Six Months In: Pandemic Crime Trends in England and Wales.

Samuel Langton

Anthony Dixon

Graham Farrell

Governments around the world have enforced strict guidelines on social interaction and mobility in an effort to control the spread of the COVID-19 virus. Evidence has begun to emerge which suggests that such dramatic changes in people’s routine activities have yielded similarly dramatic changes in criminal behavior. This study represents the first ‘look back’ on six months of the nationwide lockdown in England and Wales. Using open police-recorded crime trends, we provide a comparison between expected and observed crime rates for fourteen different offence categories between March and August, 2020. We find that most crime types experienced sharp, short-term declines during the first full month of lockdown. This was followed by a gradual resurgence as restrictions were relaxed. Major exceptions include anti-social behavior and drug crimes. Findings shed light on the opportunity structures for crime and the nuances of using police records to study crime during the pandemic.

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**Corresponding author:** Samuel Langton, School of Law, University of Leeds, United Kingdom.

Email: [s.langton@leeds.ac.uk](mailto:s.langton@leeds.ac.uk).

School of Law, University of Leeds, Leeds, United Kingdom.

## Introduction

The ongoing COVID-19 pandemic has had a profound impact on societies around the world. Physical health, mortality rates, healthcare systems, economic performance, mental well-being, social interactions and mobility have experienced unprecedented change and fluctuation in response to both the virus itself and attempts to control its spread. Evidence has begun to emerge which demonstrates the stark effects of nationwide lockdowns and ‘stay at home’ messages on crime (e.g. Felson et al., 2020; Ashby, 2020b; Stickle & Felson, 2020). Here, we take an initial ‘look back’ on crime trends in England and Wales during the first six months of the nationwide lockdown. Findings hold particular significance for the study of opportunity theories and crime, and shed light on the merits (and shortcomings) of using police-recorded crime data to examine the impact of lockdown measures on criminal behavior.

Curbs on citizens’ mobility and social interactions have been widely deployed by local and national governments to stem the spread of COVID-19. The degree to which countries have mandated and enforced these guidelines has varied, but in the United Kingdom, as in many European countries, the government adopted a legally-enforced “stay at home” ruling for citizens in March. There were exceptions to these restrictions. For instance, essential commercial outlets such as supermarkets could remain open, and ‘key workers’ in professions such as social and health care could continue to work. But, generally speaking, countries adopting stay at home policies witnessed a change in citizen mobility and routine activities in a manner which was both instantaneous and unprecedented. These alterations in daily life, globally detectable and recorded using measures of seismic activity, have been described as the ‘great quiet period’ in human mobility (Lecocq et al., 2020).

The pervasiveness and speed of these interventions into citizens’ lifestyles and daily activities represents a unique opportunity to study criminal behavior in an experimental setting (Eisner & Nivette, 2020; Stickle & Felson, 2020). The global nature of lockdowns, and the variance in timing and severity between countries (and even within countries), make this a particularly fortuitous moment in criminological inquiry. Specifically, the routine activities approach (Cohen & Felson, 1979) has been identified as a key framework from which to understand the impact of these experimental conditions (Felson et al., 2020). Drastic changes in human mobility are likely to yield similarly drastic changes in the scale and nature of interaction between potential targets, motivated offenders and capable guardians (Halford et al., 2020). For instance, stay at home measures boost daytime guardians in residential areas (‘eyes on the street’), potentially *reducing* opportunities for burglary. By the same measure, crimes such as child abuse or intimate partner violence may *increase* as a result of victims and offenders spending more time together in a domestic setting. To date, empirical support for these expectations has varied considerably by crime type, time period and study region.

This paper investigates the impact of the COVID-19 pandemic on crime and anti-social behavior using six months of open police-recorded data in England and Wales. Using historical monthly trends as a baseline for comparison, we quantify the scale and character of change across fourteen different offence types during the nationwide lockdown. Findings are evaluated for their consistency with theoretical expectations, informed by the routine activities approach, and discussed with a critical eye to using police-recorded crime data and the ‘natural experiment’.

