TOOLKIT FOR THE ANALYSIS OF POLICE IDENTIFICATIONS

A practical guide to the analysis of police stop data

PLATAFORMA DE LA GESTIÓN DE LA DIVERSIDAD

OPEN SOCIETY JUSTICE INITIATIVE

PREFACE

This toolkit is designed for police and community representatives in Spanish sites implementing the Programa para la Identificación Policial Eficaz (PIPE), as well as others experimenting with police stop data collection.

It was designed to support data analysis by police and community representatives involved in PIPE reforms of identifications. Data analysis includes: (1) the analysis of quantitative data, (2) reflection and interpretation of the reasons for problem patterns identified, and (3) the development and implementation of responses to tackle them.

The guide shows ways to measure three key dimensions of police identification activity that may be problematic: their frequency, whether they disproportionally affect minority ethnic groups, and their effectiveness in identifying legal violations. These speak to the potential burden that identifications may place on the public—minority ethnic groups in particular—and to their effectiveness.

The guide further demonstrates four types of comparisons that can be used to unpack identification patterns. These include variations through time, across different identification purposes, between geographical or organization settings, and among individual officers. These comparisons may help clarify whether problematic patterns are changing, which policing activities they apply to, and where in the organization and in neighborhoods they are found. As such, comparisons can help to direct efforts to address problems and monitor the effects of efforts to address them.

ACKNOWLEDGMENTS

This document was written by Joel Miller of Rutgers University. It builds on earlier work conducted by Rebekah Delsol at the Open Society Justice Initiative. The work also benefitted from the efforts and insights of Rachel Neild at the Open Society Justice Initiative, participants in in Strategies for Effective Police Stop and Search (STEPSS) and programs, as well members of the Plataforma de la Gestión de la Diversidad (PGD).

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GLOSSARY

- **Arrest** refers to being detained in legal custody. Upon arrest suspects are usually taken to police stations.
- **Disproportionality** refers to the extent to which stop powers are being used against different ethnic/nationality groups 'in proportion' to their numbers in the wider population. Debates around disproportionality have typically focused on ethnicity/ nationality but may also relate to different social categories such as age, social class and residential area.
- **Disproportionality ratios** compare the number of times different ethnic/nationality groups are stopped compared to the majority group. For example "Black people are ... times more likely to be stopped than white people".
- **Ethnic categories** are broad categorizations that attempt to divide people into ethnic groups for the purposes of establishing and addressing discrimination. In the context of police stops these can be based on officer perception, which measures the **officers' perception** of the ethnicity of the person stopped in an attempt to measure potential stereotyping or **self-defined ethnicity**, where individuals define their own ethnic identification.
- **Ethnic profiling** is the use by the police, security, immigration or customs officials of generalisations based on race, ethnicity, religion or national origin rather than individual behaviour or objective evidence as the basis for suspicion in directing discretionary law enforcement actions, such as a search of their person.
- **"Hit rates"** refers to the rate at which stops lead to to some form of police action (**positive outcomes**).
- **Identifications** refer to the temporary detention of a person by police for the purposes of checking identification documents.
- **Police powers** the legal justification or reasoning as to why stops/searches are conducted.
- **Stops** refer to the temporary detention of a person by police for the purposes of asking them to account for their actions.
- **Stop and account** a British term, used to describe encounters in which members of the public are stopped and asked to account for themselves.
- **Stops and searches/ "searches"** refers to a physical search or "pat down" of an individual and their clothing to identify hidden articles. Searches taking place on the street are usually cursory searches that will involve removing outer layers of clothing. Intimate body searches or "strip searches" typically take place in the privacy of the police station or away from public view in closely supervised conditions.

1. INTRODUCTION

This toolkit provides guidance on the analysis and interpretation of data produced by police identification (or "stop") monitoring forms. It also offers examples of how police departments and community representatives may respond to data by making practical changes to police policies and practices.

In this section, we discuss recent Spanish reforms of identification practice. In later sections, we describe key measures and comparisons that can be used to examine identifications. We also show how data analysis can be used to improve policing.

POLICE REFORMS OF STOPS

Over the last decade, a handful of Spanish police agencies have begun to reform the way identifications of members of the public are managed and supervised. These reforms aim to improve fairness of identifications, particularly in relation to the burden they place on minority ethnic groups. They also aim to improve effectiveness of identifications in addressing crime and disorder problems. The first Spanish reform effort of this kind was the Strategies for Effective Police Stop and Search (STEPSS) project, which was administered by the Open Society Justice Initiative from 2007 to 2008 and involved three Spanish police agencies (as well as agencies in Hungary and Bulgaria). The second major reform was the Programa para la Identificación Policial Eficaz (PIPE), the first wave of which was implemented in 2012 and 2013 in two police agencies, and has since been followed by implementation in two additional agencies in 2016.

These reforms respond to concerns raised by national and international human rights bodies and local nongovernmental organizations (NGOs) that Spanish police carry out ethnic profiling in their law enforcement activities. Police officers can be said to engage in ethnic or racial profiling when they use ethnic or racial stereotypes, alone or in combination with other factors, as a basis for suspicion, for example when making decisions about who to stop or search.¹ The reforms also respond to an increased desire within police agencies to enhance professionalism and effectiveness amid a growing recognition that data and evidence can be used to improve the outcomes of policing.

Spain is not alone in introducing reforms to police stop practices, and there are examples in other parts of Europe and in North America. In fact, the Spanish reforms have been substantially influenced by some of these reforms, notably the model developed in England and Wales. Research, both in England and in Spain, suggests this model can positively influence police practice and community relations.²

^{1.} An accumulating body of evidence testifies to the role of ethnic profiling in Spain. In one study (OSJI 2007) qualitative interviews in Spain showed that immigrants and Roma felt they were targeted by police on the basis of their ethnicity, and some police officers openly admitted to targeting minorities, particularly in relation to immigration enforcement. Ethnic profiling has been identified as a problem in Spain by domestic and international human rights bodies, including the Spanish Ombudsperson's office, the Committee of Ministers of the Council of Europe, and the UN Special Rapporteur on Racism.

Open Society Justice Initiative and Plataforma por la Gestión Policial de la Diversidad (2015) Fair and Effective Police Stops: Lessons in Reform from Five Spanish Police Agencies. Technical Report. Open Society Justice Initiative and New York: Open Society Foundations. Miller, J. (2010). Stop and search in England: A reformed tactic or business as usual? British Journal of Criminology, 50(5), 954-974.

REFORM PRINCIPLES

Central to the Spanish reforms has been the use of pen and paper forms, completed by officers when identifications are carried out. These forms record the reasons for and outcomes of identifications and the national origin of the person stopped. Box 1 details the fields recorded on forms in the latest Spanish PIPE sites.

