Does more stop and search mean less crime?

Analysis of Metropolitan Police Service panel data, 2004–14

Paul Quinton, College of Policing

Matteo Tiratelli, University of Manchester

Ben Bradford, University of Oxford

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Executive summary

The report explores the relationship stop and search had with crime at a borough level in the Metropolitan Police over a 10-year period. Overall, it suggests that higher rates of stop and search (under any power) were associated with very slightly lower than expected rates of crime in the following week or month. Other relationships were occasionally found between the use of specific search powers and particular categories of crime. The inconsistent nature and weakness of these associations, however, provide only limited evidence of stop and search having acted as a deterrent at a borough level. It is possible that stop and search may be more strongly associated with crime at a more local level, assuming it is targeted appropriately in crime hot spots.

Introduction

This study aimed to add to the limited evidence on the impact of stop and search on crime. Using a 10-year run of data from the Metropolitan Police (2004–14), it examined whether, on average, higher rates of stop and search in a borough in one week/month were followed by a crime rate that was lower than expected in that borough the next week/month (i.e. a lagged negative association). The analysis looked to identify week-on-week and month-on-month associations between stop and search (in total and under specific powers) and seven broad crime categories[1] that might be susceptible to detection by stop and search ('susceptible crime'). As the type of analysis that was carried out could only show correlation and not causation, any evidence of a lagged negative association would point to a **possible** deterrent effect.

Findings

The analysis identified a few weak borough-level associations between searches and crime.

- **Searches under any power** – Higher overall rates of stop and search were followed by slightly lower than expected rates of crime, but only for some crime types. Lagged negative associations were found between total searches and:

  - total susceptible crime (week-on-week and month-on-month)
  - drugs offences (week-on-week and month-on-month)
  - burglary (week-on-week only).

  These associations were typically weak. For example, it was estimated that, if total searches were 10 per cent higher in week/month one in an average borough, total crime on that borough would have been 0.1 per cent lower in week two and 0.3 per cent lower in month two. No other associations were found for other time periods or with other crime types.

- **Searches under specific powers** – Occasionally, higher rates of stop and search under specific powers were occasionally followed by slightly lower than expected rates of crime. Lagged negative associations were found between:

  - drug searches and drugs offences (month-on-month only)
  - weapon searches and violent crime (week-on-week only)
  - non-weapon searches and burglary (month-on-month only).

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[1] Drugs offences, violence crime (not including domestic abuse), burglary, robbery and theft, vehicle crime, criminal damage and an aggregate measure ('total susceptible crime').

Does more stop and search mean less crime?

> These associations varied in strength but were typically weak; the strongest was with drug offences and the weakest with violent crime. No other associations were identified.

Table. Associations between searches and crime (Metropolitan Police boroughs, 2004–14)

Broad crime category	Stop and search power	Lagged negative association	
		Week-on-week	Month-on-month
Total susceptible crime	All searches (any power)	Yes	Yes
Drugs offences	All searches (any power)	Yes	Yes
	Searches under specific powers	No	Yes
Violent crime (excluding domestic abuse)	All searches (any power)	No	No
	Searches under specific powers	Yes	No
Burglary	All searches (any power)	Yes	No
	Searches under specific powers	No	Yes
Robbery and theft	All searches (any power)	No	No
	Searches under specific powers	No	No
Vehicle crime	All searches (any power)	No	No
	Searches under specific powers	No	No
Criminal damage	All searches (any power)	No	No
	Searches under specific powers	No	No

Conclusion

Unlike previous UK research, this study highlighted that higher rates of stop and search were occasionally followed by very slightly lower rates of crime. The inconsistent nature and low strength of these associations, however, provide only limited evidence of stop and search having had a meaningful deterrent effect. Thus, it is important not to overstate the benefits of stop and search, particularly at a force or borough level. Even if the analysis provided 'proof' of deterrence, it would suggest that extremely large increases in stop and search, of a scale likely to be unacceptable to some communities, would only deliver modest reductions in crime. Any benefits derived from such increases would also need to be offset against the associated costs (ie, financial, opportunity and to public trust) and weighed against their likely unequal impact on different communities.

The fact that any associations with broad categories of crime at a borough level were identified suggests that stop and search might have more of an impact on more specific crime types and at a more local level. Two ways of maximising the effectiveness of stop and search might be to use it, where grounds exist, as part of a broader strategy to solve the underlying causes of a particular crime problem or to target active prolific offenders who are responsible for a disproportionate number of priority offences.

Finally, there remains a question about how the value of stop and search should be assessed. Given that 'reasonable suspicion' searches are supposed to be investigative in nature, it seems that overall crime reduction should be seen more as a useful by-product of stop and search rather than a main objective.

Acknowledgements

Contents

	Page

1. Introduction

Background

Recent debates about stop and search focused almost exclusively on whether the officers' use of their powers disproportionately affected people from black and minority ethnic groups compared to white people and the reasons for any disparities. While these debates still continue, publication of Her Majesty's Inspectorate of Constabulary's (2013) thematic inspection report saw renewed interest in the effectiveness, as well as the fairness, of stop and search. Indeed, at the time of writing, there is discussion as to whether the large reductions in the police use of stop and search across England and Wales in recent years might have contributed to increased levels of knife crime.[2] It is hoped that the research in this report informs the ongoing debates in some small way by examining, longitudinally, whether stop and search in London was associated with reduced levels of crime at the borough level.

The evidence base about the impact of stop and search on crime is generally very poor. A few good studies do exist, but they are limited in number, are mainly from the US and vary in focus and approach (see table A1 in appendix A for a summary). These issues mean it is difficult to present a comprehensive and coherent picture of the evidence, particularly as it applies to England and Wales. Almost all the studies to date (including this one) have had to explore whether searches and crime are correlated with each other rather than causally linked because of the challenges with conducting experiments with stop and search. It is, therefore, not known if stop and search 'works'. The San Diego experiment has shown that complete withdrawal of 'field interrogations' was associated with increased crime (Boydstun 1975). Whether this study has relevance today and in a UK context is open to question, however. More recent studies have generally explored whether marginal shifts in stop and search were followed by changes in crime. Results have been mixed, although none of the UK-specific studies have shown stop and search to have any impact on crime (Penzer 1999 and McCandless et al 2016). Studies from the US have pointed to searches being associated with reduced crime, but the size of their effect has been small or very small (Smith et al 2012, Weisburd et al 2015 and MacDonald et al 2016).

How might stop and search reduce crime?

There is an important distinction between the legal purpose of a search power and the mechanisms by which use of that power might actually reduce crime in practice. This is not to suggest, of course, that these mechanisms provide adequate legal justification for a search. The Police and Criminal Evidence Act 1984 (PACE) Code A is clear that the purpose of search powers requiring 'reasonable grounds' is to 'enable officers to confirm or allay suspicions about individuals without exercising their power of arrest' (Home Office 2015b: para 1.4). While the word 'allay' creates some ambiguity about the intended outcome of a search, which has led to debates as to whether finding something or not finding something are equally good, there is a general sense in which these searches are investigative in nature; their aim is to apprehend offenders to find out whether they are in possession of something that is illegal (eg, drugs, stolen property) or can be used to commit an offence (eg, a screwdriver). By contrast, 'no suspicion' search powers that are authorised by senior officers and do not require officers to have reasonable grounds have a different legal purpose. The authorisation of these powers is with the expressed aim of preventing crime such as serious violence (section 60 of the Criminal

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[2] Home Office data (2015a) have shown that stop and search fall by 47 per cent to its lowest recorded level between 2013/14 and 2014/15.

Does more stop and search mean less crime?

Justice and Public Order Act 1994) or terrorism (section 44 of the Terrorism Act 2000).[3]

In contrast to these legally defined objectives, Miller et al (2000) have highlighted a range of ways in which stop and search might impact on crime.[4] From this list and adding to it, five crime reduction mechanisms can be identified:

- **Incapacitation** – Crime may be reduced if an officer arrests an offender as a result of a search and the offender is unable to commit further offences while they are in custody.

- **Disruption** – Crime may be reduced if an officer searches an offender who was otherwise planning to commit an offence.

- **Specific deterrence** – Crime may be reduced if an offender decides not to commit further offences because they perceive the risk of detection is too high as a result of officers searching them. Such deterrence could lead to desistence in the longer term.

- **General deterrence** – Crime may be reduced if people decide not to commit offences because they perceive the risk of detection is too high as a result of officers being able to search members of the public.

- **Order maintenance** – Crime may be reduced if the members of the public feel empowered to assert informal social controls as a result of stop and search challenging the signs of disorder in a community.