### Literature review

In recent months, studies have emerged internationally which have helped establish the extent to which crime (or police calls for service) during lockdowns have deviated from expected trends (see Table 1). These contributions have largely featured case study sites in the United States, including San Francisco and Oakland (Shayegh & Malpede, 2020), Los Angeles (Campedelli et al., 2020; Mohler et al., 2020), Detroit (Felson et al., 2020), Indianapolis (Mohler et al., 2020), Dallas (Piquero et al., 2020) and Chicago (Bullinger et al., 2020), although a small number of these have have examined multiple cities simultaneously (Ashby, 2020b, 2020a) and nationwide (Hawdon et al., 2020). Although the focus has been in the United States, studies have also been conducted in the United Kingdom (Buil-Gil, Miró-Llinares, et al., 2020; Halford et al., 2020), Australia (Payne & Morgan, 2020a, 2020b), Sweden (Gerell et al., 2020) and Canada (Hodgkinson & Andresen, 2020).

Findings from this array of research have, generally speaking, aligned with theoretical expectations from routine activities theory, but there are key exceptions and caveats. One definitive conclusion we *can* draw is simply that “crime has changed” in response to restrictions aimed at curbing the spread of the virus (Gerell et al., 2020, p. 2). As Table 1 demonstrates, numerous studies have reported widespread declines in common police-recorded crimes such as a residential burglary, shoplifting, theft and assault. In many cases, these declines hold association with fluctuations in mobility (e.g. Halford et al., 2020) which suggests that lockdowns have disrupted the frequency of convergence between motivated offenders, suitable targets and a lack of guardianship. At the same time, some crime types appear to have increased, including cyber-dependent crimes like online shopping fraud, potentially reflecting a shift in the scale and nature of victims’ online activity, and the prevalence of motivated offenders forced to operate from home (Buil-Gil, Miró-Llinares, et al., 2020).

In some cases, studies report unexpected or conflicting findings. This appears to be, at least in part, be attributable to the short time frames being studied and limitations in the data being used. For instance, Payne & Morgan (2020a) reported no shift in violent crimes recorded in Queensland, Australia, but note that the impact of changes in mobility may not yet have come to fruition during the short study period. Similarly, Hawdon et al. (2020) found that cyber-routines and cyber victimization remained unchanged, but measurements were taken early in the pandemic. Studies have also reported no change (Shayegh & Malpede, 2020), short-term spikes (Piquero et al., 2020) and increases (Mohler et al., 2020) in domestic violence. Such issues showcase the challenges of understanding crime during lockdown ‘on the fly’, especially when relying on a single data source, which has typically originated from police-recorded crime databases, and covered short time periods.

In the United Kingdom, early studies have focused on cyber-crimes and/or used data from a specific police force (Buil-Gil, Miró-Llinares, et al., 2020; Halford et al., 2020). Study periods have been short, covering only the weeks or months immediately following lockdown. Consequently, we are yet to capture the summer period during which time lockdown guidelines were gradually relaxed. As such, we are currently lacking examinations into crime which capture both the immediate imposition of lockdown and its gradual withdrawal in England and Wales. With this in mind, the present study analysis six months of police-recorded data from March to August 2020 using fourteen different offence categories. We quantify the extent to which the trajectories observed during the study period deviate from what we might otherwise have expected without the lockdown. We offer an in-depth discussion on findings with reference to theoretical expectations and the data sources used.

### Lockdown and mobility

#### Timeline

The timeline tracing the severity of lockdown guidelines in England and Wales during the study period is fundamental to understanding and interpreting the crime trends observed (Table 2). It is changes in citizen mobility which are expected to dictate the opportunity structures for crime, and in turn, the trends observed in police-recorded data.