BOX 1. Information recorded on PIPE forms

- Personal data of the person stopped (name, age, national identity document number / social security number, address)
- · Ethnicity and/or nationality (foreign identity document, self-defined, officer perception or both)
- · Name of the officer conducting the stop and the unit to which they are assigned
- Time, date and place of stop
- · Legal basis for the identification
- · Grounds for suspicion
- · Was the stop followed by a search?
- · Outcome (no action/ warning/ fine/ arrest etc.)
- Additional space to describe more specific situations (e.g. stops of several persons or an incident, descriptions of clothing, other information that might be useful for intelligence purposes).

Reforms additionally involve greater supervision and management, making use of the forms and the data produced by them. They also call for engagement with representatives from the community to share information and analysis relating to identifications. Box 2 provides a summary of reform elements, based on the PIPE experience. Collectively, these measures may positively influence identifications through the following mechanisms:

- Officers learn a different way to approach identifications Messages received from training, supervision and management cause patrol officers to be more thoughtful when making decisions about when to stop someone.
- Forms produce "on-the-spot" accountability The forms encourage officers to have clear reasons for conducting identifications, because sharing a form with the person stopped means they have to be directly accountable to that person.
- **Reforms enhance supervisory control** Forms provide a record of an identification that can be directly reviewed by a supervisor to ensure it was conducted correctly and fairly.
- **Reforms create new opportunities for managerial analysis and oversight** The forms allow managers to examine how police stops are being used, whether they are effective, justified, and/or are disproportionately applied to members of minority groups. They also allow managers to identify problematic organizational units or

officers who may be using their powers inappropriately.

- There is a practical pressure on officers to be more selective The extra work involved in conducting identifications with forms means there is less time available to make stops.
- Increased community engagement and scrutiny shapes management of identifications – The data and analysis generated from the forms can be shared with community members. This promotes transparency and provides opportunities for police-community dialog about police priorities and practices. This can shape the managerial direction of identification practices.

Reforms outside of Spain show some variations with this model. Notably, many forces are using data-capture processes including mobile phones, hand-held devices, laptop computers, dispatch radios and/or body-worn cameras in place of "pen and paper" record keeping. Though these techniques may sometimes reduce opportunities for "on the spot" accountability, they do allow for the swifter capture of data in centralized databases, in turn supporting more timely analysis of data.

Initial tasks	Ongoing	Intended	Possible reasons
	activities	outcomes	for change
 Design/introduce stop procedure manual consistent with local policing context Design/introduce stop form Design/introduce data system Training of police officers Initiate dialog with community about stop policy and practice Design and launch publicity campaign 	 Police complete form when they stop someone, and provide a copy to the person stopped Forms are collected by supervisors and information entered into electronic database Stop data are analyzed to produce reports 	 Reduction of ethnic biases in stop activity Reduction in stops where there are inadequate grounds ("motive") for suspicion More effective stopping activity Stops conducted more respectfully Improved minority and public confidence in the police and their use of stop tactics 	 Messages received from training and new policy cause patrol officers to be more thoughtful when making stop decisions Forms requiring patrol officers to be accountable to person stopped cause them to be more thoughtful when making stop decisions Supervisors use the forms to check the legality and reasonableness of the stops

BOX 2. Key components of Spanish identification reforms (based on the PIPE model)

BOX 2. Key components of Spanish identification reforms (based on the PIPE model)

Initial tasks	Ongoing	Intended	Possible reasons
	activities	outcomes	for change
	 Managers and supervisors review stop forms and analysis for signs of non-compliance or problematic stop behavior (i.e. ethnic biases) Managers and supervisors review stop analysis to identify ideas for improving the effectiveness of stop tactics Police meet regularly with community representatives to discuss stop policy and practice Stop analyses are shared with community representatives Managers and supervisors redirect frontline officers to be more effective and less biased in their stop activity 		 Directions from managers and supervisors cause patrol officers to be more thoughtful when making stop decisions Stop forms increase time taken for stops, forcing officers to be more selective in their stopping activities Community engagement and sharing of stop analyses builds trust with community and influences police management of stop practices

2. HOW TO IMPROVE POLICE PRACTICE THROUGH DATA ANALYSIS

INTRODUCTION

This guide focuses on one key element of identification reforms: how to use data generated by forms to shape management and supervision. This involves conducting analysis to identify problematic patterns of identification practice, sharing analyses among police and community stakeholders, and generating and implementing responses to address problems identified. Below is an overview of how analysts should approach analysis, based on the PIPE experience.

There are three core questions that analysis of police data should attempt to answer:

- 1. Does the frequency of police identifications suggest a burden on members of the public?
- 2. Do police identifications have a disproportionate impact on certain ethnic groups?³
- 3. Are police identifications effective at identifying legal violations?

Additionally, in answering these questions, analysts may wish to consider how identification patterns vary across time, purposes, settings, and people. Answering this second set of questions helps us understand how identification practices may be improving or deteriorating, where problems within the organization and among neighborhoods are found, and in relation to what particular operational activities. In particular, analysis may wish to ask:

- 4. Are patterns of identifications changing over time? Why?
- 5. Do patterns vary by the purpose of identifications? Why?
- 6. Do patterns vary by organizational or geographic setting? Why?
- 7. Do patterns vary by individual officers? Why?

A MODEL FOR PRACTICAL ANALYSIS

Analysis of data should be "practical"—that is, it should focus on finding ways to improve police practice. To do this, we recommend the Analyze, Interpret, and Respond (AIR) model. Box 3 provides an overview. The model recognizes that there are different phases to practical analysis: (1) the initial analysis of data, (2) efforts to interpret patterns identified, and (3) the subsequent practical responses developed to address problems identified.

^{3.} While this document focuses in particular on ethnic profiling, we may also be interested in other groups, such as those defined by religion, gender identity or other protected grounds. It should be noted that, at this time, PIPE stop forms record nationality, not ethnicity, and therefore do not reflect Spanish nationals of non-white Spanish ethnic descent.

BOX 3. The AIR model for practical police data analysis

Analyze	 Generate core measures (including frequency, effectiveness, and ethnic disparity) Make comparisons across time, purposes, settings, and people (e.g. by time period, identification reason, setting and officer) Identify problem patterns in identifications, including examples of: High stop rates Limited effectiveness Disproportionality Compare stop data with other data (such as crime, calls to service, neighborhood demographics, or police policies and practices) to shed light on reasons for problems.
Interpret	 Pose specific questions about reasons for problem patterns, paying attention to community and police, for example: Are high stop rates a response to (real or perceived) neighborhood problems? Is disproportionality amplified by certain kinds of police operations? Does disproportionality reflect shortcomings in police management and supervision? Are some stops more effective than others (e.g. according to type of offense targeted or type of operation)? What alternative police practices could lessen stop burdens, reduce disproportionality, and/or enhance effectiveness? Discuss questions and analyses with police stakeholders, including managers, supervisors, and front-line officers Discuss questions and analyses with community stakeholders Determine likely reasons for problem patterns Consider strategies for addressing problems
Respond	 Develop and implement plans for reducing problem patterns Strategies may include, for example: Changes to deployment and operations Changes to front-line supervision New policies governing street-level practice Training of officers Assess impact of reforms through analysis

In the sections that follow, the report offers some concrete examples of how the AIR model can be applied, using real police examples from Spain and elsewhere.