- **Voluntary compliance** – Crime may be reduced in the longer term if offenders and other people decide not to commit offences because, as a result of fair decision making and respectful treatment by officers during stop and search, they see the police as a legitimate institution and feel they ought not to break the law.[5]

All these mechanisms may be important, but with the analysis presented in this report, it was only feasible to explore whether stop and search had a possible deterrent effect and, to a lesser extent, whether it resulted in incapacitation and order maintenance.

Research aims

The research examined whether the use of stop and search in the Metropolitan Police Service (MPS) area had a possible deterrent effect on offenders committing particular categories of crime that might be susceptible to detection by stop and search. Using weekly and monthly borough-level data covering a 10-year period, the analysis tested whether, on average, for each borough:

- overall stop and search was associated with levels of total crime
- overall stop and search was associated with levels of specific crimes
- stop and search under particular powers was associated with levels of specific crimes.

Table 1 outlines the search powers and broad categories of crime that were explored in the analysis and the rationale as to why certain crimes might be susceptible to detection by particular stop and search powers.

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[3] 'Non suspicion' search powers has been especially controversial. The numbers of section 60 searches has reduced markedly in recent years, in part, because of the requirement of the voluntary Best Use of Stop and Search Scheme for a chief officer to authorise the power (Home Office and College of Policing 2014). The section 44 search power was repealed in 2012. Both powers were used during the 10-year study period.
[4] The items listed by Miller et al (2000) overlap and sometimes refer to impacts that may only indirectly contribute to crime reduction (eg, detection and intelligence).
[5] Research by Jackson et al (2012) suggests this mechanism is more likely to work in reverse (ie, unfair decision making and disrespectful treatment during stop and search will serve to increase crime over time).

Does more stop and search mean less crime?

Table 1. The susceptibility of certain crime categories to detection by stop and search

Crimes susceptible to stop and search	Search power to which crime might be susceptible	Rationale
Total susceptible crime	All searches under any power[a]	Offenders may not distinguish between particular powers and be deterred by any type of search
Drugs offences[b]	Searches under section 23 Misuse of Drugs Act 1971	The power allows officers to search for controlled drugs
Violent crime (excluding domestic abuse)[c]	Weapon searches under section 1 PACE	The power allows officers to search for offensive weapons and bladed/pointed instruments
	Searches under section 47 Firearms Act 1968	The power allows officers to search for firearms
Burglary[d]	Non-weapon searches under section 1 PACE	The power allows officers to search for stolen goods and items for use in theft offences
Robbery and theft[e]	Non-weapon searches under section 1 PACE	The power allows officers to search for stolen goods and items for use in theft offences
Vehicle crime[f]	Non-weapon searches under section 1 PACE	The power allows officers to search for stolen goods and items for use in theft offences
Criminal damage[g]	Non-weapon searches under section 1 PACE	The power allows officers to search for items for use in criminal damage

Note: [a]Including 'no suspicion' searches under section 60 of the Criminal Justice and Public Order Act 1994 or section 44 of the Terrorism Act 2000. [b]Possession or trafficking of drugs. [c]Violence with or without injury (but without a domestic abuse flag). [d]Burglary dwelling and non-dwelling. [e]Robbery, theft from the person, theft of bicycle and other theft. [f]Theft of and from a vehicle. [g]Such as criminal damage of a building or vehicle.

Research exploring the link between searches and crime can suffer with problems of 'reverse causality' (or endogeneity), which make it difficult to untangle cause and effect. As figure 1 shows in a simplified way, searches and crime are likely to be associated in multiple ways.

Figure 1. The hypothesised relationships between searches and crime
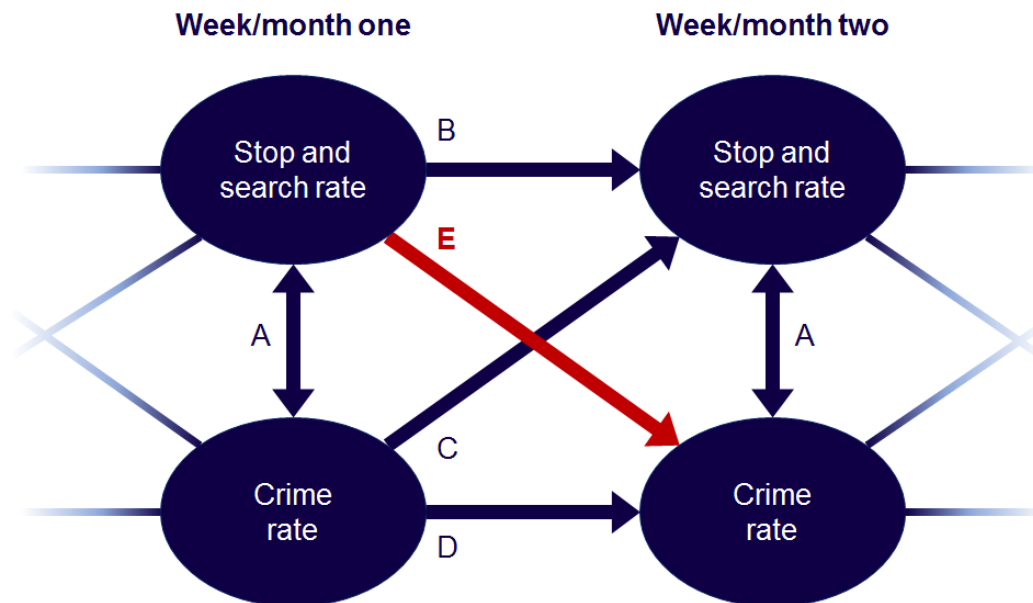
Note: It is possible that searches and crime respond to one another at different speeds. For example, offenders respond quicker to more stop and search than the police do to more crime.

A. Stop and search levels and crime might influence one another in the same week/month (eg, stop and search might be carried out in response to higher crime, crime might be reduced by stop and search, and/or crime might be increased by stop and search if the

> searches lead to new offences being discovered and recorded).

B. Stop and search levels might be influenced by stop and search in the previous week/month.

C. Stop and search levels may be carried out in response to crime in the previous week/month.

D. Crime levels might be influenced by crime in the previous week/month.

E. Crime levels might be reduced by stop and search in the previous week/month.

In addition, arrests from searches might be independently associated with crime. For example, crime levels might be influenced by search-arrests in the same period (if they result in new crimes being discovered and recorded) **and** by previous search-arrests (eg, if they result in offenders being incapacitated).

The challenge for this study, therefore, was to show whether stop and search had a lagged relationship with crime (E) above and beyond all the other possible associations. No other mechanism was fully explored.

Data and method

The MPS provided daily counts of stop and search, and crime, for every borough for the period April 2004 to November 2014. These counts were converted into rates per 100,000 residents to take account of population changes and to better reflect the likelihood of a person being searched by the police or becoming a victim of crime.[6] These were then aggregated into two panel datasets covering 31 boroughs[7] for the 10-year study period. The data for each borough were aggregated in the first dataset by week and in the second by month.[8]

A series of regression models were created using the two datasets.[9] These models tested – for every borough and every week/month – whether a higher rate of stop and search in week/month one was followed by a crime rate that was lower in week/month two than would otherwise have been expected, all else being equal (ie, controlling for the other factors included in the models).[10]

In order to focus on the net effect of stop and search on crime, the analysis also needed to control for other potential influences on crime. The models, therefore, included:

- police officer numbers, to account for the influence of police resources
- the unemployment rate, to account for wider socio-economic influences[11]
- variables to account for any unknown factors in any of the boroughs or any 'shocks' affecting all the boroughs at the same time that might have had an influence on crime (eg, a change in the Home Office counting rules, seasonality).[12]

Additional control variables were also included to overcome 'reverse causality' problems and

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[6] The rates were based on mid-year population estimates for each borough from the Office of National Statistics. These rates were then converted into natural logs to reduce skewness in the data and for ease of interpretation.

[7] Westminster Borough was excluded from the analysis as it was an outlier in terms of its population size and number of recorded searches. All the models were reproduced including Westminster, with little effect on the results.

[8] Borough-by-month panel: 31 boroughs x 127 months = 3,937 observations. Borough-by-week panel: 31 boroughs x 554 weeks = 17,174 observations.

[9] All models used a fixed effects estimator (OLS) and cluster robust standard errors. Prais-Winsten and generalised least squares estimation strategies were also used as a test of robustness; they produced similar results.

[10] The models, therefore, looked at absolute values within each time period rather than relative change over time.

[11] The unemployment rate was based on number of Job Seekers Allowance claimants. Unemployment has not been included in the regression models presented in appendix B, in order to keep them as simple as possible, as it was found to have no effect on the results.

[12] Borough and time period fixed effects and borough time trends.

make cause and effect easier to interpret. To deal with these issues, the models included:

- the crime rate in each borough in week/month one
- the rate of stop and search in each borough in week/month two
- the number of searches leading to arrest (in both time periods).[13]

The models looking at specific search powers also included the rate of other stop and search powers at both time periods.