On 23 March the Prime Minister announced the first ‘stay at home’ order in a televised message to the United Kingdom. Measures were designed and expected to be followed overnight. The official message became “Stay at Home, Protect the National Health Service, Save Lives”. In the days that followed, these restrictions become legally enforceable, and the police were authorized to use force in order to ensure that people were following the rules. April was the first full month of the nationwide lockdown. As restrictions slowly began having its intended impact, some were slowly repealed or relaxed. 1 June marked an important date in this respect, permitting people from more than one household to meet outdoors up to a maximum of six people. This was soon followed by the introduction of “support bubbles” which allowed two households to meet indoors under specific circumstances, such as when one household comprises a single adult with a dependent child. On 4 July, venues such as pubs, cafes and places of worship were allowed to re-open, although limits remained on the number of households permitted to meet. By the beginning of August, “shielding” guidelines for clinically vulnerable people were lifted.

#### Mobility

Although the timing and severity of these lockdown measures can be debated, their impact on mobility patterns is demonstrable. Google Mobility Reports provide aggregated, daily, anonymized information on ambient population movements at a sub-regional level in the United Kingdom. The raw data underlying these reports was made openly available early in the COVID-19 pandemic in an effort to help the public, government and researchers understand how “stay at home” (and equivalent) policies were impacting on mobility. The data has quickly become a useful source of information to study the relationship between crime and mobility during the pandemic (Halford et al., 2020; Mohler et al., 2020).

Using the underlying data from these reports, we can visualize how mobility fluctuated in response to nationwide lockdown measures. The raw data provides a measure of the percentage change in mobility compared to a baseline figure considered to be ‘typical’.[[1]](#footnote-1) A positive percentage indicates higher mobility compared to the baseline, and vice versa. From these raw figures we can calculate the median percentage change in mobility across sub-regions in England and Wales by month (see Figure 2). To match the study region and corresponding police-recorded crime data, we exclude Greater Manchester, as detailed in the following section.

Even by the end of March, after only days of official “stay at home” restrictions, the ambient population in residential areas was higher than the ‘typical’ baseline, as people began adhering to the new rules. With people forced to spend time at home, mobility dropped in workplaces, transit stations and in retail and recreational areas. The scale of this change would become even more evident in April, the first full month of lockdown. With limits on outdoor exercise, mobility also decreased in parks during April.

Since then, although we have witnessed a gradual convergence back towards the baseline for most mobility types, people’s routine activities remain far from typical. Even by August, by which time pubs and restaurants were open, and the government was encouraging many employees to return to ‘on site’ work, mobility in residential areas remained unusually high. Similarly, despite an initial turnaround, mobility in shopping, retail and workplace areas, along with transit stations, has leveled-off below the baseline. The usage of parks increased dramatically once limits on using exercise and outdoor socializing were relaxed, peaking at the end of the study period. Although the longevity of these changes may not be known for some time, we can be certain that the lockdown induced an unprecedented shift in people’s mobility and routine activities (Stickle & Felson, 2020).

The impact of these mobility patterns on the spread of the virus is demonstrable (see Figure 2). Daily deaths attributable to COVID-19 soared during March, but quickly began to decline during April, the first full month of lockdown. Deaths continued to decline throughout spring and summer. The trends observed reflect widespread compliance with the regulations in England and Wales during the study period. Given that open police records, outlined in the next section, are aggregated data by month, it is noteworthy that many (but not all) major changes in lockdown guidelines occurred on or near to the beginning of a month.

It is clear, then, that the nationwide lockdown enforced throughout March and August produced dramatic changes in people’s routine activities. Mobility was severely curtailed on a national level. In turn, the spread of the virus was slowed and mortality rates began to decline. Drawing upon opportunity theories of crime, we suspect that the stark changes in people’s mobility observed in England and Wales between March and August 2020 will have yielded similarly stark fluctuations in crime.