ENSURING HIGH QUALITY DATA

Effective practical analysis of police stop data relies on high quality data. Otherwise the analysis produced may misrepresent practice on the ground.

To generate high quality data, officers must complete forms when required and complete them correctly. Where forms are paper-based, they should be manually entered into a database. This does not always occur.⁴ Measures to promote officer compliance with form-filling are provided in Box 4. These should be seen in the context of a broader range of factors that promote compliance with identification reforms generally, and are summarized in other reports.⁵

BOX 4. Strategies for ensuring officer compliance with form-filling

Ensuring forms are completed, returned, and entered into database:

- Managers and supervisors emphasize importance of completing and returning forms.
- Analysts compare radio logs of identifications with completed identification forms received for signs of disparities.
- Paper identification forms are numbered in sequence, so missing forms can be identified and followed-up with relevant officers.
- Radio operator asks officers for form number when officer calls in during an identification.

Ensuring forms are completed correctly:

- Supervisors check the quality of the forms of front-line officers when they come off patrol.
- Analysts quality-check data to identify forms with incomplete or incorrect fields. Follow-up with officers concerned.
- Follow-up training and guidance to officers on correct form completion, focused on parts of the form subject to confusion.

Note: While these principles are focused on "pen and paper" forms, they can also be readily adapted for electronic capture of stop data records.

^{4.} Open Society Justice Initiative and Plataforma por la Gestión Policial de la Diversidad (2015) Fair and Effective Police Stops: Lessons in Reform from Five Spanish Police Agencies. Technical Report. Open Society Justice Initiative . Bland, N., Miller, J. and Quinton, P. (2000). Upping the PACE: An evaluation of the recommendations of the Stephen Lawrence Inquiry on stops and searches.

^{5.} Open Society Justice Initiative and Plataforma por la Gestión Policial de la Diversidad (2015) Fair and Effective Police Stops: Lessons in Reform from Five Spanish Police Agencies. Technical Report. Open Society Justice Initiative.

3. CALCULATING CORE MEASURES

INTRODUCTION

This section focuses on measures of three key dimensions in relation to identification, which may equate with the problematic use of identifications within a police agency:

- 1. The **frequency** with which identifications are used
- 2. The effectiveness of identifications
- 3. Any disproportionate impacts that identifications have on minority ethnic groups.

DIMENSION 1: MEASURING THE FREQUENCY OF IDENTIFICATIONS

To assess how common identifications are, and to draw conclusions about whether they may constitute a burden on the public, we need to calculate frequency measures. These assess how common identifications are within a police agency.

Below, we focus on two types of measures: (1) raw counts of police activities, and (2) rates of police activities. In measuring these things we choose a time period (e.g. a month, quarter or year) as the basis for calculation and comparison.

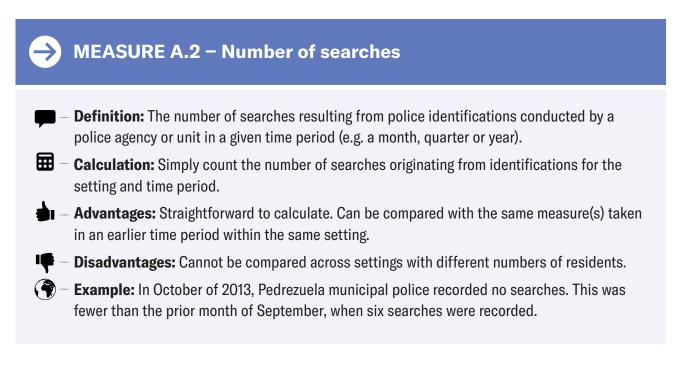
Raw counts of police identifications and searches

Raw counts of police identifications or searches are simple frequency measures. These measures are primarily useful for comparing police activity at different points in time in the same setting. The graphic below (Measure A.1) details how the "number of identifications" should be calculated and used.

MEASURE A.1 – Number of identifications

- Definition: The number of police identifications conducted by a police agency or unit in a given time period (e.g. a month, quarter or year).
- **EXAMPLE** Calculation: Count the number of identifications for the setting and time period.
- Advantages: Straightforward to calculate. Can be compared with the same measure(s) taken in an earlier time period within the same setting.
- Disadvantages: Cannot be meaningfully compared across settings with different numbers of residents.
- Example: In October of 2013, Pedrezuela municipal police recorded 27 identifications. This was more than the prior month of September, when just eight identifications were recorded.

The next graphic details the equivalent measure for the searches that arise from identifications, namely the "number of searches" (Measure A.2).



Rates of police identifications and searches

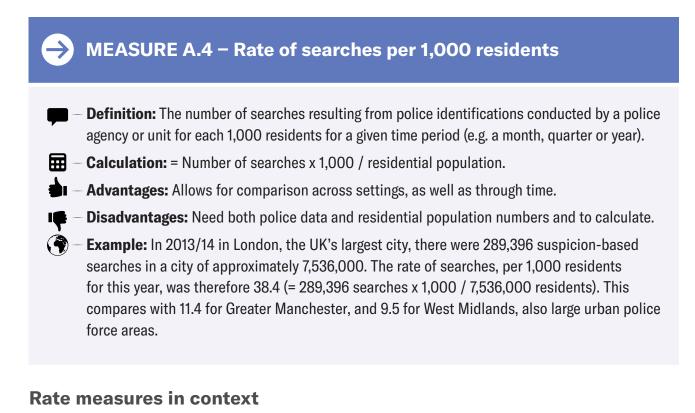
The second way of measuring the frequency of identifications is to calculate rates. These measures are adjusted by the size of the population. A rate is therefore comparable across settings, regardless of the number of residents. We suggest calculating a rate per 1,000 people in the population over a fixed period of time (e.g. a month, quarter or year).⁶

→ MEASURE A.3 – Rate of identifications per 1,000 residents

- Definition: The number of police identifications conducted by a police agency or unit for each 1,000 residents for a given time period (e.g. a month, quarter or year).
- **EE Calculation:** = Number of identifications x 1,000 / residential population.
- Advantages: Allows for comparison across settings and time.
- Disadvantages: Needs both police data and residential population numbers to calculate.
- Example: During the PIPE six month pilot, Castellon recorded a total of 435 identifications, and had a population of 177,469 people. The rate of identifications, per 1,000 residents in this six month period was therefore 2.45 (= 435 identifications x 1,000 / 177,469 residents). From this six month measure, we can also estimate that a yearly rate would be about 4.9 identifications per 1,000 (2 x 2.45 [6-monthly rate] = 4.90 [estimated yearly rate]).

6. However, rates can be calculated in other ways (e.g. per 10,000 or per 100).

The equivalent rate measure for searches is presented below (Measure A.4).



To consider whether an agency makes frequent use of identifications and associated searches, they can be compared with other agencies. Box 5 provides some examples of monthly police contact rates per 1,000 statistics from a range of settings in Spain and the UK. In reading the table, it is important to recognize that the types of police contact are not necessarily equivalent across police agencies or countries.

