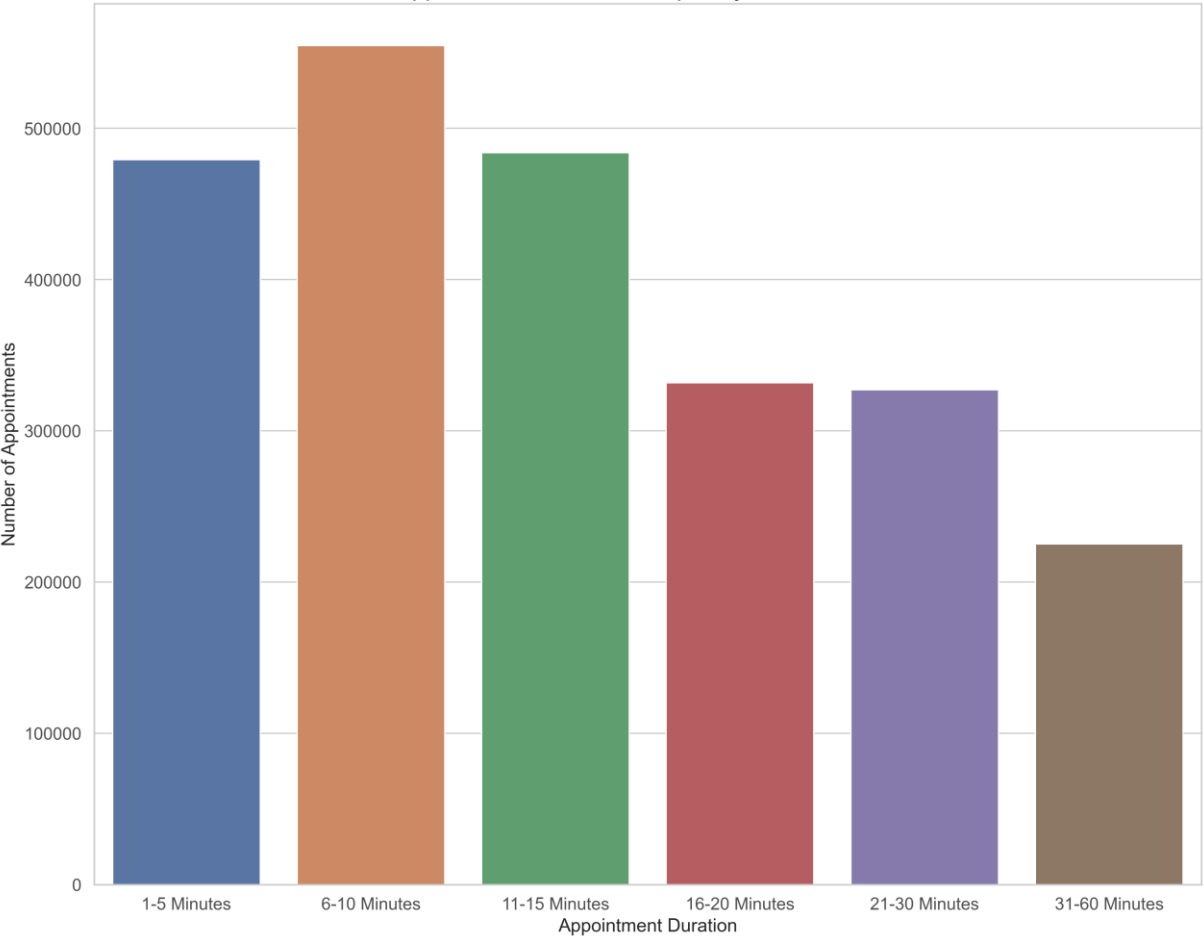


Conclusions

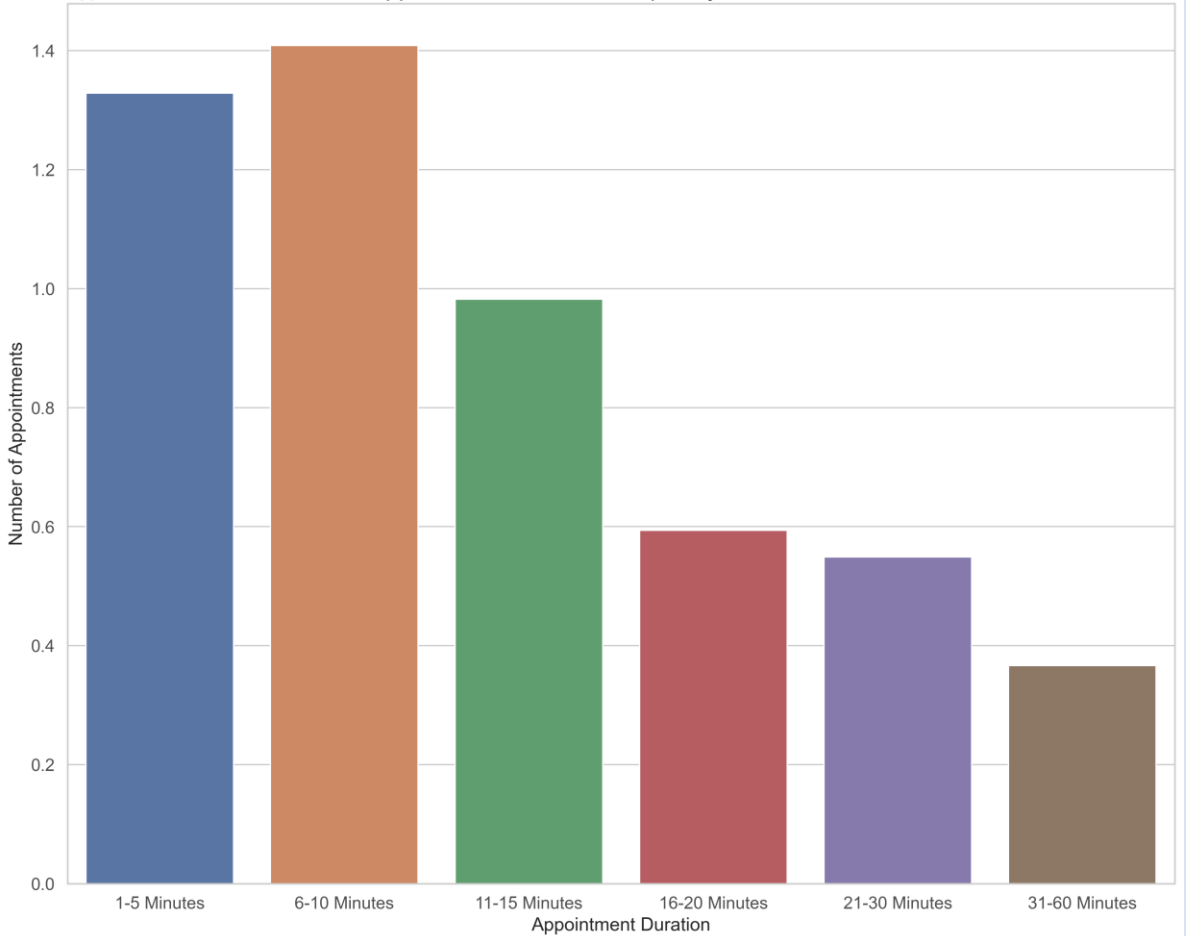
- Appointments are occurring at a desirable rate.
- Patients are attending at a high rate.