Assumptions and limitations

There are a number of assumptions and limitations with the analysis presented in this report:

- **Cause and effect** – The analysis was only able to explore whether searches and crime were correlated with one another and not whether they were causally linked. A quasi-experiment or randomised controlled trial would be required to find out the causal impact of stop and search. The direction of any association is, therefore, assumed.[14]

- **Borough-level analysis** – The analysis looked at whether stop and search was associated with crime at the borough level. The clear risk of analysis at this geographic level is that more localised effects may not be detected if they are 'drowned out' by the 'noise' in the data. Data at a smaller geographic level, however, were not available.

- **Crime categories** – The analysis examined the association between searches and very broad categories of crime. While the use of more specific crime types may have provided a better test of stop and search, too many boroughs recorded no offences under each category, especially on a weekly basis, which precluded the type of analysis presented in this report. It was also not possible, for example, to test whether stop and search was associated with weapon possession for this reason.

- **Time periods and lag lengths** – The analysis assumed searches would be associated with crime following a one week/month lag.[15] While other research has aggregated searches and crime over longer time periods, and used longer lags (eg, Rosenfeld and Fornango 2014), it seemed unlikely that offenders would take historical levels of stop and search over and above more recent levels[16] into account when deciding to break the law. The use of shorter time periods and lags would make sense if the analysis was carried out using very local level data (eg, Weisburd et al 2015). While offenders may, however, react to day-to-day spikes in stop and search in a particular place when weighing up whether to commit crime, it was assumed they were less likely to do the same with fluctuations at the borough level.

- **Police recorded data** – As the analysis relied on police data, it could only take account of activity and crime that was recorded by officers. For example, it was only possible to look at arrests from searches and not other 'positive outcome' (eg, fixed penalty notices) because they were not recorded during the study period.

- **Police deployment and activity** – While officer numbers were included in the models, data were not available on the number of officers deployed flexibly to each borough (eg, as part of an operation) or on other police activities (eg, total arrests[17], targeted patrol).

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[13] Data on other criminal justice outcomes were not available.

[14] It was not feasible to examine whether stop and search in week/month one simultaneously predicted crime in week/month two and was, itself, predicted by previous levels of crime.

[15] Further models were created exploring different time lags. The results are not reported here as they were difficult to interpret and less plausible (eg, searches three weeks' ago being independently associated with crime this week).

[16] All the models were reproduced with data aggregated in two-month blocks, with little effect on the results. Aggregating the data into longer blocks would have required a different statistical approach and many more control variables. Also, the resulting regression models would have not been comparable with those presented in this report.

[17] The available data referred to where suspects were taken into custody not where they were arrested.

Does more stop and search mean less crime?

Both could be confounded with stop and search and/or crime.

- **Context and use** – The analysis examined stop and search in the MPS between 2004 and 2014. Little is known about how searches were actually used across London during this time. It is highly likely that policing priorities and practices will have varied geographically within the MPS and over time. The analysis presents the average for the 31 boroughs over the 10-year study period, and should be regarded as a 'real world' assessment of stop and search in a specific set of contexts (rather than under ideal conditions).

- **Mechanisms** – Assumptions have been made about the mechanism by which stop and search might reduce crime (i.e. deterrence, incapacitation and/or order maintenance). While the analysis can point whether there is a statistical association between searches and crime, further research is needed to understand whether and how stop and search actually affects the behaviour of offenders and other members of the public in practice.

- **Multiple tests** – As multiple tests were carried out as part of the analysis. It is likely that one or two would have produced statistically significant results by chance rather than because of an underlying relationship between searches and crime. As no correction was performed to take account of this issue, the consistency of the relation between searches and across the analysis, therefore, becomes important.

2. Findings

Monthly trends

The monthly trends for stop and search and for the total number of crimes susceptible to detection by stop and search are shown for the MPS as a whole in figure 2. While recorded crime declined consistently and gradually, stop and search showed more marked variations month-on-month and over the 10-year study period. The recorded use of 'reasonable suspicion' searches increased between 2004 and 2010 and then went into steady decline. 'No suspicion' searches were rarely used before the middle of 2007. Their recorded use then increased markedly, reaching a peak in 2008, after which they too went into steady decline. After a further peak in August 2011 (which coincided with the London riots), usage again became rare.

Figure 2. Trends in searches and susceptible crime (MPS, 2004–14)
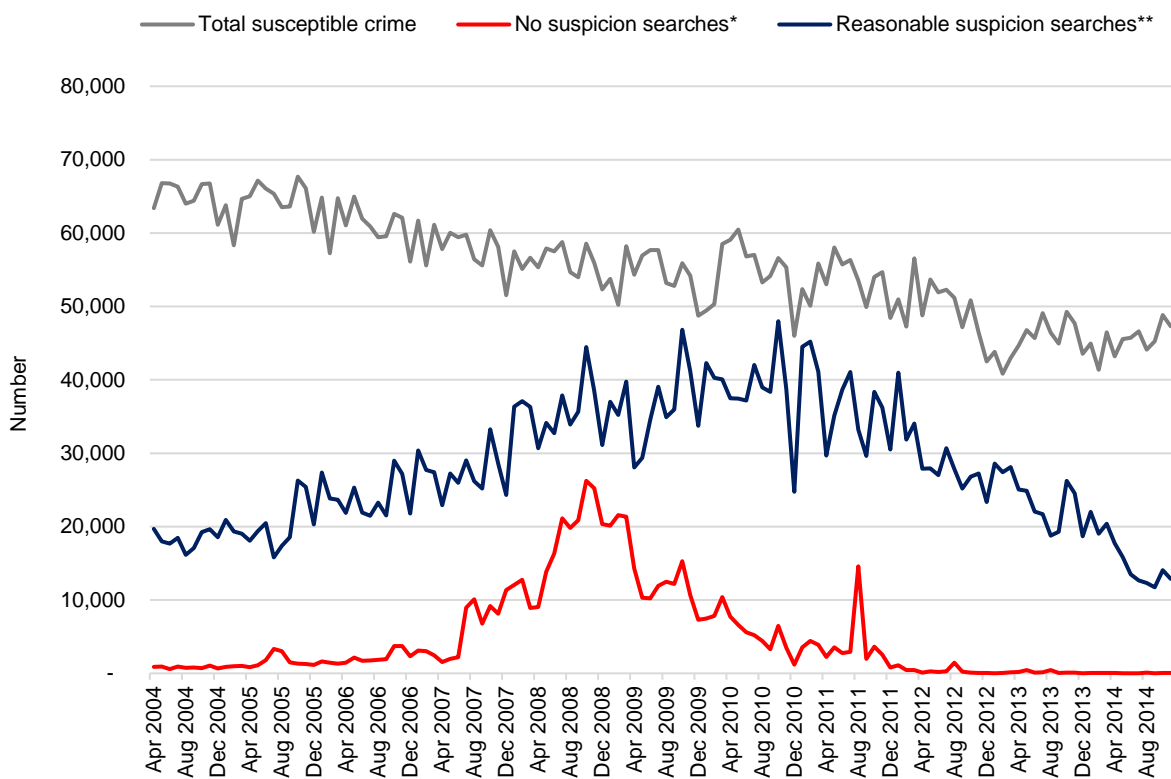
Notes: *Searches under section 60 of the Criminal Justice and Public Order Act 1994 and section 44 of the Terrorism Act 2000. **Searches under section 47 of the Firearms Act 1968, section 23 of the Misuse of Drugs Act 1971 and section 1 of PACE.

A visual assessment of the trends would not point to there being a strong relationship between searches and crime over the 10-year study period. The general downward trend in crime seemed to be unaffected by the initial increase and subsequent decrease in stop and search. Such comparisons are, however, unable to detect whether smaller variations in searches and crime are associated with one another or to determine the strength of any relationships.

Results

The primary aim of the analysis was to identify whether there was a lagged negative association between searches and crime, independent of other factors and all other things being equal. As table 2 shows, a few significant, but weak, associations were found.

Does more stop and search mean less crime?

Table 2. Summary results*

Broad crime category	Stop and search power	Predicted level of crime, if searches were 10% higher			
		Week-on-week	Significant?**	Month-on-month	Significant?**
Total susceptible crime	Searches under any power	-0.14%	Yes	-0.32%	Yes
Drugs offences	Searches under any power	-0.64%	Yes	-1.85%	Yes
	s 23 searches***	-0.21%	No	-1.57%	Yes
Violent crime (excluding domestic abuse)	Searches under any power	+0.09%	No	-0.14%	No
	s 1 (weapons) and s 47 searches***	-0.01%	Yes	-0.00%	No
Burglary	Searches under any power	-0.17%	Yes	-0.21%	No
	s 1 (non-weapons) searches***	-0.10%	No	-0.47%	Yes
Robbery and theft	Searches under any power	-0.03%	No	-0.13%	No
	s 1 (non-weapons) searches***	-0.08%	No	-0.04%	No
Vehicle crime	Searches under any power	-0.08%	No	-0.04%	No
	s 1 (non-weapons) searches***	-0.03%	No	-0.07%	No
Criminal damage	Searches under any power	-0.01%	No	-0.06%	No
	s 1 (non-weapons) searches***	-0.05%	No	-0.06%	No

Note: *The full regression models are presented in table B1 in appendix B. **Significance=0.05. ***Net of all other searches and search-arrests.