BOX 5. Comparison rates of recorded police encounters, monthly averages per 1,000

	Identifications	Stop and account	Searches
Spain			
Castellon Municipal Police (2013)	0.41	n/a	0.05
Pedrezuela Municipal Police (2013)	2.78	n/a	0.46
Girona Municipal Police (2007/8)	2.64	n/a	0.96
Girona Mossos d'Esquadra (2007/8)	1.56	n/a	0.90
Fuenlabrada Municipal Police (2007/8)	2.43	n/a	1.29
Fuenlabrada Municipal Police (2013)	0.54	n/a	-
Hungary			
Budapest (2007/8)	5.41	n/a	-
Kaposvár (2007/8)	27.1	n/a	-
Szeged (2007/8)	7.75	n/a	-
England and Wales			
London (2006/7)	n/a	3.5	4.2
Greater Manchester (2006/7)	n/a	1.8	1.6
West Midlands (2006/7)	n/a	5.3	1.0

Note: "Stop and account" is a British term, used to describe encounters in which members of the public are stopped and asked to account for themselves.

Using frequency measures in practical analysis

Finally, we present an example of applying the AIR model to rate measures of police contacts. This is based on a historical analysis of stop and search conducted in England and Wales in 2000.⁷

^{7.} Miller, J., Bland, N., & Quinton, P. (2000). The impact of stops and searches on crime and the community. Home Office, Policing and Reducing Crime Unit, Research, Development and Statistics Directorate.

BOX 6. AIR example 1: Understanding variation in stop and search rates across police forces in England and Wales

An analysis conducted in England and Wales in 2000 used rate measures of police "stop and search" encounters to highlight substantial disparities between similar police agencies.

Analyze



Analysis of rates of "stop and search" across the 42 territorial police forces of England and Wales showed wide variation among agencies. Analysis of supplementary crime and community data showed this was true even for forces with similar socio-economic characteristics or crime rates. Most notably, the US city of Cleveland recorded 101 stop and searches per 1,000 population in the year 1998/9, while Humberside—its most similar force based on a range of socio-economic factors—recorded just six (in 1998/9).

Interpret

Two key questions were asked: (1) is the variation in stop and searches a product of differences in crime or socio economic characteristics? (2) Does the variation in stop and search rates reflect local policies and priorities? The statistics, coupled with some knowledge about local policing, suggest that much of the variation was a product of local policing practices, rather than crime or socioeconomic circumstances. For example, Cleveland, USA, which recorded by far the largest number of stop and searches, also operated a "zero tolerance" policing policy that emphasized the aggressive policing of low level disorder—a strategy that likely contributed to the high rates of stop and search.

Respond

The researchers conducting the analysis offered a set of recommendations to improve stop and search practice, informed by the research findings. Recommendations emphasized using stop and search in an efficient and targeted manner, when there is a strong basis for suspecting that illegal searches are being carried.

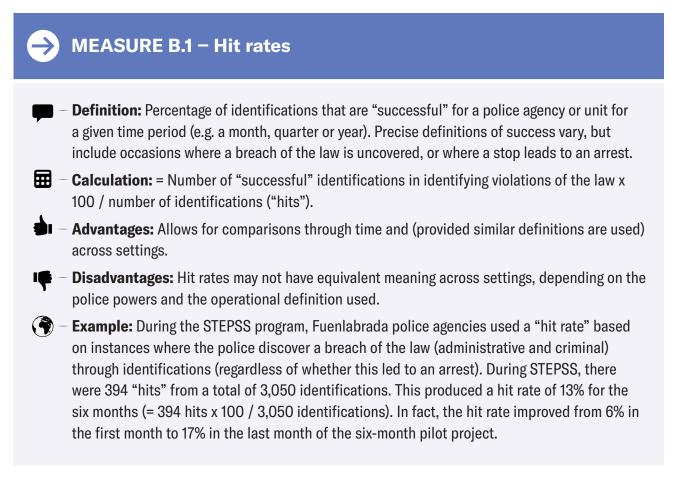
DIMENSION 2: MEASURING THE EFFECTIVENESS OF IDENTIFICATIONS

The second measurement dimension concerns the effectiveness of identifications. The primary way to assess this is using the "hit rate". This measures the proportion (or percentage) of encounters that lead to action (a positive outcome).

In practice, definitions of positive outcomes vary across settings, and this means that hit rates are not always strictly comparable. For example, in published national statistics in England and Wales, arrest is used as the positive outcome. In Fuenlabrada, Spain, the municipal police hit rate is based all instances where the police discover a breach of

the law (administrative and criminal), but exclude occasions where people are caught in the act. In Girona agencies during STEPSS, the definition was similar, but also included occasions where people are caught in the act of a legal violation.

The graphic below (Measure B.1) summarizes how "hit rates" should be calculated and used.



Using hit rates in practical analysis

Here we present an example of applying the AIR model to hit rates (AIR example 2). This is based on a historical analysis of stop and search conducted in England and Wales in 2000.⁸

^{8.} Miller, J., Bland, N., & Quinton, P. (2000). The impact of stops and searches on crime and the community. Home Office, Policing and Reducing Crime Unit, Research, Development and Statistics Directorate.

BOX 8. AIR example 2: Hit rates and intelligence in England and Wales

This example shows how researchers compared police operations to figure out what contributed to effectiveness.

A historical analysis of stop and search in England and Wales included an examination of arrest rates. It drew attention to two examples where a surge in stop and search had produced different outcomes. In one example, a sustained increase in crime within a police area led to drafting of extra street police officers from a force-wide support unit. This doubled the number of searches (from about 300 to 600 per month), but led to a near halving of the arrest rate of searches for the period (and apparently had little impact on local crime rates).

In a second example (in a different police force), a targeted police operation sought to address an increase in violence among criminals focused on the control of local drug markets. The operation incorporated daily intelligence briefings for officers, informed by community intelligence developed through extensive community consultation and police observation of a café at the center of the conflict. Nearly 100 searches were carried out as part of the operation, with an arrest rate of 19%. This was substantially higher than the national average.



Analyze

The central question was: what makes one kind of stop and search operation more effective than the other? The answer, based on the descriptions of the two operations and associated arrest rate data, is that the use of intelligence to guide a targeted operation seems to generate higher hit rates. Simply increasing stop and search activity without supporting intelligence seems to produce lower arrest rates, by contrast.

Respond

The researchers conducting the analysis offered a set of recommendations to improve stop and search practice, informed by the research findings. Included in these were recommendations to use intelligence routinely as a basis for suspicion to guide stop and search activity, with the expectation that this would enhance stop and search hit rates.

DIMENSION 3: DISPROPORTIONATE IMPACTS OF IDENTIFICATIONS ON MINORITIES

The third measurement dimension concerns the disproportionate effects that identifications may have on minority ethnic groups. Disproportionality implies that a minority group is more frequently subject to identifications (or other outcomes such as searches or arrests) than the majority group.