## Data and Method

### Crime data

To examine the extent to which crime changed during the imposition and relaxation of nationwide “stay at home” measures, we make use of open data on police-recorded crime and anti-social behaviour. Data was compiled from 42 out of 43 police forces across England and Wales. Greater Manchester Police did not publicly release sufficient amounts of data due to issues switching to a new computer system in 2019, and thus were excluded from analysis. Data is released on a monthly basis via an open data portal for each force (<https://data.police.uk/>) and archived from previous years to permit analysis of historical trends.

To assess the extent to which trends in crime and anti-social behavior observed during the pandemic differed from what we would otherwise have expected, data was collated from March 2015 to August 2020. The period March 2015 to February 2020 was used to model the ‘expected’ trend, as detailed in the next section. The data covering March to August 2020 covers the first 6-months of the nationwide lockdown.

Open police-recorded crime data contains individual records of offences categorized according to thirteen crime types deemed to be ‘notifiable offences’ according to the National Crime Recording Standards. These crime types are defined by aggregating across sub-classes. For instance, ‘violence and sexual offences’ includes homicide, rape and the use of firearms to resist arrest, amongst others. Anti-social behavior (ASB) is not considered to be a notifiable offence and is usually reported separately from ‘crimes’ in national statistics. It includes less serious offences such as nuisance behavior. It is noteworthy that police forces were widely reported to have recorded breaches of lockdown rules during the pandemic using ASB. Thus, we can tentatively assume that ‘excess ASB’ during the study period relate to breaches of lockdown guidelines, rather than increases in ‘traditional’ forms of ASB. We return to this point in the discussion. A summary of these categories is detailed in Table 2.

Individual crime and anti-social behavior records were aggregated by type and by month. Counts were adjusted by the resident population using mid-year estimates, excluding the population of Greater Manchester to reflect the lack of police data for the region. We assumed that population growth is uniform between months, and that population growth in Greater Manchester is the same as the rest of the country. The final dataset for analysis consisted of monthly crime rates (by 10,000 resident population) for the thirteen crime types and ASB (see Table 2) between March 2015 and August 2020 in England and Wales.

### Crime model

As noted, the principal aim of this study is to determine the extent to which the COVID-19 pandemic has impacted on crime in England and Wales. The expectation is that dramatic changes in people’s mobility and social interactions, brought about by nationwide restrictions to curb the spread of the virus, will have brought about similarly dramatic changes in crime. We cannot determine this by studying the lockdown period in isolation. Police-recorded crime trends can vary considerably over long periods of time. They can also be subject to short-term fluctuation and seasonal trends. Without giving appropriate context to crime trends observed during the pandemic, the conclusions drawn can be inaccurate and misleading (Ashby, 2020b).

In an effort to account for this, we deploy an Autoregressive Integrated Moving Average (ARIMA) model to create estimates of the crime rate we might have *expected* between March and August 2020 in a ‘typical’ year, without the pandemic. These estimates can then be compared to the rates *observed* during the nationwide lockdown. ARIMA has been deployed in crime science research for some time but it has proved particularly useful when studying the impact of nationwide lockdowns on crime (e.g. Payne & Morgan, 2020a; Halford et al., 2020).

Crime and ASB rates between March 2015 and February 2020 were used to generate estimates using the *forecast* package (Hyndman et al., 2020; Hyndman & Khandakar, 2008) in R (R Core Team, 2013). An automated, step-wise method for identifying the best model fit was deployed based on minimizing the Akaike Information Criterion (AIC). Allowing for seasonal variation, the final model provided point estimates of crime rates between March to August 2020, along with 95% confidence intervals to reflect a reasonable level of uncertainty in the estimates. These *expected* trends could then be contrasted with the *observed* rates. In a scenario in which the observed rates overlap with the confidence intervals around the estimates, there would no evidence to suggest that crime has deviated from what we would have expected in the absence of COVID-19 pandemic and resulting lockdown. For ease of interpretation, we also visually report the percentage difference between the point estimates and observed rates.