- Staff are rushed. No ICBs are able reliably give patients the time they need.



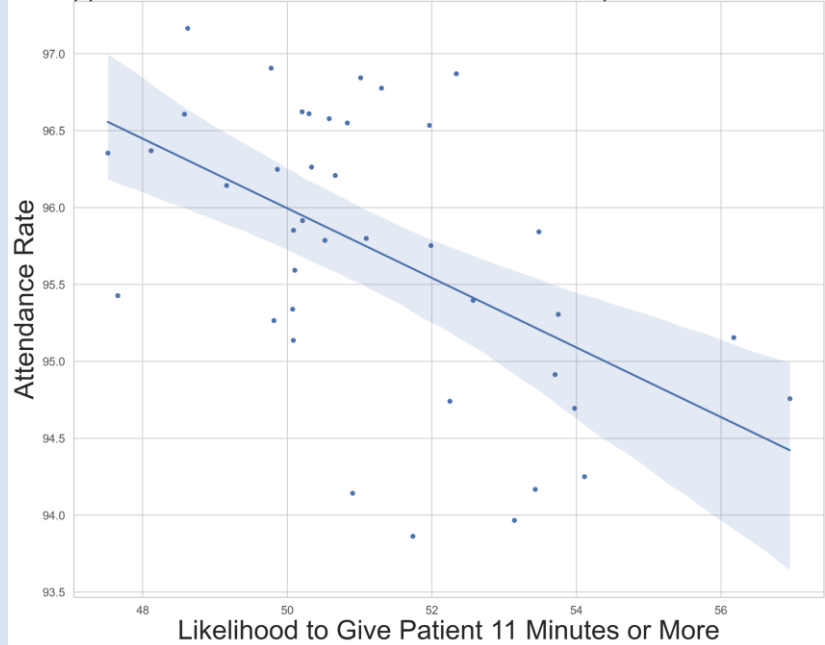
Appointment Duration Frequency in E54000028