Where disproportionality is identified, this may be the product of ethnic profiling. There are also other possible reasons too (see Box 9 below). Irrespective of the reason, however, where disproportionately exists, this represents a burden for affected minority groups, likely contributes to poorer police-community relations, and may be the product of direct or indirect discrimination. However, understanding the factors that contribute to disproportionality are important in efforts to address it.

BOX 9. Possible reasons for disproportionality

A range of social, economic, demographic, and lifestyle characteristics may account for the disproportionate police attention experienced by some minority ethnic groups:

- Ethnic profiling by police. Police hold stereotypes that may direct their attention to certain ethnic groups. Other visible differences (such as clothing) stereotypically associated with criminal activities that attract police suspicion may also be correlated with ethnicity.
- Over-representation of ethnic groups in suspect descriptions for reported crimes. This may be linked to ethnic differences in crime rates, but it may also be linked to biases in the way people report suspects to the police.
- Other demographic characteristics that attract police attention. Some ethnic groups will come under more suspicion because of their demographic characteristics, for example if they have a younger population profile (because young people may be seen by police as more prone to crime).
- **Geographical variations in police patrol.** Police rarely spread their patrols evenly across space and time, and they are more likely to direct attention to (or perhaps avoid) problematic areas. This may involve police spending more (or less) time in neighborhoods that have higher concentrations of particular ethnic groups. These variations may reflect objective differences in crime patterns, though other factors including ethnic profiling may contribute to the targeting of some ethnic neighborhoods.
- Ethnic differences in use of public space. If members of some ethnic groups spend more time congregating in or using public spaces where police stops are more likely to take place, this may lead to greater police contact.

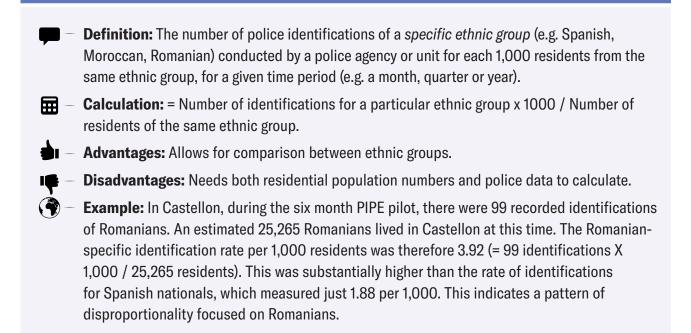
Note: The contents of this box are adapted from a prior publication.9

Ethnicity-specific rates of identifications

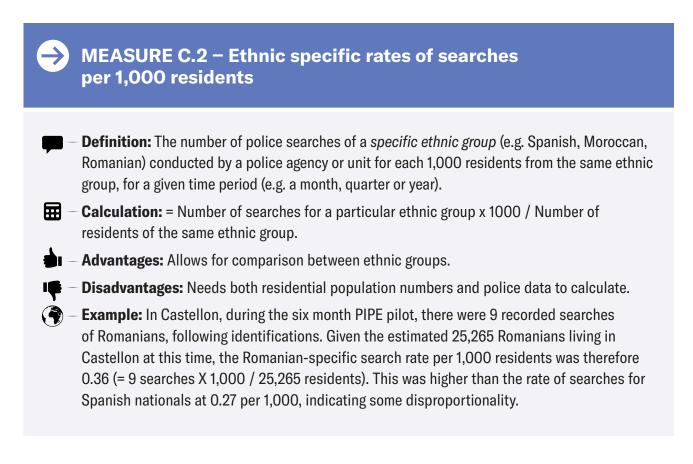
A simple way to assess and compare ethnic groups on their experience of identifications is by calculating identification rates (per 1,000) for each key ethnic group and comparing them. Measure C.1, below, describes the calculation and use of this measure in Spain. Ethnic groups include Spanish nationals.

^{9.} Open Society Justice Initiative (2007). I Can Stop and Search Whoever I Want': Police Stops of Ethnic Minorities in Bulgaria, Hungary and Spain. New York: Open Society Justice Initiative.

MEASURE C.1 – Ethnic specific rates of identifications per 1,000 residents

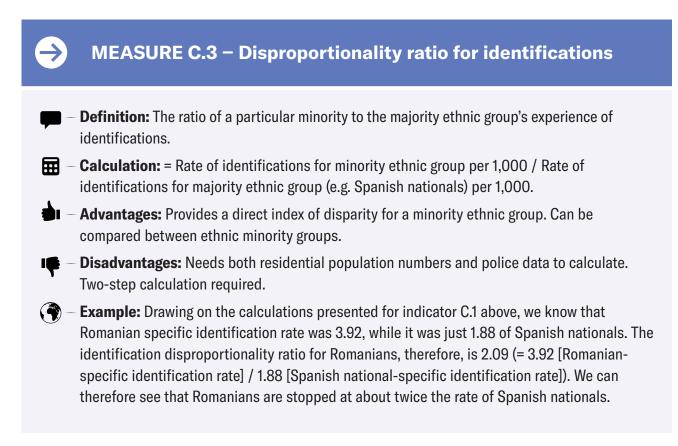


The equivalent measure can be constructed for searches arising from identifications. The graphic for Measure C.2 explains the definition and use of this measure.



Disproportionality ratios

A direct measure of disproportionality is the "disproportionality ratio". This directly compares the experiences of a particular ethnic minority group with the majority (i.e. Spanish) group within a single measure. The ratio measures the relative level of disproportionality experienced by the minority group, compared to the majority group.



The equivalent measure for searches is provided in Measure C.4.

MEASURE C.4 – Disproportionality ratio for searches

, -	Definition: The ratio of a minority to the majority ethnic group's experience of searches.
	Calculation: = Rate of searches for minority ethnic group per 1,000 / Rate of searches for majority ethnic group (e.g. Spanish nationals) per 1,000.
ð i -	Advantages: Provides a direct index of disparity for a minority ethnic group. Can be compared between minority ethnic groups.
I F -	Disadvantages: Needs both residential population numbers and police data to calculate. Two-step calculation required.
() –	Example: Drawing on the calculations presented for indicator C.2 above, we know that the

Example: Drawing on the calculations presented for indicator C.2 above, we know that the Romanian specific search rate was 0.36, while it was just 0.27 for Spanish nationals. The search disproportionality ratio for Romanians, therefore, is 1.33 (=0.36 [Romanian-specific search rate] / 0.27 [Spanish national specific search rate]). In this case, Romanians are searched about a third more often than Spanish nationals.

Ethnic-specific "hit rates"

It can be revealing to compare the hit rates across different ethnic groups, and Measure C.5 below indicates how "Ethnic-specific hit rates" can be calculated and used.

Low hit rates for particular ethnic minority groups may be evidence of ethnic profiling, because they suggest a pattern of targeting not justified by law-breaking behaviors. However, high hit rates for an ethnic group do not necessarily rule out ethnic profiling because they can be affected by police discretion. This would happen because officers more often interpret behaviors and circumstances for profiled ethnic groups as violations than they would for the majority group.