Does more stop and search mean less crime?

- **Total susceptible crime**

  - **Searches under any power** – Both week-on-week and month-on-month lagged associations were found, but their strength was very low. It was estimated that, if total searches were 10 per cent higher in week/month one, total crime would have been 0.1 per cent lower in week two and 0.3 per cent lower in month two.[18]

- **Drugs offences**

  - **Searches under any power** – Both week-on-week and month-on-month lagged associations were found, but their strength was low. It was estimated that, if total searches were 10 per cent higher in week/month one, drugs offences would have been 0.6 per cent lower in week two and 1.9 per cent lower in month two.

  - **Searches under section 23 of the Misuse of Drugs Act 1971** – Only a month-on-month lagged association was found, the strength of which was low. It was estimated that, if section 23 searches were 10 per cent higher in month one, drugs offences would have been 1.6 per cent lower in month two.

- **Violent crime (excluding domestic abuse)**

  - **Searches under any power** – No lagged associations were found.

  - **Weapon searches under section 1 of PACE and section 47 of the Firearms Act 1968**[19] – Only a week-on-week lagged association was found, the strength of which was negligible. It was estimated that, if weapon searches were 10 per cent higher in week one, violent crime would have been 0.01 per cent lower in week two.

  As violence was a particularly broad category and would have included crimes that were not especially susceptible to stop and search, further exploratory analysis was carried out to focus more on offences involving weapons (see table B2 in appendix B). The analysis made use of police data on weapon-enabled violence and ambulance service data on stab-, shot- or weapon-wound incidents (which should be affected less by reporting and recording issues). The models based on police data were not robust because of the number of boroughs that recorded no offences; they are reported here for completeness.[20] Only a week-on-week association was found for weapon searches and weapon-enabled violence, the strength of which was negligible.[21] The models based on ambulance data were much more robust, but did not reveal any lagged associations.

- **Burglary**

  - **Searches under any power** – Only a week-on-week lagged association was found, the strength of which was very low. It was estimated that, if total searches were 10 per cent higher in week one, burglary would have been 0.2 per cent lower in week two.

  - **Non-weapon searches under section 1 PACE** – Only a month-on-month lagged association was found, the strength of which was very low. It was estimated that, if s1 searches were 10 per cent higher in month one, burglary would have been 0.5

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[18] The results here and elsewhere are reported as precise estimates but are rough estimates that fall within a confidence interval. Each estimate will show the magnitude of the effect in which we can be reasonably confident.
[19] Separate analysis was carried out examining the relationship between section 60 searches and violent crimes (excluding domestic abuse). Despite the analysis using a different method to McCandless et al (2016) – ie, interrupted time-series analysis rather than difference-in-difference – its focus and results were similar and so are not been reported here.
[20] Negative binomial models could not be created because of the number of variables and lags.
[21] The result cannot be reported as a percentage as it was not possible to create a log of weapon-enabled violence.

per cent lower in month two.

- **Robbery and theft[22]**
    - **Searches under any power** – No lagged associations were found.
    - **Non-weapon searches under section 1 PACE** – No lagged associations were found.

- **Vehicle crime**
    - **Searches under any power** – No lagged associations were found.
    - **Non-weapon searches under section 1 PACE** – No lagged associations were found.

- **Criminal damage**
    - **Searches under any power** – No lagged associations were found.
    - **Non-weapon searches under section 1 PACE Act 1984** – No lagged associations were found.

In addition to the lagged associations described above, the analysis also pointed to other significant relationships independent of other factors and all other things being equal (see table B1 in appendix B for details):

- **Search-arrests** – A lagged association was occasionally found between search-arrests and crime.[23] Despite being statistically significant, the strength of these associations was close to zero. In other words, when search-arrests were higher in week/month one, crime rates were very slightly lower than predicted in the week/month two.

- **Concurrent associations** – In some of the models, searches and (to a lesser extent) search-arrests were positively associated with crime in the same time period.[24] The strength of these associations was typically very low. In other words, crime rates were occasionally slightly higher than predicted when searches or search-arrests were higher that week/month. The strongest associations were with drugs offences. Due to the issue of 'reverse causality', causal direction cannot be inferred from these results.

Interpretation

Evidence of stop and search having had a deterrence effect?

There was some – albeit fairly limited – evidence of stop and search having had a deterrent effect. Overall, the analysis showed that higher rates of stop and search in a borough were, on average, associated with very slightly lower rates of total crime on that borough in the next time period. While this overall relationship was statistically significant, it may not have much operational significance because of its poor strength. To put the results into more of an operational context, if a borough aimed to have 3 per cent less crime than would otherwise have been the case next month, it would have to almost double the number of searches it carried out this month (92 per cent higher). Stop and search levels this week would have to be even higher – over three times the current level (214 per cent higher) – if the borough wanted

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[22] The models were reproduced with robbery and theft as separate outcomes, but no associations were found.
[23] Specifically: total crime, drugs offences, robbery and theft (monthly only), vehicle crime (section 1 searches, monthly only) and criminal damage (total searches, weekly only).
[24] Searches were positively associated in the same week/month with total crime, drugs offences and burglary (section 1 searches) and search-arrests with total crime, drugs offences, violent crime, robbery and theft, and vehicle crime (total searches, monthly only).

Does more stop and search mean less crime?

crime to be 3 per cent lower next week.

Assuming these results hold true for all boroughs and all time periods, and that they are precise estimates, what might they mean for the borough where the College of Policing's London office is based in terms of the number of searches carried out in the last month/week of the study period?

- Southwark recorded 1,282 searches in October 2014 and 2,295 susceptible crimes in November 2014. If crime was to be 3 per cent lower in November – the equivalent of 69 fewer crimes – it was estimated that an additional 1,180 searches would have been required in October (2,462 in total). Assuming it takes an average of 15 minutes to carry out a search, the extra searches that month would take 295 officer hours (the equivalent of £10,889, or £158 per crime).[25]

- There were a total of 337 searches in week 45 of 2014 and 542 crimes in week 46. If there were to be 16 fewer crimes in week 46 (3 per cent lower), it was estimated that an additional 722 searches would have been required in week 45 (1,059 in total). Again, assuming 15 minutes per search, the additional searches required that week would have taken 181 officer hours (the equivalent of £6,666, or £417 per crime).

The evidence of stop and search – in total and under particular powers – having had a deterrent effect on specific categories of crime was also limited and inconsistent. It is also possible, because of the number of tests that were carried out, that one or two of the significant relationships that were identified occurred by chance.

The overall use of stop and search had a significant lagged association with drugs offences (week-on-week and month-on-month) and burglary (month-on-month only), but not on any other category of crime. Similarly, drug searches were negatively associated with drugs offences (month-on-month only), weapon searches with violent crime (week-on-week only) and non-weapon searches under section 1 of PACE with burglary (month-on-month only).

Stop and search – in total or under specific powers – had no lagged associations with robbery and theft, vehicle crime or criminal damage. Again, the strength of any lagged associations, even when statistically significant, was typically low and sometimes close to zero. The strongest association was with drugs. For drugs offences to be 2 per cent lower than their predicted level next month in a borough, drugs searches would have to be 10 per cent higher this month on that borough. By contrast, the weakest association was found for violent crime. For violent crime to be 2 per cent lower than its predicted level next week in a borough, the level of weapon searches would need to be 200 times higher this week.

The relative strength of the relationship between searches and drugs

The lagged relationship between searches and drugs clearly stood out from the other results in terms of its relative strength and consistency. This might provide more compelling evidence of stop and search having had a possible deterrent effect. Indeed, the overall relationship between searches and total crime was almost entirely explained by its specific lagged association with drugs to such an extent that, when drugs offences were removed from the total count of susceptible crime, the overall relationship disappeared.

