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# Impact of Deprivation Status on Access to General Dental Services in Northern Ireland During the COVID-19 Pandemic

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## Background

- COVID-19 pandemic led to changes and restrictions on dental practices.
- This impacted patients' ability to access dental services.
- Evidence of pre-existing inequalities in access to services in Northern Ireland.
- Long standing workforce, waiting list and contractual issues highlighted before the COVID-19 Pandemic .

## Objectives

- Assess the impact deprivation status had on access to general dental services during the COVID-19 Pandemic in Northern Ireland.
- Understand the longstanding issues that have been heightened by the COVID-19 Pandemic.

## Methods

- In-depth literature review of
  1. Oral Health Inequalities in Northern Ireland.
  2. Effects COVID-19 Pandemic has had on the NHS in Northern Ireland.
  3. Changes to NHS General Dental Services in Northern Ireland during the COVID-19 Pandemic.
  4. Impact of changes made to NHS General Dental Services in Northern Ireland during the COVID-19 Pandemic.
  5. Current Issues Faced Within NHS General Dental Services in Northern Ireland.
- Data Analysis
  1. Dental Registration data from two matched time points for all 371 NHS dental practices in Northern Ireland.
    - September-December 2019
    - September –December 2021
  2. Dental practices coded based on Northern Ireland Multiple Deprivation Measure 2017 to facilitate analysis.
  3. A paired t-test was used to ascertain if there was a statistically significant difference in child dental registrations pre COVID-19 pandemic and during the recovery phase of COVID-19 pandemic.

## Key Literature Review Findings

- Long standing oral health inequalities
- Staff shortages
- Increase in NHS waiting lists
- Changes within general dental services
  - Infection Prevention Control Guidance
  - Limitations on Aerosol Generating Procedures
  - Financial support packages introduced
- A shift of general dental practitioners to private dentistry.

- Decrease in activity levels.
- 2020/21 - 194,000 dental examinations performed on adults which is a decrease of 78% on 2019/20 examinations.