MEASURE C.5 – Ethnic-specific hit rates

- Definition: Ethnic-specific hit rates indicate the proportion of identifications involving members of a particular ethnic group that are successful at identifying a violation for a police agency or unit for a given time period (e.g. a month, quarter or year).
- Calculation: = Number of "successful" identifications for a specific ethnic group x 100 / Number of identifications for the same ethnic group.
- Advantages: Provides a direct measure of identification success for each ethnic group. By comparing across ethnic groups, it may provide evidence that some groups are stopped where there is less chance of identifying a violation compared to others—which may be an indication of ethnic profiling.
- Disadvantages: May be affected by officers' discretion whether to arrest or to formally identify an offense as having taken place. While low hit rates for an ethnic group may suggest disproportionate police targeting of that group, high hit rates for a minority ethnic group do not rule out ethnic profiling.

Example: In the six month PIPE pilot in Castellon, 69 of the 267 identifications of Spanish nationals were successful in identifying an offense, resulting in a hit rate for Spanish nationals of 26% (= 69 positive outcomes X 100 / 267 identifications). By contrast, the hit rate for Romanians, across 99 identifications, was 35% (= 35 positive outcomes X 100 / 99 identifications). In other words, the hit rates for Romanians were higher than for Spanish over the period.

Using disproportionality measures in practical analysis

In AIR Example 3 (below) we see how, in Girona, Spain, measures relating to disproportionality challenged the logic of targeting Moroccans for knives offenses.

BOX 10. AIR Example 3: Targeting of Moroccans in Girona

During the STEPSS project, data collected for the Mossos d'Esquadra in Girona showed disparities in targeting of Moroccans, compared to Spanish nationals. These were difficult to justify based on the ethnic-specific hit rates.

Analyze



During the STEPSS pilot in Girona, Moroccans were subject to disproportionate identifications by the police by a substantial margin. The Mossos d'Esquadra recorded a Moroccan disproportionality ratio of 10.0 and the Municipal Police a disproportionality ratio of 6.7. However, for the Mossos d'Esquadra, hit rates were about the same for Moroccan and Spanish nationals (11% and 9%, respectively) and for the Municipal Police they were much lower for Moroccans (9%) than Spanish (19%). Municipal Police officers were guided by community intelligence developed through extensive community consultation and police observation of a café at the center of the operation. Nearly 100 searches were carried out as part of the operation, with an arrest rate of 19%. This was substantially higher than the national average.

Interpret



A key question here is: why do Moroccans have such high stop rates, given that stop outcomes for this group are similar or worse than for Spanish nationals? Representatives from both Girona police agencies helped answer this question. They indicated that the targeting of Moroccans represented a precautionary measure because officers believed Moroccans routinely carried knives. This was at odds with the fact that the hit rates for Moroccans did not seem to support this belief. In fact, a further analysis of the stop data suggested that Spanish nationals were more likely than Moroccans to be found with weapons. In short, the data analysis, and follow-up conversations with police, indicated that officers heavily target Moroccans because of misplaced concerns about weapons.

Respond



While no formal response was documented in the STEPSS evaluation, an appropriate response might have included some re-education of front-line officers, perhaps presenting the statistics described above, to challenge officers' beliefs. A response might also have involved working with first-line supervisors to reinforce this message to front-line officers, using their supervision of officers to challenge front-line officers for the routine targeting of Moroccans.

Note: This box is adapted from information from earlier report on STEPSS.¹⁰

^{10.} Open Society Justice Initiative (2009). Addressing ethnic profiling by police: A Report on the Strategies for Effective Police Stop and Search project. New York: Open Society Justice Initiative.

4. COMPARING CORE MEASURES (ACROSS TIME, PURPOSES, SETTINGS AND PEOPLE)

INTRODUCTION

In this section, we explain how some key comparisons can be made with the measures described in the last section. These comparisons help us understand how police practices may be improving or deteriorating over time, and where problems are concentrated among neighborhoods, police staff, or activities. Specifically, we focus on:

- 1. How patterns of identifications change over time
- 2. How patterns vary by the **purpose** of identifications
- 3. How patterns vary by setting
- 4. How patterns vary by individual officers

It can be useful to make more than one of these comparisons at the same time. Commonly, for example, we may wish to examine changes over time in stop measures broken down by settings, officers or stop purposes. It is also often useful to draw in supplementary data to make sense of comparisons, for example data on crime or demographics.

Presenting comparisons

In conducting comparisons, we often generate multiple numbers corresponding to the different units we are comparing. It is helpful if we use some kind of graphical method for presenting these numbers, to facilitate easy comparisons and to allow patterns to be seen clearly.

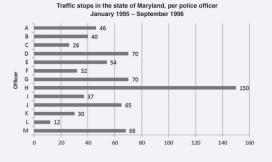
While there are no fixed rules for how data should be presented, we highlight the common graphical tools that we suggest for comparative analysis of stop data (Box 11).

BOX 11. Graphical options for presenting stop comparisons

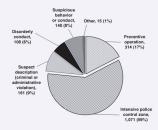
Example

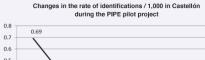
Arrest rates for selected boroughs of the London Metropolitan Police, August 2016

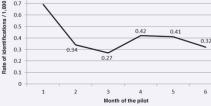
Zone	Arrest Rate (%)
Hackney	32.0
Bromley	29.7
Richmond upon Thames	23.9
Haringey	20.8
Harrow	16.1
Havering	15.2



Different Types of Police Stops Fuenlabrada, months one and two of the STEPSS pilot







Comparison of crimes and police searches in Chapeltown (England) 1999/2000



Graphic & Description

Tables

A table presents numbers in a matrix. It is useful for comparing measures across settings, people and purposes.

Bar charts

A bar chart uses bars to visually indicate the magnitude of measures across settings, people and purposes.

Pie charts

A pie chart compares the size of the subgroups that make up a whole. For example, it is particularly useful for comparing the frequency of different kinds of identifications.

Line graphs

A line graph is suited primarily for showing how measures change over time.

Maps

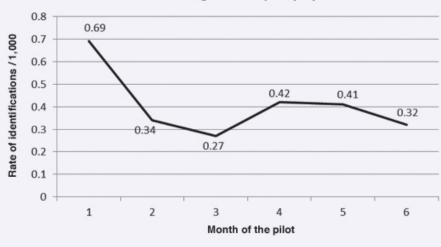
Computer-generated maps are very useful for comparing measures across geographical areas. They can also be used to examine both police stop data and other community variables, such as crime or demographics.

COMPARISON 1: HOW MEASURES CHANGE OVER TIME

Examining how measures change over time provides clues about any deterioration or improvements in identification practices that may be happening. This can shed light on problems in communities, as well as impacts of changes to police policies.