The reasons for stop and search having such an association with drugs are not clear cut,

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[25] The time estimate was derived from observations of police patrols. It is deliberately conservative and did not include the time of any double-crewed officers. The estimate is not a measure of marginal opportunity cost as it did not take account of how much time an alternative course of action would have taken (eg, stopping and questioning a suspect). The cost estimate was based on 'police officer pay cost calculation for 2016/17' provided by the MPS. Average pay costs for a constable were reported to be £36.92 per hour (including basic pay, London weighting, employer's pensions and national insurance contributions, allowances and uniform costs but excluding overtime).

however. One possibility is that drugs users and dealers weigh up their chances of being searched when deciding to carry drugs in public places. The strength of the association suggests stop and search may, to some extent, have such an effect. There are, however, other equally plausible explanations that should be considered and it must not be automatically assumed that stop and search is particularly effective at tackling drugs possession and trafficking. Indeed, the systematic review evidence shows that problem-oriented policing and community policing are more effective than enforcement-focused hot spots policing at reducing street-level drug-dealing (Mazerolle et al 2007). Another possibility is that higher rates of stop and search do not deter people from using and dealing drugs at all, but simply prompt them to change their behaviour in ways that make it harder for the police to uncover drugs offences (eg, by being more discreet in public, carrying smaller amounts, secreting items more carefully).

Furthermore, recorded police figures are unlikely to be the most reliable measure of underlying drug crime. The number of recorded drugs offences will depend, to a large extent, on police activity that discovers people in possession of drugs (eg, officers enforcing the law proactively when on patrol). Without such activity, these offences are unlikely to come to light.

By contrast, the other broad crime categories examined in the study rely much more on victims reporting incidents to the police. While their number will inevitably be shaped by reporting and recording issues, they should be less affected by short-term changes in police activity. In other words, there are reasons to believe that the apparent deterrent effect of stop and search on drugs may not be 'real'. Given that a high proportion of section 23 searches are likely to be for cannabis,[26] there is also a separate debate as to how much the policing of cannabis should be prioritised. Moreover, there are questions about what actions officers should take given that cannabis possession is a criminal offence but the public feel that stop and search should be targeted against 'real criminals' (Stone and Pettigrew 2000).

The relative strength of the month-on-month relationship between searches and crime

It was also notable that stop and search's month-on-month relationship with crime was consistently stronger than its week-on-week relationship. Again, the reasons for this pattern are unclear. One possibility is that people need to be exposed to higher levels of stop and search for more than a fleeting period – perhaps particularly at the borough level – before they change their mind about the likelihood of being apprehended.[27] Weisburd et al (2015) have previously suggested that stop and search has a deterrent effect over a matter of days, but their study was focused at a very local level where it might be more reasonable to expect that people notice, and respond to, daily fluctuations in police activity.

Evidence of search-arrests having had an incapacitation effect?

There was fairly limited evidence of arrests from stop and search having had a possible incapacitation effect. While significant lagged relationships between search-arrest and different categories of crime were occasionally found, there was no consistent pattern and the strength of the associations, even when significant, was very low. The likely reason for search-arrests having such a weak relationship with crime was because only a small proportion of searches will have led to an arrest[28], and only a small proportion of the people arrested will be detained in custody for more than a few hours. Any incapacitation effect from search-arrests was, therefore, likely to have been very short-lived but would, nevertheless, have been reflected within the overall results.

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[26] No published data are available, however.
[27] Indeed, significant associations of a similar strength were found when the analysis was reproduced with data aggregated into two-month blocks.
[28] On average, the arrest rate was 13 per cent for section 1 searches, 8 per cent for section 23 searches and 12 per cent for section 47 searches.

3. Conclusion

Debates about the impact of stop and search on crime have tended to be fairly polarised. On one side, there are those who are convinced from personal experience or belief that stop and search reduces crime and that changes in crime levels are a direct result of how much stop and search there has been. On the other side, there are those who are more sceptical and point to a lack of concrete evidence about its impact and the proportion of searches that lead to arrest. The analysis presented in this report suggested there might be some middle ground. Unlike previous UK-specific studies (Penzer 1999 and McCandless 2016), the analysis presented in this report has shown that on occasion, higher rates of stop and search in a borough were followed occasionally by very slightly lower levels of crime on that borough (other things being equal). As the associations were, however, inconsistent in nature and weak (sometimes being close to zero even when statistically significant), the analysis provided only limited evidence of stop and search having had a deterrent effect on crime. It is, therefore, important not to overstate the benefits of stop and search and present it as a panacea to crime reduction, particularly at a force or borough level. Even if the lagged associations could be taken as 'proof' that stop and search had deterred crime, it would suggest that large increases in stop and search, of a magnitude likely to be unacceptable to some communities, would only deliver modest reductions in crime.

It is, therefore, clear from the analysis that across-the-board increases in stop and search in response to an emerging crime problem are unlikely to make much of a difference (even if they could be justified legally). Any benefits derived from such increases would also need to be offset against the associated costs (ie, financial, opportunity and to public trust) and weighed against their likely unequal impact on different communities. Indeed, use of stop and search in this way could be counterproductive, and make the job of the police harder in the long run, if it is felt to be unfair and undermines the public's willingness to comply with the law and cooperate with the police (Jackson et al 2013).

Given the nature and strength of the associations that were found, it also stands to reason that general reductions in stop and search should be possible without them having a detrimental impact on recorded crime levels. This would support the idea of officers using their powers sparingly and only when necessary. That said, it is not known whether stop and search has a 'symmetrical' relationship with crime. It is possible, for example, that crime responds more (or less) to increases in stop and search than it does to decreases. 'Ceilings' and 'floors' may also exist, after which any further increase/decrease in stop and search may make little difference, or the nature of its relationship with crime fundamentally shifts. Certainly, the San Diego experiment (Boydstun 1975) suggests there could be a point at which stop and search becomes so infrequent that it ceases to be effective as a general deterrent.

The finding that stop and search was associated with broad categories of crime at a borough level provides some clues about how its effectiveness might be better understood or even enhanced in the future. First, it does not seem sensible to continue to think about stop and search as if it is a single police activity. The analysis suggests that a more nuanced approach is required that differentiates between different powers and different crime types. Different operational contexts and methods of use (eg, proactive and reactive) might also be important. The limited evidence that does exist suggests, for example, that searches with stronger grounds might be more effective at reducing crime than searches with weaker or no grounds (Miller et al 2000, McCandless et al 2016, and MacDonald et al 2016) and that some crime types may be more amenable to stop and search than others. Other differences may also prove to be important (eg, vehicle/pedestrian, proactive/reactive, random/targeted).

Secondly, it would also be valuable to identify the 'key ingredients' of stop and search that might result in it deterring crime. At the moment, it is not possible to tease out whether it is

officers being visible, making eye contact with people, speaking to them, and/or physically searching suspects that makes the difference to offender behaviour. Understanding what it is about stop and search that reduces crime should enable its use to be more targeted and could give officers a wider range of options when dealing with a situation.

Thirdly, while some statistical effects were identified at the borough level, it is possible that stop and search will be more strongly associated with crime at a more local level. Given the evidence that crime tends to be clustered in hot spots (see, for example, Sherman et al 1989), the borough-level analysis presented in this report may have disguised larger reductions in crime in those geographical clusters.[29] The findings of recent studies which point to stop and search possibly having an impact on crime at the street level and within crime hot spots in New York (Weisburd et al 2015 and MacDonald et al 2016), potentially support this interpretation. Therefore, together with the systematic review evidence showing that hotspots policing has been effective overall in reducing crime (Braga et al 2012), there appears to be a growing case for stop and search to be carefully targeted towards specific hot spots.

Using stop and search (where grounds exist) as part of a broader strategy to solve the underlying causes of a crime problem and/or target active prolific offenders who are responsible for a disproportionate number of priority offences might also be ways of maximising its effectiveness (Taylor et al 2011 and Groff et al 2015). A note of caution is required, however, especially as concentrating policing activity in particular locations could disproportionately affect people from marginalised communities and pose a localised risk to police legitimacy, and because stop and search has been shown to cluster geographically but not always in crime hot spots (Chainey and Macdonald 2012). Moreover, even when stop and search is used in a targeted way and tested at a very local level, its effect on crime may still only be modest, as Weisburd et al (2015) recently found in New York. The fact that any local effects of stop and search (which would not have been identified in this study) do not add up to a stronger relationship between searches and crime at the borough level (which would have been) possibly indicates something about their size locally. The emergence of geocoded stop and search data in England and Wales raises the possibility of these issues being researched in the future.

Finally, there remains a question as to whether it is appropriate to judge the effectiveness of stop and search purely in terms of its deterrence effect. Given that 'reasonable suspicion' searches are supposed to be investigative in nature, and can only be justified when an officer suspects someone of carrying something that is itself illegal or for illegal purposes, it seems that overall crime reduction should be seen as a useful by-product of stop and search rather than a main objective. Indeed, from a legal perspective, as every search must have grounds and be justified in and of itself, the use of the power cannot be justified solely – or even primarily – in terms of any overall effect on crime at a particular time or place.