## Results

Findings from the ARIMA analysis are reported using two different but complimentary visualizations. First, the crime rates *observed* during lockdown are plotted against point estimates of the crime rates we would have *expected* during the same time period in the absence of a pandemic (Figure 3). The confidence intervals either side of the expected rates convey the degree of uncertainty around these estimates. Second, we plot the *percentage difference* between what was observed and what was expected, along with the respective confidence intervals (Figure 4).

Burglary and anti-social behavior represent the two offence types which experienced *increases* during the lockdown period relative to what would otherwise have been expected. By the end of March, following less than one week of lockdown measures, rates of ASB were within the range we would have expected. But, following the first full month of restrictions, ASB skyrocketed. The volume of ASB observed during April was 100% higher than what we expected based on typical seasonal variations and long-term trends. This sustained itself into May, followed by a sharp decline as lockdown restrictions were eased into the summer. By July, ASB had returned to usual levels, although there is evidence of a revival in August. As discussed, evidence has emerged which suggests that the observed trends in ASB reflect police recording of lockdown breaches, rather than ‘traditional’ forms of ASB, such as nuisance neighbors.

Drug crimes are the only notifiable offence to experience an increase during April, having begun from an exceptionally low starting point in March. This surge continued into May, by which point rates were 30% higher than expected. In the months following this spike, rates declined over consecutive time periods. By August, the data suggests that the volume of drug offences being recorded by police might be even *lower* than expected. Anecdotal evidence suggests that the trends observed for drug offences reflect changes in policing and the ease of arrest, rather than a shift in criminal behaviour. This point is returned to in the discussion section.

Types of theft and robbery experienced remarkably similar trends. The impact of the lockdown on robbery was immediate and dramatic. By April, robbery was nearly 60% below what we would have expected. That said, it has demonstrated an ability to ‘bounce back’. Observed robbery rates reached within the range to be expected for August. This is suggestive of either a return to the typical convergence of offenders, targets and (in)capable guardians, or alternatively, the displacement of activities opening up new opportunities for robbery.

Rates of theft from the person has seen the most significant decline. In April, rates were nearly 80% lower than what we would have expected without a pandemic. Again, the return to normality has been gradual. Rates flat-lined into May, and then crept back up, but by August, remained at an unusually low level. Other forms of theft, which includes key categories such as making off without payment, were already over 20% below expected in March, increasing to around 50% in April. Since then, we have witnessed the beginning of a return to normality, but the slope has been shallow. By August, the scale of other theft remained considerably lower than expected. Shoplifting experienced a similarly stark decline, bottoming-out at 60% below expected in April. That said, even amidst the relaxation of rules governing the closure of commercial outlets, the resurgence to normality has been slow. In August, the bounce back slowed, and shoplifting remained around 30% lower than we would have expected at the end of the study period.

We note that crimes that often occur in residential areas, such as bicycle theft, burglary, vehicle crime, and criminal damage and arson, demonstrated similarly stark patterns. Rates of bicycle theft were already below normal at the end of March, but this declined further into April. Here, at its lowest level, bicycle theft was nearly 40% lower than what we would have expected. Since then, rates of bicycle theft have crept back up. By June, the observed rates were overlapping with the range of uncertainty in the expected estimates, suggesting that it quickly returned to normality once rules on being outdoors were relaxed.

Even in March, burglary was around 15% down on what we might have otherwise expected. This decline continued into April and May, with rates slowly beginning a resurgence in June. Even at the end of the study period, when lockdown restrictions had been eased, burglary remained significantly lower than normal. In fact, the initial resurgence appears to have tailed off into August, suggesting that burglary may not return to typical levels for some time. This may reflect a more permanent shift of day-time populations to residential areas, acting as capable guardians, as discussed later.

Criminal damage and arson fell marginally during March, and declined dramatically during April. It demonstrated a considerable ‘bounce back’ during summer, and by August, rates were within the range we would might have expected without a lockdown. Vehicle crimes represent one of many crimes types which, following an initial drop in prevalence, experienced a gradual convergence back to what we might have expected without the COVID-19 pandemic. Again, the flat-lining between April and May, and shallow increase, may signal a semi-permanent change in the volume of vehicle crimes being recorded by police.