COMPARISON D.1 – Changes over time

- Definition: A core measure is compared across a series of equivalent time periods (e.g. a month, quarter, or year). Comparing measures across periods indicates changes to practice. Results can be presented in tables or line graphs.
- Value: Changes over time in key measures indicate how police practices have changed. They are important for monitoring the effects of new policies and operational changes.
- Calculation: Decide on a time window you will use for comparisons (e.g. month, quarter, year). Divide the data into separate periods corresponding with the time window (e.g. January, February, March..., or 2013, 2014, 2015...). Calculate core measures for each time period. Place in a table or graph for comparison.
- Example: This graph shows changes over time for identification rates (Measure A.3) in Castellon during the six-month PIPE pilot. It shows a downward shift in recorded identifications, focused on the second month.



Changes in the rate of identifications / 1,000 in Castellón during the PIPE pilot project

Using time comparisons in practical analysis

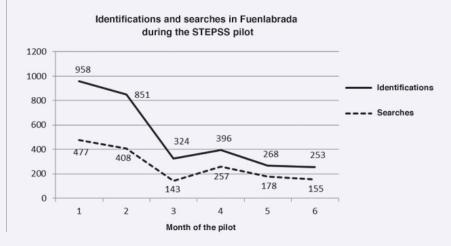
Below we show an AIR example focused on interpreting changes in measures through time in Fuenlabrada during the STEPSS pilot.

BOX 12. AIR Example 4: Targeting of Moroccans in Girona





In Fuenlabrada, analysis over the six months of the STEPSS pilot indicated a sharp decline in identifications and searches (Measures A.1 and A.2) focused on the first three months. This was followed by a smaller, temporary increase in the fourth month (January 2008). The graph below displays the numbers of these police contacts during the pilot.



Interpret



The primary question here is: was the decline in identifications in the first three months a result of the STEPSS reforms? A secondary question is: why there was a small increase in identifications in month 4? Senior officers attributed the decline directly to the STEPSS project and the increased supervision and awareness of stop practice. Officers received training at the start of the project and their use of stops was then closely supervised. Meanwhile, senior officers explained that the rise in the number of identifications and searches in month 4 as due to the "programa de navidades" that takes place during late December and early January each year. This program (Christmas program) steps up identifications and searches in an around the local shopping center and entertainment areas, aimed at avoiding robberies and pick pocketing at this busy time.

Respond



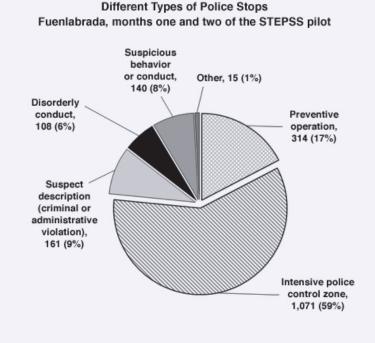
Based on the success of the Fuenlabrada STEPSS pilot, the agency has continued to employ the reforms introduced, with the expectation that they will continue to deliver a more efficient use of identifications that places a lesser burden on the public, reduced disproportionality, and improved efficiency. Statistics generated and analyzed in the years since the STEPSS pilot suggests the agency has continued to be successful in doing this. The analysis also shows that targeted operations may produce some temporary spikes in identification activity. Such operations should therefore only be conducted when they serve a legitimate public safety purpose, and when they have a credible claim to effectiveness.

COMPARISON 2: HOW MEASURES VARY BY PURPOSE OF IDENTIFICATION

Not all identifications are equal: they may be underpinned by different legal mandates, operational goals, and officer motivations. Examining how core measures vary across these categories helps pinpoint which kinds of police activities may be problematic, and which may be responsive to new policies. The graphic below (Comparison E.1) describes how comparisons of the purposes of identifications should be conducted and used.

COMPARISON E.1 – Variations by purpose of identifications

- Definition: Core measures are compared across different types of identifications, according to their legal or operational definition or character.
- Value: Comparing core measures according to purpose may show that some types of identifications are more problematic than others. It may also clarify which activities are most affected by policy changes.
- **Calculation:** Disaggregate the identifications according to different purpose categories (e.g. their legal basis or the operational basis). Place in a table or graph for comparison.
- Example: The frequencies of identifications (i.e. Measure A.1) for the first two months of Fuenlebrada's STEPSS pilot, compared by operational purpose, are presented below in a pie chart. As well as indicating the numbers of identifications, the chart also shows the percentage of all searches accounted for by each subgroup. Apparently, identifications conducted in "areas under intensive control of the police" were by far the most common at this time, accounting for 59% of all identifications. As we will see in AIR Example 5 (Box 13 below), the STEPSS reforms went on to help reduce the number of identifications in this category.



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Using comparisons by purpose in practical analysis

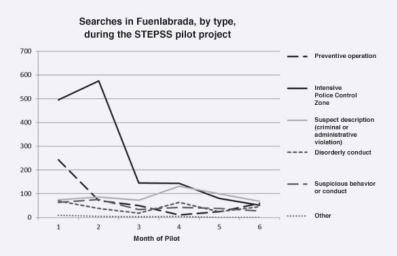
AIR Example 5 (Box 13) shows how analysis of changes in different kinds of stops during the STEPSS reforms in Fuenlabrada sheds light on the reasons for the reforms' impacts that can guide us going forward. This example shows how data was used to understand the specific effects of reforms on high discretion identifications in Fuenlabrada.

BOX 13. AIR Example 5: Changes in operational purposes of identifications in Fuenlabrada during STEPSS

Analyze



In Fuenlabrada, data in the graph below for the six month STEPSS pilot showed that declines in the frequency of identifications (Measure A.1) were not even across all operational types. The graph shows that three operational types of identifications drove the decline: zones under intensive police control, preventive operations, and stops for suspicious attitude or behavior. These showed reductions of 90 percent, 76 percent and 56 percent respectively. Disporportionality also declined over the period.



Interpret



A key question is: why did some types of identifications decline more than others? A secondary question is: what were the effects of these reductions on overall disproportionality? Discussions with police managers revealed that these three categories of identification involved high levels of officer discretion when deciding who to stop. Perhaps because this discretion allowed officers to draw on generalizations and stereotypes, these classes of identifications were characterized by substantial disproportionality. The new types of monitoring and accountability introduced during STEPSS were particularly suited to controlling high-discretion encounters, helping reduce overall disproportionality levels.

Respond



The findings show the apparent success of STEPSS reforms, and suggested that police managers should continue with these reforms. Additionally, they suggest that police managers should pay particular attention to high discretion identifications: these are particularly prone to disproportionality, but they are also apparently easier to control through accountability measures.

COMPARISON 3: HOW MEASURES VARY BY SETTING

Core measures of identifications can be compared across different settings. Settings may be defined by different geographies. They may also be taken to include different teams or units within a police agency. This allows the analyst to assess which teams and neighborhoods are most affected by problematic practices. Comparison F.1, below, describes the application of this type of comparison.

COMPARISON F.1 – Variations by setting

- **Definition:** A measure is compared across different settings, such as divisions, patrol areas, or operational units of police organizations.
- Value: Comparing measures between settings may show that the frequency, ethnic disproportion, or effectiveness of identifications is greater or lesser by setting. This may be rooted in the types of police activities that take place, or the characteristics of different neighborhoods.