Stop and search should, therefore, be principally assessed in terms of its success as an investigative power. This focus highlights the continuing need for officer practice to be necessary, proportionate and consistent with PACE Code A (Home Office 2015b). As the development of the College of Policing's (2015) definition of 'a fair and effective stop and search' highlighted[30], however, there are wide range of views about the criteria against which searches should be evaluated as an investigative tool (eg, arrests only, arrests and other criminal justice outcomes, allayed suspicions, consistency between suspected and found item). As mentioned above, some of these disagreements will stem from the ambiguity found in Code A about the intended outcome of 'reasonable suspicion' searches. Further clarity here might help pave a way to a fuller assessment of the effectiveness of stop and search.

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[29] Similarly, the focus on broad crime categories may very well have disguised stop and search being more strongly associated with specific offences.
[30] The first version of the definition stated that a search should 'more often than not' result in an arrest.

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Appendix A. Literature summary

Table A1. Summary of the published studies testing the impact of stop and search on crime[31]

Reference	Details	
Boydstun 1975	Research question answered	Did suspending the use of field interrogations (FIs)[32], or limiting their use only to specially trained officers, have an effect – at a beat level – on 'suppressible' crime when introduced in San Diego in 1973?
	Study type	Prospective quasi-experiment (before/after)
	Study location	San Diego
	Study period	1973–74
	Units of analysis	Beat/before, during and after the two interventions
	Interventions tested	1. Use of FIs suspended (in no-FI beat) 2. Use of FIs restricted to specially trained officers (special FI beat)
	Comparisons made	Changes in no-FI beat and special FI beat compared to changes in a beat where 'business as usual' was maintained
	Outcome variable	Monthly counts of 'suppressible' crime (police recorded data)
	Control variables	None
	Main results	'Suppressible' crime increased significantly in the no-FI beat when the use of FIs was suspended, and decreased significantly when reintroduced. 'Suppressible' crime did not change significantly in the special FI beat or comparison beat. There was no significant changes in the total number of arrests in each of the three beats.
Penzer 1999	Research question	Did the number of searches carried in one month have a lagged relationship, at a force level, with total crime and street crime the following month in the MPS area between 1993 and 1999?
	Study type	Observational (structural time series models)
	Study location	London (MPS area)
	Study period	1993–99
	Units of analysis	Force/month[33]
	Lag tested	One-month lag of searches on crime
	Stop and search variable	Counts of PACE searches[34]

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[31] Other studies discussed by McCandless et al (2016) are not summarised here as they referred to a wider range of police-initiated contacts.
[32] FIs are broadly equivalent to both stops and searches. Their use reportedly required officers to have reasonable suspicion.
[33] The count data was adjusted to take account of the number of days per month.
[34] It is not clear whether the analysis included section 1 searches or all reasonable suspicions searches (which are regulated by PACE Code A).

Does more stop and search mean less crime?

	Outcome variables	Counts of total crime and street crime[35] (police recorded data)
	Control variables	Level shifts in data series and count of searches in the following month
	Main results	The analysis initially pointed to searches being negatively associated with total crime at the force level, although this relationship became non-significant when a 'sudden upward shift in the level of the [data] series' (1999: 5) was taken into account. Penzer concluded that 'claiming a relationship between total crime and the number of searches seems untenable' (1999: 6). Searches were found to have no lagged effect on street crime.
Smith et al 2012[36]	Research question answered	Did rate of stop, question and frisk (SQF) in one week have a lagged relationship – at force and precinct levels – on nine measures of police recorded crime the following week in New York between 2005 and 2011?
	Study type	Observational (interrupted time series analysis with mixed effects panel models)
	Study location	New York
	Study period	2005-11
	Units of analysis	Force and precinct / week
	Lag tested	One-week lag of searches on crime (though multiple lags were tested)
	Stop and search variable	Rates of SQF per 100k residents
	Outcome variables	Rates of theft, vehicle crime, burglary, robbery, assault, rape and murder per 100k residents (police recorded data)
	Control variables	City crime rates, differential crime rates in precincts with 'active hot spots', and precinct fixed effects
	Main results	SQF was found to be negatively associated with vehicle crime, robbery, assault, and rape at force and precinct levels. The results for theft and burglary were ambiguous, and SQF was not associated with murder. Where found, the strength of the associations were very low, though slightly stronger in precincts with 'active hot spots'. For example, if SQF was 10 per cent higher week one, robbery would have been 0.03 per cent lower than predicted at the force level, and 0.09 per cent lower in the target precincts
Rosenfeld and Fornango 2014	Research question answered	Did SQF rates and related arrests in one year have a lagged relationship – at a precinct level – with robbery and burglary the following year in New York between 2003 and 2001?
	Study type	Observational (dynamic linear panel models)
	Study location	New York
	Study period	2003–10
	Units of analysis	Precinct / annual
	Lag tested	Multiple annual lags (SQF and crime)

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[35] Specifically, personal robbery and snatch theft.
[36] This unpublished paper builds on, and supersedes, the findings presented in the author's earlier paper, which was cited by McCandless et al (2016).

Does more stop and search mean less crime?

	Stop and search variables	Annual rates of SQF in total and for different ethnic groups per 10k residents and arrest rates[37]
	Outcome variables	Rates of robbery and burglary per 10k residents (police recorded data)
	Control variables	Precinct crime rates and characteristics (eg, economic disadvantage, immigration rate, residential stability and average crime rates in adjacent precincts), time trends and period fixed effects
	Main results	The analysis initially pointed to SQF having a negative relationship with robbery at the precinct level, though this relationship became non-significant when other factors were taken into account. SQF was found to have no association with burglary rates at the precinct level. The results for SQF rates for different ethnic groups reflected the main results.[38] Arrest rates were not found to have a lagged association with robbery or burglary when other factors were taken into account.
Weisburd et al 2015	Research questions answered	Q1. Did the number of SQFs in one week, when used as part of a hot spots policing strategy, have a lagged relationship – at a street segment level – on non-traffic-related criminal incidents the following week in New York between 2006 and 2011?[39] Q2. Did the occurrence of an SQF, when used as part of a hot spots policing strategy, have a lagged association with non-traffic-related criminal incidents in the same location up to five days afterwards in the Bronx during 2006?
	Study type	Observational (time-space interaction models)
	Study location	Q1. New York Q2. Bronx, New York
	Study period	Q1. 2006–11 Q2. 150-day period in 2006
	Units of analysis	Q1. Street segment/week Q2. 500ft radius from SQF/five-day period after SQF
	Lags tested	Q1. One-week lag of SQF on crime Q2. Up to a five-day lag of searches on crime
	Stop and search variables	Q1. Counts of SQF Q2. Individual SQFs
	Outcome variables	Q1. Counts of non-traffic crime incidents (police recorded data) Q2. Individual non-traffic crime incidents (police recorded data)
	Control variables	Q1. Counts of borough-level SQF, period and street segment fixed effects and street segment characteristics (eg, educational attainment, unemployment, income, owner occupancy) Q2. The likelihood of an incident occurring in each location without an SQF being carried out and SQFs carried out in the 'buffer zone' around each location
	Main results	Q1. SQF was found to have a negative relationship with crime at the street segment level,

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[37] The proportion of SQFs resulting in arrest and SQF arrests per 10k residents.
[38] The analysis pointed to the SQF rates of black and Hispanic suspects having a marginally significant two-year lagged crime reduction effect on precinct robbery and burglary rates. The meaning and operational value of this result, however, is unclear given the length of the lag and the implausibility of it having an independent effect of crime rates.
[39] The authors noted that the NYPD's use of SQF during the study period was ruled as unconstitutional.

		although the size of this effect varied between boroughs. The analysis suggested that the 700,000 SQFs carried out by NPYD, at its peak, would have led to a two per cent reduction in in crime. Q2. SQF was negatively associated with crime across short distances and a limited timeframe. There was limited evidence of geographic crime displacement but some evidence of a diffusion of benefits. Overall, the authors concluded that SQF had a significant – but small – impact on crime at a small geographic level.
McCandless et al 2016	Research question	Did Operation BLUNT 2 (a knife crime initiative involving a large increase in weapon searches[40]) have an effect – at a borough level – on nine measures of police recorded crime and on ambulance calls when introduced in the MPS area in 2008?
	Study type	Retrospective quasi-experiment (difference-in-difference)
	Study location	London (MPS area)
	Study period	2004–12
	Units of analysis	Borough/before and after the intervention
	Intervention tested	Introduction of a 'tiered' force-wide operation, which involved the use of weapon searches to combat knife crime and serious youth violence. Tier 1 boroughs received additional resources and experienced large increases in weapon searches. Tier 2 and tier 3 boroughs experienced much smaller increases in searches and were, respectively, monitored closely or required to implement local tactics.
	Comparisons made	Changes in tiers 1 and 2 compared to changes in tier 3 (plus tier 1 compared to tiers 2 and 3, and tier 1 compared to tier 3)
	Outcome variables	Rates of robbery involving knives, assault involving knives, sexual assault involving knives, burglary, vehicle crime, and weapon and drug possession (police recorded data). Ambulance calls related to knife- and other weapon-related injuries (ambulance data).
	Control variables	Resident population, population density, unemployment, and borough and period fixed effects
	Main results	The police operation, which involved a large increase in weapon searches, was found to have no impact on police recorded crime at the borough level. Ambulance calls fell faster in those boroughs that experience smaller increases in weapons searches.
MacDonald et al 2016	Research question answered	Did Operation Impact (an initiative involving an increase in officers, arrests and SQF in hot spots) have an effect – at a census block level – on nine measures of recorded crime when introduced in New York in 2004?
	Study type	Retrospective quasi-experiment (difference-in-difference)
	Study location	New York
	Study period	2004–12
	Units of analysis	Census blocks/before and after the intervention

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[40] It also included the deployment of additional police resources to some boroughs and targeted enforcement activities.