The possession of weapons, which includes firearms and knives, has experienced a typically volatile trend, standing out from other crime types. In parallel with what we would have expected without a pandemic, rates have fluctuated month-on-month, but at a lower level than normal. Rather than declining from July to August, as predicted, the observed trend flat-lined. By the end of the study period, rates were back to expected given the long-term trend and the time of year

Public order also appears to have experienced a distinct trend. Despite an initial fall in April, the resurgence upon the relaxation of lockdown rules has been considerable. So much so that, in August, the volume of public order offences observed had outstripped the point estimate of what we expected. That said, by August, rates remained within the expected range, given the confidence intervals.

Other crimes, representing a diverse group of offences (see Table 2), only experienced unprecedented levels in April. Although the point estimate for the expected rate have remained higher than the observed rate throughout the study period, the confidence intervals overlap between May and August, suggesting that lockdown had a very short-term impact on these crime types.

Violence and sexual offences represent the most frequently occurring notifiable offence type in open police records. In April, the crime rate dropped sharply, to 24% below expected. As with many other crime types, this initial fall was followed by convergence back to normality. Here, the rapidness of this increase was considerable. By August, the observed crime rate had bounced-back to within a range we might have otherwise expected without the pandemic and restrictions on mobility. Here, it is worth noting domestic-specific instances of violence cannot be identified.

In the Appendix we also report a descriptive comparison between the crimes rates observed during lockdown, and those crime rates observed during the same period in 2019. This matches the analysis undertaken by the Office for National Statistics (Office for National Statistics, 2020) and provides a sensitivity check on the estimates generated from the ARIMA analysis. The descriptive comparison broadly confirms the main findings from this study. The only crime type with notable discrepancies is violence and sexual offences, for which the trend is identical, but the difference between observed and expected is reduced when using 2019 as the baseline. In other words, compared to 2019, violence and sexual offences declined sharply, but only by around 15%. The subsequent resurgence was comparable, but by August, due to the smaller initial decline, violence and sexual offences in 2020 were *higher* than the same month in 2019, by around 8%. We suspect that this is a result of the steep positive gradient in recent years.

## Discussion

The findings presented here strongly suggest that crime in England and Wales has changed considerably in response to the COVID-19 pandemic. We suspect that these changes have occurred as a direct response to dramatic changes in people’s mobility. This demonstration has been undertaken during both the introduction and subsequent relaxation of lockdown guidelines, and has thus captured the resurgence of many crime types following initial declines. Findings highlight a number of points for discussion both in relation to the theoretical expectations of routine activities theory, and the limitations of using police data to study the ‘natural experiment’.

Generally speaking, findings do indeed align with expectations from opportunity-based perspectives on crime. It was predicted that, for many crime types, the enforcement of “stay and home” measures would disrupt the convergence of motivated offenders, suitable targets and capable guardians (Stickle & Felson, 2020). As noted, existing studies using short time periods tended to support this hypothesis, with the introduction of restrictions resulting in declines across multiple different crime types. Here, we note similarly, but also demonstrate both directions of the relationship, having showcased the beginning of a resurgence back to normality as restrictions on mobility were slowly eased.

In England and Wales, twelve out of the fourteen offence categories in open police records experienced a sharp decline in the first full month of lockdown, falling below what we would have otherwise expected. For some of these crime types, the impact of the lockdown may well stretch far beyond the conclusion of the pandemic. The decline in crimes such as burglary and vehicle crime likely reflects a swell of daytime populations in residential areas, increasing capable guardians and ‘eyes on the street’. However, their resurgence has been slow. The prospect of long-term shifts towards home-working may well keep these largely residential crimes permanently below historical levels. That said, in response we may witness offenders switching their specialty. For burglary, offenders may move to target commercial outlets, displacing the spatial concentration of burglary on aggregate to commercial or mixed-use areas (Felson et al., 2020). Rather than burglary being a predominantly daytime activity, temporal hotspots could move to the nighttime when commercial outlets are typically closed.