Calculation: Divide the data into the different settings. Calculate measures for each setting. Place in a table or graph for comparison. For geographical comparisons, it is also possible to present data using maps.

 $\langle \P \rangle$ – **Example:** The table below presents hit rates (Measure B.1) in the form of arrest rates of a selection of police divisions in London. There are substantial variations between divisions, with Hackney recording arrests for nearly a third of stop and search, while Havering recording arrests for less than one in six stop and searches.

Zone	Arrest Rate (%)	
Hackney	32.0	
Bromley	29.7	
Richmond upon Thames	23.9	
Haringey	20.8	
Harrow	16.1	
Havering	15.2	

Arrest rates for selected boroughs of the London Metropolitan Police, August 2016

Using comparisons by setting in practical analysis

In the AIR example below (Box 14) we look at how maps can be used to analyze differences in the distribution of police stops across geographic settings and, furthermore, to make sense of these differences in the context of local crime rates.¹¹

BOX 14. AIR Example 6: Geographical mapping of police stops and crime in England

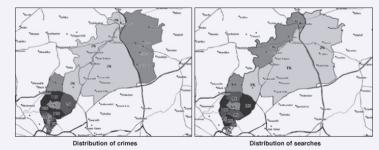
This example shows how mapping technology can be used to examine geographic variations in the police stops through space, and to see how these compare with variations in local crime.

Analyze



An analysis of data from Chapeltown (England) in 2000 compared the geographic pattern of stops and searches with relevant recorded crimes. The comparison used mapping software to generate shaded maps, highlighting the distribution of stops and searches and crimes across different zones (e.g Measures A.1 and A.2). Analysis also examined the geographic distribution of resident ethnic groups by zone. Two of the maps produced are presented below.

Comparison of crimes and police searches in Chapeltown (England) 1999/2000



The example maps show reasonable consistency between the distribution of crime and searches. However, they also show places where levels of searches are higher or lower than would be expected, given crime levels. Some of these places had substantial minority ethnic populations.

Interpret



The key questions posed here are: (1) Does the geographic distribution of searches reflect the geographic distribution of crime?¹² (2) Is the geographic distribution of searches influenced by the location of ethnic minorities? The analysis shows that searches do mostly track crime rates. However, searches also seem to be targeted at neighborhoods with high ethnic minority representation, suggesting that policing may be biased against some minority neighborhoods.

Respond



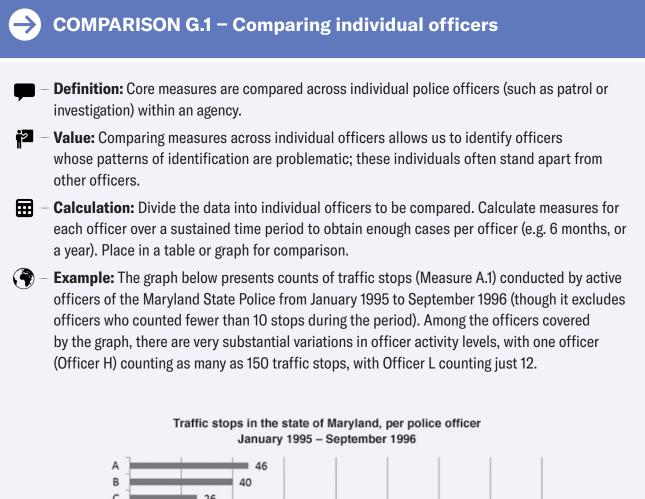
Although no police response is documented, the analysis suggests that police managers and supervisors working high minority neighborhoods should closely monitor the use of searches, and limit their use where local crime rates to do not justify intense police activity.

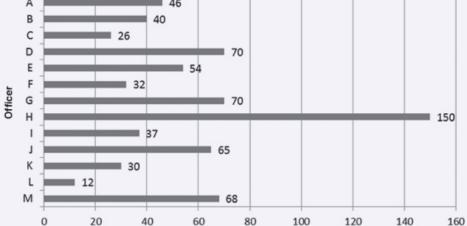
^{11.} MVA and Miller (2000). Profiling populations available for stops and searches. London: Home Office.

^{12.} The types of crime that might be disrupted by searches.

COMPARISON 4: HOW MEASURES VARY BY INDIVIDUAL OFFICERS

A final type of comparison focuses on individual officers. The practices of individual officers can be compared with one another to identify officers who have unusual patterns that may set them apart from colleagues. The Comparison G.1 graphic describes how this comparison should be applied.





Note: This is based on an analysis conducted by John Lamberth.¹³

13. Lamberth, J. (1996) Wilkjns v. Maryland State Police: Report.

Using officer comparisons in practical analysis

We present a final AIR example in which individual officer analysis was used to reduce disproportionality levels.

BOX 15. AIR Example 7: Identifying and responding to individuals with disproportionate stop and search patterns

In 2006-2007, in Hertfordshire Constabulary in the UK, black people were stopped and searched at five times the rate and Asian people were stopped and searched at 1.8 times the rate of white people. Under reforms in 2007-2008, stop forms were introduced that could be scanned, and software was introduced to analyze the patterns of stop and search patterns.





The software was programed to identify individual officers who stopped minorities at rates substantially beyond what would be expected given their job assignments (this likely relied on variations of Measures C.3 and C.4). Initially, 25 officers were highlighted for having high rates of stopping of minorities. This analysis was repeated on a monthly basis.

Interpret



The central question here is: What explains highly disproportionate stop and search practices by some officers? The force "diversity unit" conducted interviews with the initial officers identified as conducting disproportionate stop and searches with minorities, as well as those conducting proportionate numbers of stop and search. These conversations highlighted problems with some officers' understanding of appropriate grounds for conducting stop and search. It further suggested that some operations had disproportionate impacts on minorities, despite having legitimate objectives.



The program went on to review officers on a monthly basis, automatically emailing the supervisor of officers flagged for disproportionate stop and search rates of minorities. The emails included details of the officers' behavior and a list of questions for supervisors to pursue with the officers. These supervisors also received training in strategies to use when interviewing the officer. Supervisors were expected to report back on these interviews, with recommendations for action or training. Subsequently, rates of disproportionality were reduced among the targeted officers and in the force as a whole.

Note: This is based on information contained in an FRA publication.14

^{14.} FRA (2010). Towards more effective policing - understanding and preventing discriminatory ethnic profiling: A guide. Belgium: European Union Agency for Fundamental Rights.

5. CONCLUSIONS

This guide has emphasized the importance not just of conducting analysis, but also paying attention to interpreting the numbers in order to answer questions such as: what accounts for problematic patterns? It has also paid attention to how communities and police managers can respond to analyses: are there changes to policies and practices that can reduce the burdens of police stops and improve their effectiveness?

We hope the document provides a useful starting point for reformers, and that they apply it creatively. In particular, we hope it encourages reformers to incorporate stop data analysis into routine business, with analyses shared openly among police officials and community representatives. We also hope that the views and ideas of police and community representatives are used to fully understand data patterns, and to shape policies and practices going forward. We believe this will help improve policing practice and strengthen police-community relations.

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