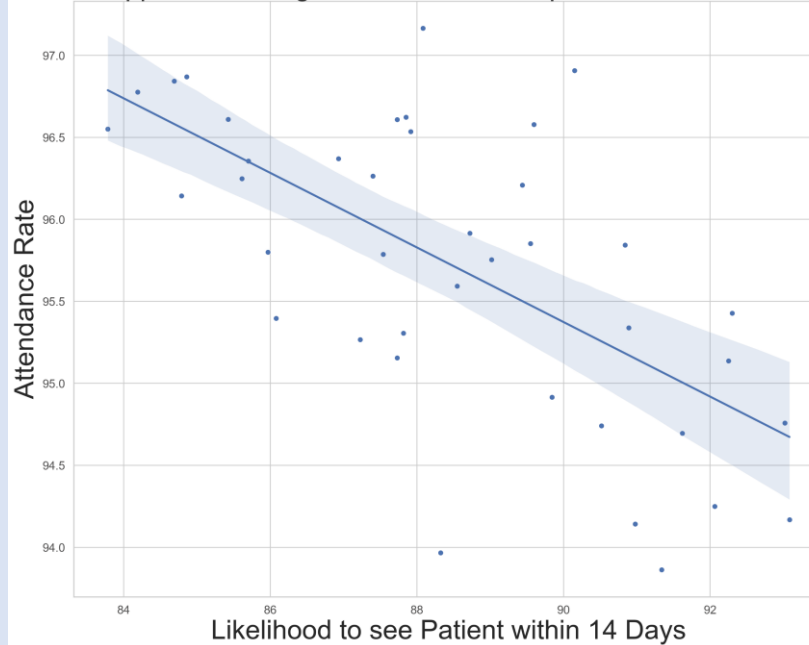
Appointment Duration Frequency in E54000027



Appointment Consultation Time Success Compared to Attendance



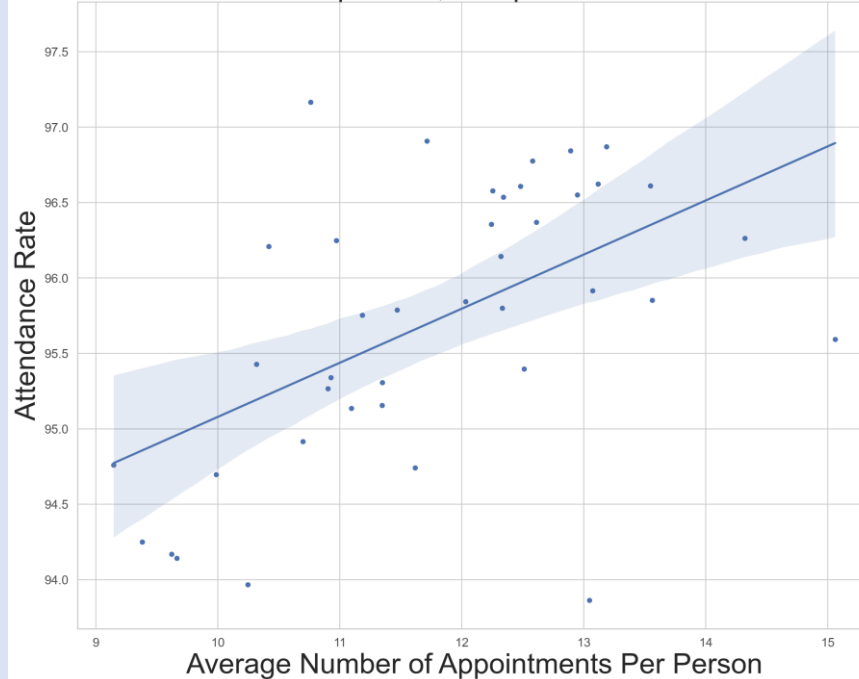
Appointment Lag Time Success Compared to Attendance



- Greater average success in giving patients an appropriately times consultation is inversely correlated with attendance.
- Greater average success in seeing patients within 14 days is inversely correlated with attendance.