The closure of non-essential shops, and subsequent decline in mobility in and around retail areas, has clearly disrupted the typical patterns for shoplifters during lockdown. Yet, the resurgence of shoplifting has been slow, and even tailed-off towards the end of summer. Even once open, shops have tended to enforce restrictions on the number of people entering to facilitate social distancing, removing the anonymity of crowds, and making potential shoplifters easier to spot by security personnel and witnesses. The roll-out of a vaccine does not necessarily signal a return to normality. The continuity of high street shopping is no longer guaranteed. Lockdown measures have represented a particularly fortuitous moment for online retailers. The prospect of a permanent decline in daytime city centre populations, as people continue to work from home, may well act as a catalyst for the decline of the high street, and in turn, opportunities for shoplifting.

The initial decline in bicycle theft is consistent with lockdown rules which limited outdoor activity (and other non-essential activities) to only once per day. In April, people were unable to leave their homes frequently, and few places were open which would require leaving a bicycle unattended (locked or otherwise), drastically reducing the number of suitable targets. Bicycle theft quickly returned to the expected range as restrictions on outdoor activity were relaxed. It remains unknown to what extent the surge in cycling witnessed during the summer, increasing potential targets, will maintain itself in the post-pandemic era (Hong et al., 2020).

While open police-recorded crime has facilitated the analysis presented here, as with numerous existing studies examining crime during the COVID-19 pandemic, its usage merits a discussion in its own right. This is particularly pertinent given the tendency of crime science research to study the pandemic as a ‘natural experiment’. Firstly, it remains unknown to what extent existing issues in police-recorded crime data, such as underreporting and sensitivity to police training and activity (Buil-Gil, Medina, et al., 2020; Schnebly, 2008) have been remedied or exacerbated by the pandemic. This adds a confounding factor to the experiment, and in such a scenario, it would be problematic to attribute changes in police-recorded crime solely to changes in the opportunity structure of crime during the pandemic.

By way of an example, drug crimes represent the only notifiable offence to have *increased* above and beyond expected levels during the nationwide lockdown in England and Wales. Yet, police personnel have widely attributed the increase to changes in police activity and resource allocation, rather than a swell in drug-related criminal behaviour. Reports have also suggested that drug activity, such as dealing, has simply become more visible on empty streets, making offenders an easy target for arrest (Langton, 2020). Similarly, the National Police Chief’s Council (NPCC) has credited the increase in ASB to police enforcing lockdown guidelines. In which case, the gap between what we *expected* and what was *observed* would largely reflect the extent to which people adhered to lockdown guidelines, and/or the amount of surplus resource police had to tackle lockdown breaches in the absence of typical crime-based demand for their services.

## Conclusion

This study has provided an initial ‘look back’ on police-recorded crime and anti-social behavior (ASB) during the first six months of nationwide lockdown in England and Wales. We used Autoregressive Integrated Moving Average (ARIMA) to estimate the amount of crime we would have expected *without* the the COVID-19 pandemic and ensuing restrictions on mobility. These estimates were then compared to the crime rates actually observed during lockdown. We found that twelve out of fourteen offence categories experienced significant declines upon the introduction of lockdown guidelines, followed by a resurgence as restrictions were relaxed. That said, the severity of this ‘bounce back’ varied between crime types. Evidence suggests that residential crimes, in particular, may not return to normality for some time, if at all. Other common crimes, such as robbery and violence (including sexual offences) experienced a rapid return to normality. Findings appear to be consistent with expectations from the opportunity structure of crime. That said, dramatic *increases* in ASB and drug crimes were not thought to be attributable to meaningful changes in criminal behavior, demonstrating the nuances in using police-recorded crime data to study the natural experiment.

## Appendix

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1. This ‘typical’ baseline is calculated based on data between January and February 2020, and thus does not account for seasonality. [↑](#footnote-ref-1)