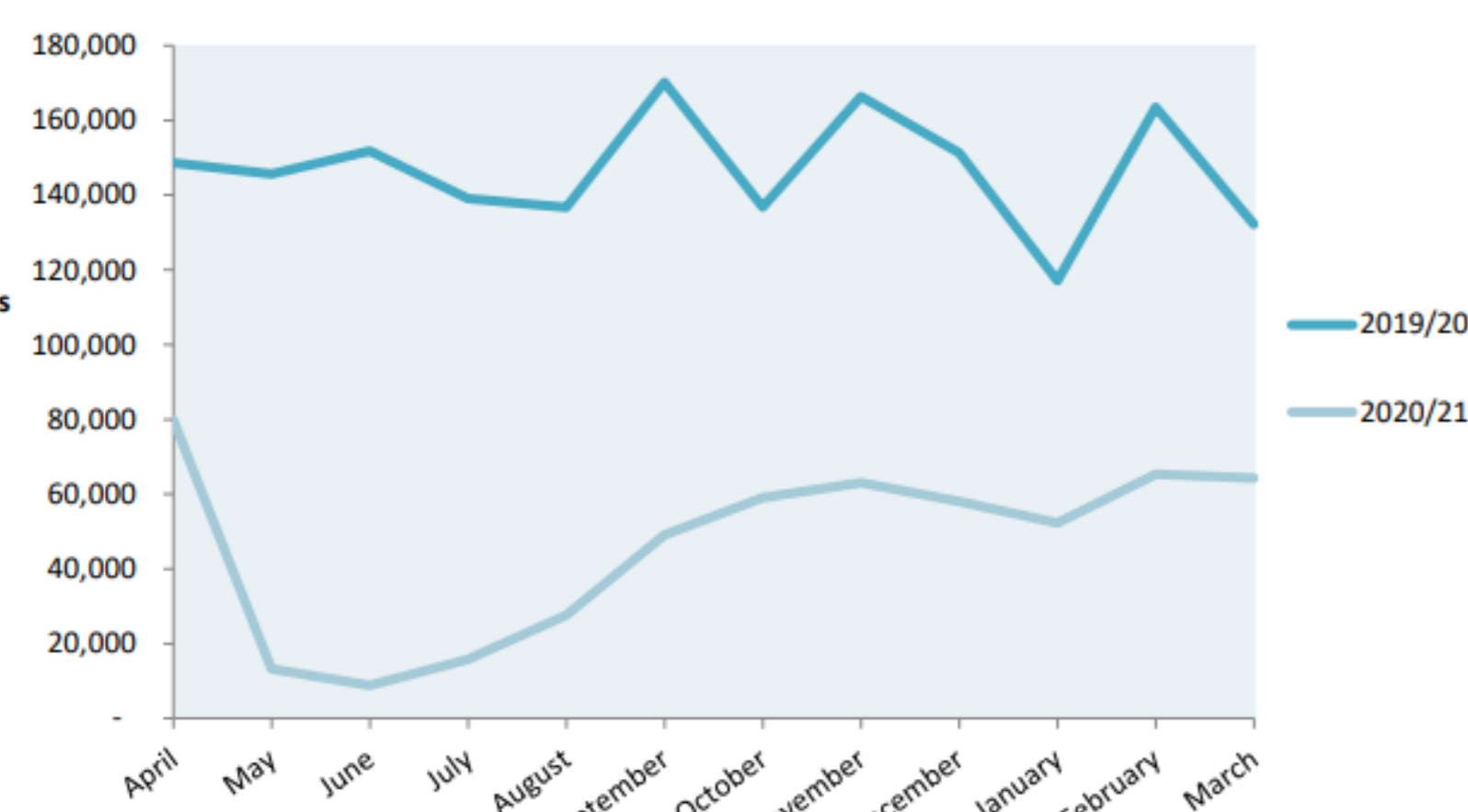


Figure 1: Patients seen in 2019/20 compared to 2020/21

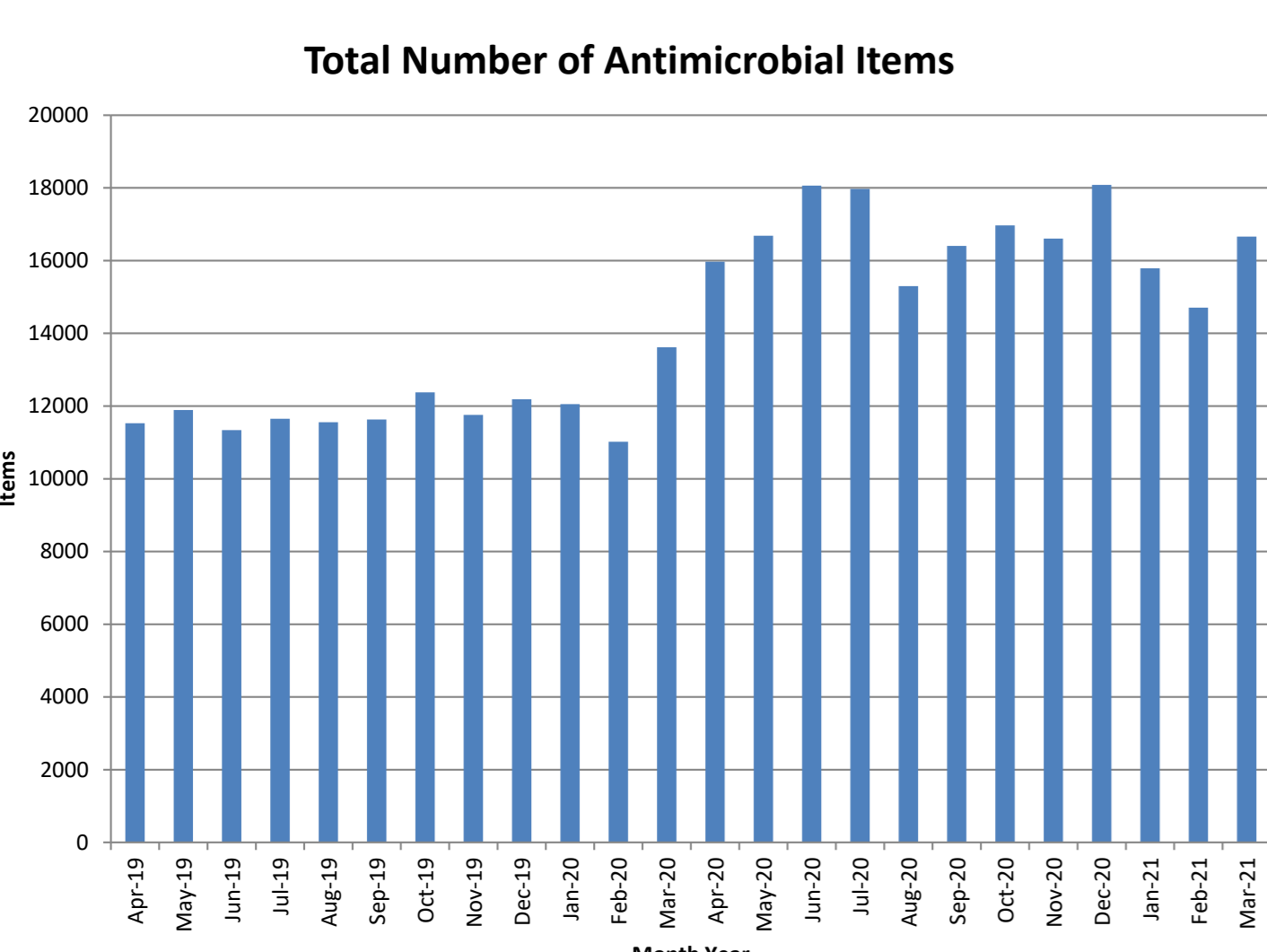


Figure 2: Total number of antimicrobial items prescribed by GPs in Northern Ireland per month April 2019 - February 2021.

- Increase in antimicrobial prescribing
- Largest increase of 59% from June 2019 - 11,339 items compared to June 2020 - 18,064 items prescribed.
- Peak of 18,080 prescriptions in December 2020 up 48% on the previous year.

## Results

Coding of Dental Practices	Number of Dental Practices
Number of NHS dental practices	371
MDMQ1	73
MDMQ2	76
MDMQ3	70
MDMQ4	74
MDMQ5	71
Missing MDM data	7

Activity	2019	2021	Change between 2019 and 2021
	Child	Child	Child
Sept Registrations	324,101	314,202	-3%
Joiner	13,121	7,043	-46%
Ongoing Registration	313,941	308,382	-2%
Transfer into Practice	2,520	1,605	-36%
Leaver	7,640	4,215	-45%
Dec Registrations	329,582	317,030	-4%

## Statistical Analysis

- Overall there was a statistically significant decrease ( $p < 0.01$ ) in child joiners to NHS dental practices from time point one to time point two.
- The difference was statistically significant for the three most deprived quintiles- MDM1 ( $p < 0.01$ ), MDM2 ( $p = 0.0453$ ), MDM3 ( $p = 0.0039$ ).
- The decrease was not statistically significant for MDM4 ( $p = 0.078$ ) or MDM5 ( $p = 0.2545$ ).
- This indicates a social gradient in the ability to register as a new patient at an NHS dental practice based on multiple deprivation with those practices in the more socially deprived areas being impacted significantly more than least deprived areas.
- There was a statistically significant decrease in ongoing child registrations ( $p = 0.03$ ), transfers ( $p = 0.0105$ ) and leavers ( $p = 0.0139$ ) with NHS dental practices from time point one to two, these did not follow a trend based on deprivation status.

## Limitations

- MDM data based on postcode for the dental practice. This assumes that those who attend the dental practice live in the area and have the same level of deprivation.
- Seven practices without MDM data, these practices are no longer operating and so their postcode is not available through the BSO data.
- The data and analyses look at child registration data as a measurement of access to NHS dental practices but registration with an NHS dental practice does not necessarily equate to access to an NHS dental practice.

## Conclusions

- The COVID-19 pandemic had a significant impact on dental services.
- Changes to regulations and restrictions put in place impacted on the ability of patients to access a dentist.
- Deprivation status impacted access to dental services in Northern Ireland during the COVID-19 pandemic for children.
- The pandemic has heightened issues and inequalities that were long standing before the pandemic.
- We need to explore options for improving access to services and reducing the oral health equity gap.

## Recommendations

- Further analysis of dental activity data.
- Exploration of inequalities in access to dental services pre COVID-19 pandemic .
- Workforce analysis and planning.
- Contract reform.