- Attendance is better in less healthy locations.
- Attendance is better in areas where staff are busier.

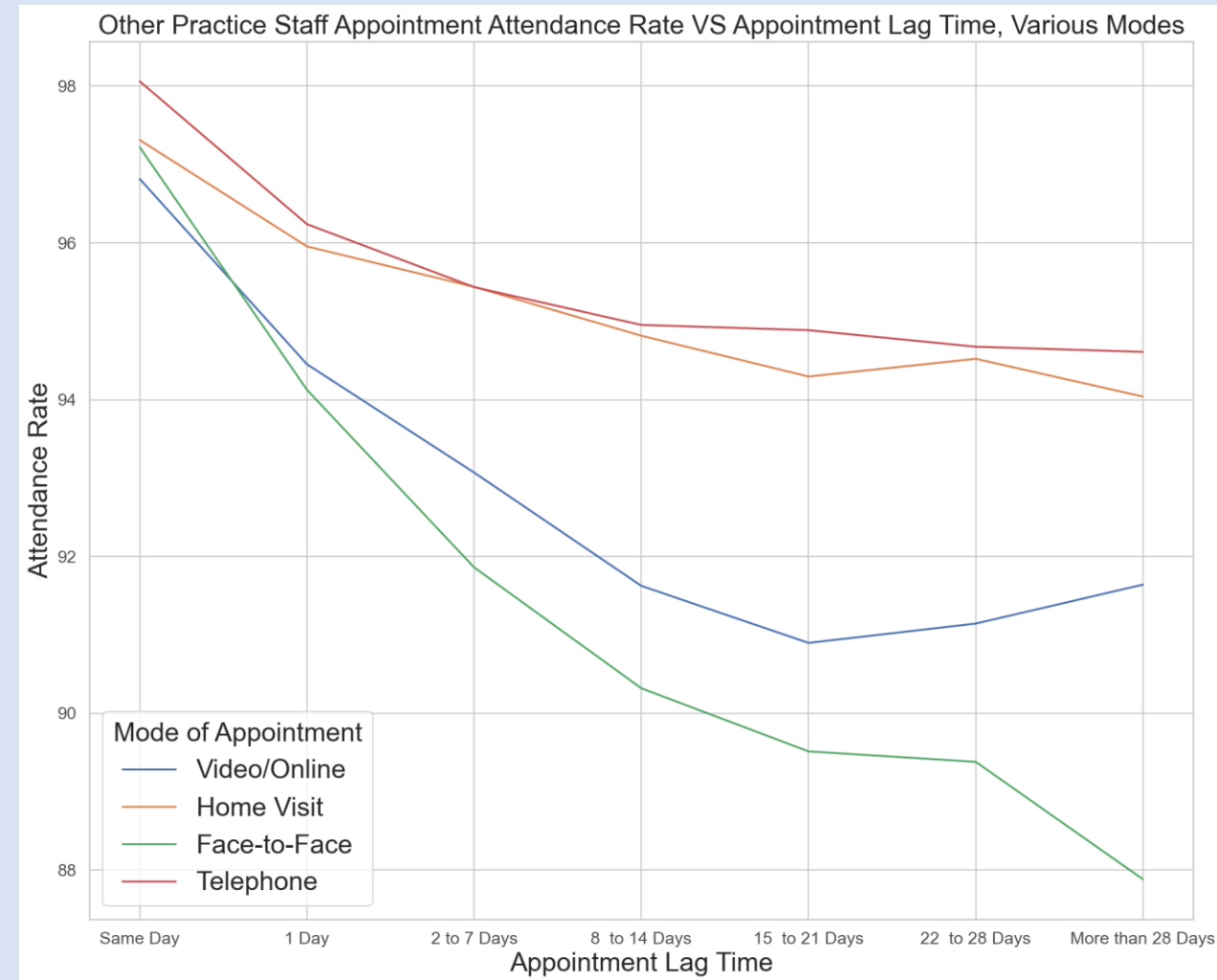
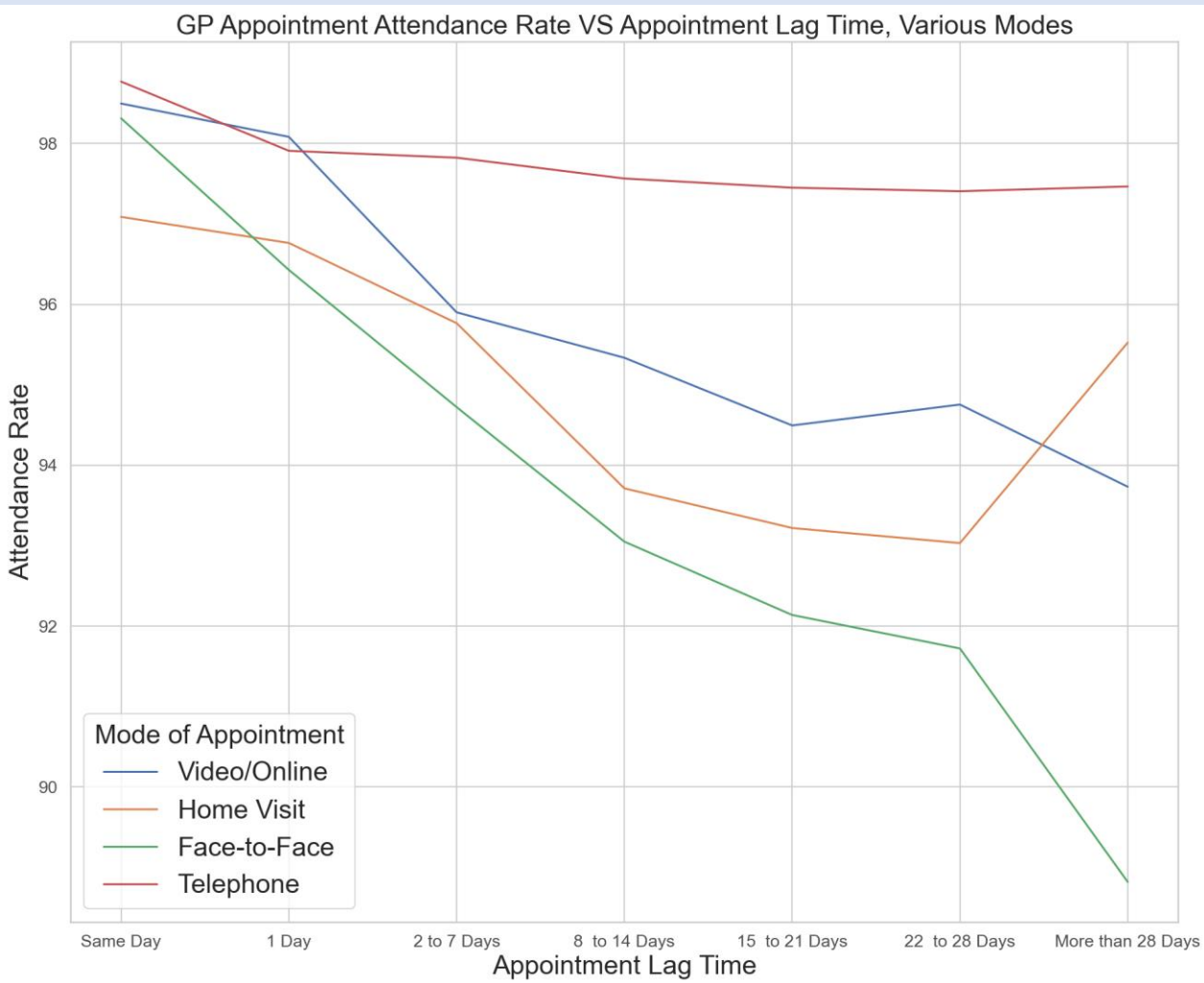
Health of Population, Compared to Attendance