Does more stop and search mean less crime?

Intervention tested	The deployment of additional police officers who were tasked with carrying out intensive 'investigative stops' in high crime areas identified as 'impact zones'. The analysis distinguished between probable cause SQF[41] and general suspicion SQF[42].
Comparisons made	Changes in census blocks in an impact zone compared to changes in census blocks in the same precinct but not in an impact zone
Outcome variables	Counts of robbery, assault, burglary, misdemeanour offences (eg, loitering), other felonies (eg, forgery), drugs, property crime (eg, burglary), and violent felonies (eg, homicide, rape)
Control variables	Two-month lags and leads before/after the initiative was implemented, adjacent census blocks and fixed effects for each precinct-month-year.
Main results	The increase in probable cause SQF in the impact zones was associated with a significant but small reduction in several crime types (net of police deployment). The analysis suggested a fivefold increase in probably causes SQF was required to reduce more than one crime. The increase in general suspicion SQF was found to have had no impact on crime.

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[41] Prompted by behaviour indicative of drugs, violence or 'casing'.
[42] Prompted by less specific behaviour (eg, furtiveness, fitting a suspect description, evasiveness).

Appendix B. Regression models

Table B1. The lagged effect of searches at time 1 on susceptible crime at time 2 (MPS boroughs, 2004–14)

Outcome measure	Search power	Regression model	Week			Month		
			Coef	SE	p	Coef	SE	p
Total susceptible crime	Searches under any power	**Searches at time 1**	**-0.0140**	**0.0046**	**0.01**	**-0.0326**	**0.0118**	**0.01**
		Search arrests at time 1	-0.0005	0.0001	0.00	-0.0003	0.0001	0.00
		Total susceptible crime at time 1	0.4281	0.0277	0.00	0.5903	0.0319	0.00
		Searches at time 2	0.0264	0.0084	0.00	0.0323	0.0141	0.03
		Search arrests at time 2	0.0012	0.0001	0.00	0.0003	0.0001	0.00
		Police officers (full time equivalent)	-0.0003	0.0001	0.04	-0.0002	0.0001	0.04
		R^2 (within)	0.8169			0.9053		
Drugs offences	Searches under any power	**Searches at time 1**	**-0.0636**	**0.0218**	**0.01**	**-0.185**	**0.030**	**0.00**
		Search arrests at time 1	-0.0018	0.0006	0.00	-0.001	0.000	0.00
		Drugs offences at time 1	0.2185	0.0237	0.00	0.406	0.028	0.00
		Searches at time 2	0.3806	0.0272	0.00	0.408	0.039	0.00
		Search arrests at time 2	0.0064	0.0007	0.00	0.002	0.000	0.00
		Police officers (full time equivalent)	0.0003	0.0005	0.64	0.000	0.000	0.61
		R^2 (within)	0.5267			0.7278		
	Searches under s 23 Misuse of Drugs Act 1971	**s 23 searches at time 1**	**-0.0214**	**0.0237**	**0.37**	**-0.1568**	**0.0245**	**0.00**
		s 23 search arrests at time 1	-0.0028	0.0014	0.06	-0.0016	0.0004	0.00
		All other searches at time 1	-0.0230	0.0114	0.05	0.0376	0.0373	0.32
		Drugs offences at time 1	0.1890	0.0241	0.00	0.3777	0.0264	0.00
		s 23 searches at time 2	0.3985	0.0197	0.00	0.4820	0.0265	0.00
		s 23 search arrests at time 2	0.0118	0.0017	0.00	0.0026	0.0005	0.00
		All other searches at time 2	0.0339	0.0212	0.12	0.0002	0.0004	0.60
		Police officers (full time equivalent)	0.0002	0.0005	0.68	-0.0553	0.0242	0.03
		R^2 (within)	0.5653			0.7642		

Does more stop and search mean less crime?

Violent crime (excluding domestic abuse)	Searches under any power	**Searches at time 1**	**0.0090**	**0.0090**	**0.33**	**-0.0141**	**0.0110**	**0.21**
		Search arrests at time 1	-0.0004	0.0003	0.15	-0.0001	0.0001	0.41
		Violent crime at time 1	0.1891	0.0166	0.00	0.4664	0.0276	0.00
		Searches at time 2	0.0007	0.0114	0.95	0.0171	0.0150	0.26
		Search arrests at time 2	0.0011	0.0003	0.00	0.0002	0.0001	0.01
		Police officers (full time equivalent)	0.0000	0.0003	0.85	0.0000	0.0002	0.91
		R^2 (within)	0.5551			0.8065		
	Weapon searches under s 1 PACE and s 47 Firearms Act 1968	**s 1 and s 47 searches at time 1**	**-0.0010**	**0.0003**	**0.00**	**-0.0001**	**0.0001**	**0.17**
		s 1 and s 47 search arrests at time 1	0.0000	0.0006	1.00	-0.0005	0.0003	0.15
		All other searches at time 1	0.0154	0.0062	0.02	0.0144	0.0109	0.20
		Violent crime at time 1	0.1893	0.0166	0.00	0.4672	0.0272	0.00
		s 1 and s 47 searches at time 2	0.0009	0.0006	0.12	0.0001	0.0001	0.60
		s 1 and s 47 search arrests at time 2	0.0052	0.0006	0.00	0.0014	0.0003	0.00
		All other searches at time 2	-0.0044	0.0077	0.58	0.0000	0.0002	0.87
		Police officers (full time equivalent)	0.0000	0.0002	0.87	-0.0092	0.0079	0.25
		R^2 (within)	0.5583			0.8081		
Burglary	Searches under any power	**Searches at time 1**	**-0.0167**	**0.0077**	**0.04**	**-0.0212**	**0.0134**	**0.12**
		Search arrests at time 1	0.0001	0.0002	0.72	0.0000	0.0001	0.91
		Burglary at time 1	0.3553	0.0212	0.00	0.5004	0.0217	0.00
		Searches at time 2	-0.0031	0.0065	0.64	-0.0071	0.0155	0.65
		Search arrests at time 2	-0.0003	0.0002	0.16	-0.0001	0.0001	0.31
		Police officers (full time equivalent)	-0.0011	0.0003	0.00	-0.0008	0.0002	0.00
		R^2 (within)	0.4818			0.6769		
	Non-weapon searches under s 1 PACE	**s 1 searches at time 1**	**-0.0095**	**0.0056**	**0.10**	**-0.0472**	**0.0120**	**0.00**
		s 1 search arrests at time 1	0.0000	0.0005	0.93	-0.0002	0.0003	0.47
		All other searches at time 1	-0.0102	0.0054	0.07	-0.0548	0.0142	0.00
		Burglary at time 1	0.3515	0.0212	0.00	0.4947	0.0221	0.00
		s 1 searches at time 2	0.0347	0.0075	0.00	0.0700	0.0140	0.00
		s 1 search arrests at time 2	-0.0004	0.0005	0.45	-0.0003	0.0002	0.19
		All other searches at time 2	-0.0309	0.0055	0.00	-0.0008	0.0002	0.00
		Police officers (full time equivalent)	-0.0011	0.0003	0.00	0.0127	0.0106	0.24
		R^2 (within)	0.4839			0.6815		

Does more stop and search mean less crime?