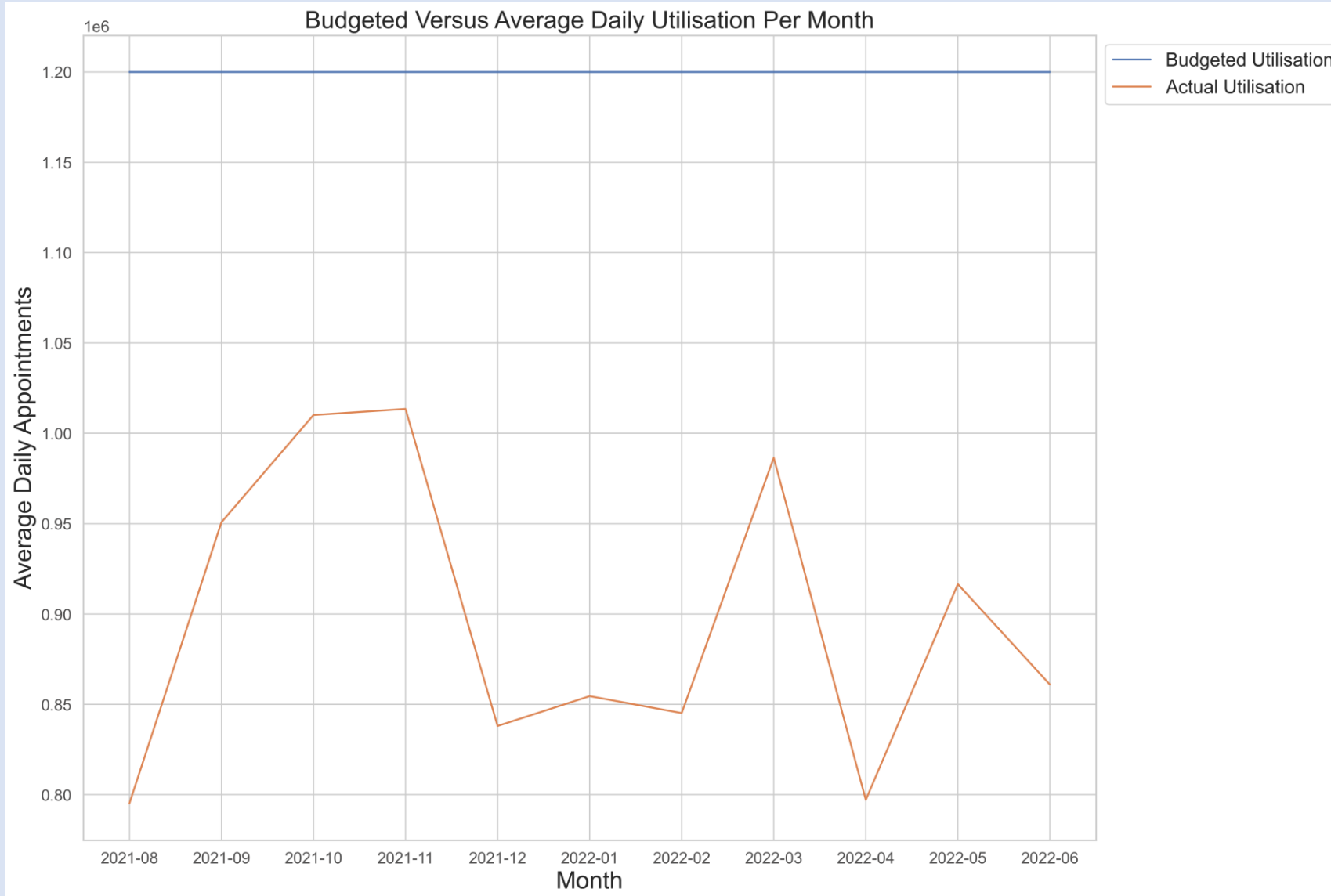


Local Population Per Staff, Compared to Attendance



Modality Recommendations:





- Rate of increase is very high right now.
- How much more needs to be done to catch up to demand and provide sufficient consultation times.



Recommendations:

- Staff levels are insufficient. Capacity needs to be expanded.
- There is a disconnect between capacity expectation and reality.
- Communicate the value of NHS' resources to the public.
- Adjust modality of appointments, depending on lag time, to increase attendance chance.

NHS Staff Numbers in England 2009-2023