Robbery and theft	Searches under any power	**Searches at time 1**	**-0.0034**	**0.0054**	**0.54**	**-0.0131**	**0.0139**	**0.35**
		Search arrests at time 1	-0.0001	0.0002	0.69	-0.0001	0.0001	0.03
		Robbery and theft at time 1	0.3401	0.0272	0.00	0.5269	0.0290	0.00
		Searches at time 2	-0.0020	0.0086	0.82	-0.0025	0.0167	0.88
		Search arrests at time 2	0.0005	0.0002	0.01	0.0002	0.0001	0.01
		Police officers (full time equivalent)	-0.0003	0.0002	0.18	-0.0002	0.0002	0.16
		R^2 (within)	0.6576			0.8137		
	Non-weapon searches under s 1 PACE	**s 1 searches at time 1**	**-0.0080**	**0.0058**	**0.18**	**0.0038**	**0.0081**	**0.64**
		s 1 search arrests at time 1	-0.0004	0.0003	0.30	-0.0004	0.0002	0.03
		All other searches at time 1	0.0019	0.0038	0.62	-0.0047	0.0163	0.77
		Robbery and theft at time 1	0.3387	0.0274	0.00	0.5223	0.0290	0.00
		s 1 searches at time 2	0.0142	0.0050	0.01	0.0103	0.0099	0.31
		s 1 search arrests at time 2	0.0013	0.0004	0.00	0.0005	0.0002	0.02
		All other searches at time 2	-0.0090	0.0088	0.31	-0.0002	0.0002	0.24
		Police officers (full time equivalent)	-0.0003	0.0002	0.20	-0.0182	0.0142	0.21
		R^2 (within)	0.6586			0.8144		
Vehicle crime	Searches under any power	**Searches at time 1**	**-0.0080**	**0.0062**	**0.21**	**-0.0042**	**0.0124**	**0.73**
		Search arrests at time 1	-0.0003	0.0002	0.22	-0.0001	0.0001	0.31
		Vehicle crime at time 1	0.4126	0.0246	0.00	0.5344	0.0273	0.00
		Searches at time 2	0.0062	0.0084	0.47	-0.0023	0.0139	0.87
		Search arrests at time 2	0.0003	0.0002	0.14	0.0001	0.0001	0.26
		Police officers (full time equivalent)	-0.0008	0.0003	0.01	-0.0006	0.0002	0.01
		R^2 (within)	0.6472			0.7896		
	Non-weapon searches under s 1 PACE	**s 1 searches at time 1**	**-0.0004**	**0.0075**	**0.96**	**-0.0069**	**0.0123**	**0.58**
		s 1 search arrests at time 1	-0.0009	0.0005	0.11	-0.0006	0.0003	0.03
		All other searches at time 1	-0.0081	0.0057	0.17	-0.0142	0.0110	0.21
		Vehicle crime at time 1	0.4117	0.0246	0.00	0.5329	0.0272	0.00
		s 1 searches at time 2	0.0148	0.0084	0.09	0.0229	0.0171	0.19
		s 1 search arrests at time 2	0.0007	0.0005	0.20	0.0002	0.0003	0.49
		All other searches at time 2	-0.0046	0.0057	0.42	-0.0006	0.0002	0.02
		Police officers (full time equivalent)	-0.0008	0.0003	0.01	0.0027	0.0098	0.79
		R^2 (within)	0.6475			0.7903		

Does more stop and search mean less crime?

Criminal damage	Searches under any power	**Searches at time 1**	**-0.0012**	**0.0077**	**0.88**	**-0.0060**	**0.0136**	**0.67**
		Search arrests at time 1	-0.0004	0.0002	0.03	0.0000	0.0001	0.76
		Criminal damage at time 1	0.1600	0.0159	0.00	0.3163	0.0247	0.00
		Searches at time 2	0.0046	0.0068	0.50	0.0017	0.0122	0.89
		Search arrests at time 2	0.0002	0.0002	0.39	0.0000	0.0001	0.88
		Police officers (full time equivalent)	-0.0005	0.0002	0.03	-0.0004	0.0002	0.03
		R^2 (within)	0.7690			0.9114		
	Non-weapon searches under s 1 PACE	**s 1 searches at time 1**	**-0.0053**	**0.0062**	**0.40**	**-0.0058**	**0.0130**	**0.66**
		s 1 search arrests at time 1	-0.0002	0.0004	0.63	-0.0002	0.0003	0.54
		All other searches at time 1	-0.0025	0.0052	0.64	-0.0007	0.0091	0.94
		Criminal damage at time 1	0.1600	0.0159	0.00	0.3161	0.0247	0.00
		s 1 searches at time 2	-0.0017	0.0068	0.81	0.0010	0.0117	0.93
		s 1 search arrests at time 2	0.0004	0.0004	0.30	0.0001	0.0002	0.63
		All other searches at time 2	0.0054	0.0061	0.38	-0.0005	0.0002	0.03
		Police officers (full time equivalent)	-0.0006	0.0002	0.03	-0.0012	0.0117	0.92
		R^2 (within)	0.7690			0.9114		

Notes: Models estimated using fixed effects estimator (OLS) with cluster robust standard errors, and included period and borough fixed effects as well as borough-specific trends. Observations (n) = 17,174 (week), 3,937 (month). Boroughs (n) = 31 (analysis excluded Westminster Borough).

Does more stop and search mean less crime?

Table B2. The lagged effect of searches at time 1 on other outcomes at time 2 (MPS boroughs, 2004–14)

Outcome measure	Search power	Regression model	Week			Month		
			Coef	SE	p	Coef	SE	p
Weapon-enabled violent crime	Searches under any power	**Searches at time 1**	**0.0081**	**0.0542**	**0.88**	**-0.0232**	**0.2852**	**0.94**
		Search arrest at time 1	-0.0055	0.0024	0.03	-0.0021	0.0028	0.46
		Weapon-enabled violence at time 1	0.0281	0.0091	0.00	0.1159	0.0231	0.00
		Searches at time 2	-0.0189	0.0617	0.76	0.0619	0.3635	0.87
		Search arrest at time 2	0.0031	0.0023	0.19	-0.0010	0.0033	0.77
		Police officers (full time equivalent)	0.0006	0.0019	0.73	0.0026	0.0073	0.72
		R² (within)	0.1448			0.3803		
	Weapon searches under s 1 PACE and s47 Firearms 1968	**s 1 and s 47 searches at time 1**	**-0.0061**	**0.0020**	**0.00**	**-0.0055**	**0.0027**	**0.05**
		s 1 and s 47 search arrests at time 1	-0.0101	0.0066	0.14	-0.0009	0.0067	0.90
		All other searches at time 1	0.0329	0.0462	0.48	0.0556	0.3135	0.86
		Weapon-enabled violence at time 1	0.0273	0.0088	0.00	0.1166	0.0232	0.00
		s 1 and s 47 searches at time 2	0.0122	0.0031	0.00	0.0119	0.0026	0.00
		s 1 and s 47 search arrests at time 2	0.0400	0.0109	0.00	-0.0037	0.0110	0.74
		Police officers (full time equivalent)	-0.0002	0.0018	0.93	0.0301	0.0144	0.04
		All other searches at time 2	-0.2215	0.0477	0.00	-0.8394	0.3697	0.03
		R² (within)	0.1495			0.3849		
Stab-, shot- or weapon-wound ambulance incidents	Searches under any power	**Searches at time 1**	**0.0315**	**0.0369**	**0.40**	**0.0096**	**0.1164**	**0.94**
		Search arrest at time 1	-0.0013	0.0013	0.35	-0.0018	0.0012	0.14
		Ambulance incidents at time 1	0.0185	0.0075	0.02	0.0540	0.0185	0.01
		Searches at time 2	-0.0341	0.0401	0.40	-0.0376	0.1073	0.73
		Search arrest at time 2	0.0011	0.0012	0.36	0.0016	0.0010	0.11
		Police officers (full time equivalent)	0.0024	0.0015	0.10	0.0031	0.0022	0.16
		R² (within)	0.0702			0.2109		
	Weapon searches under s 1 PACE and s 47 Firearms Act 1968	**s 1 and s 47 searches at time 1.**	**0.001**	**0.002**	**0.51**	**0.0002**	**0.0010**	**0.86**
		s 1 and s 47 search arrests at time 1	-0.005	0.005	0.38	-0.0009	0.0031	0.78
		All other searches at time 1	0.018	0.040	0.67	-0.1391	0.1001	0.18
		Ambulance incidents at time 1	0.017	0.008	0.03	0.0495	0.0179	0.01
		s 1 and s 47 searches at time 2	0.005	0.002	0.00	0.0029	0.0008	0.00
		s 1 and s 47 search arrests at time 2	0.013	0.005	0.03	0.0052	0.0036	0.16
		All other searches at time 2	-0.122	0.043	0.01	0.0019	0.0020	0.34
		Police officers (full time equivalent)	0.002	0.001	0.18	-0.1163	0.1079	0.29
		R² (within)	0.0725			0.2152		

Notes: Models estimated using fixed effects estimator (OLS) with cluster robust standard errors, and included period and borough fixed effects as well as borough-specific trends. Observations (n) = 17,174 (week), 3,937 (month). Boroughs (n) = 31 (analysis excluded Westminster Borough).