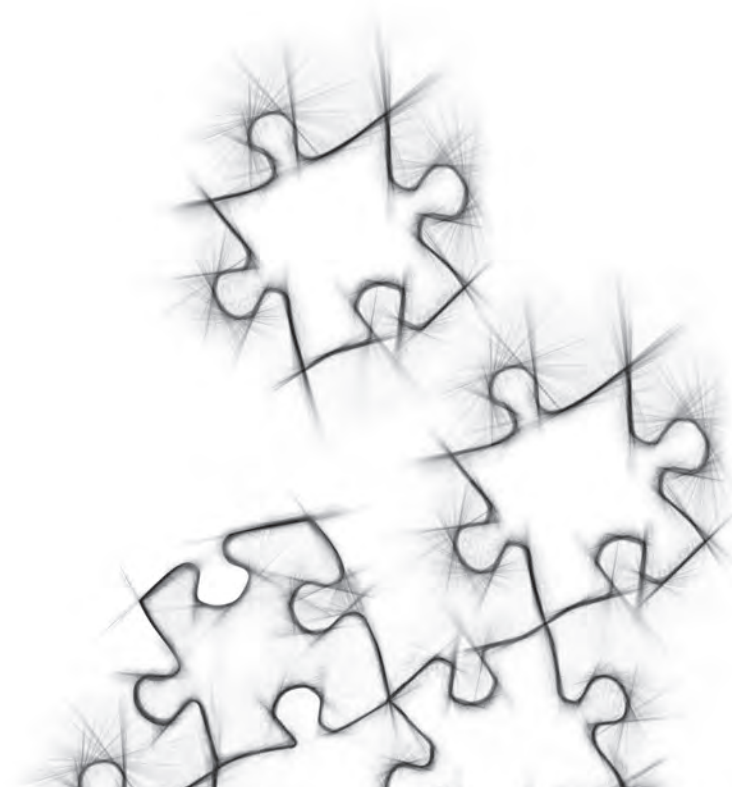UNODC
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GLOBAL STUDY ON HOMICIDE
Homicide trends, patterns and criminal justice response

2019

UNITED NATIONS OFFICE ON DRUGS AND CRIME
Vienna

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Homicide: extent, patterns, trends and criminal justice response

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UNODC
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PREFACE

The *Global Study on Homicide* is a search for solutions. By bringing together the available data, the United Nations Office on Drugs and Crime seeks to shed light on different phenomena, from lethal gang violence and the role of firearms to links with inequalities and gender-related killings, and in this way support targeted action. I hope that the research and analysis contained in the study are used in this spirit – not to designate "murder capitals" but to learn, understand and strengthen prevention.
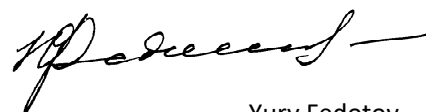
Criminal activity is responsible for many more deaths worldwide than armed conflict and terrorism combined. Unless the international community takes decisive steps, targets under Sustainable Development Goal 16 to significantly reduce all forms of violence and related death rates by 2030 will not be met.

The Americas continue to report high homicide rates. Young men are especially at risk, with a homicide rate for men aged 18 to 19 estimated at 46 per 100,000 – far higher than the risk faced by their peers in other regions. Firearms are also involved far more often in homicides in the Americas than in other parts of the world.

By contrast, Europe has seen a decline in the homicide rate by 63 per cent since 2002 and by 38 per cent since 1990. The rate in Asia has fallen by 36 per cent since 1990. Data collection overall has improved since the previous *Global Study on Homicide*, but there remain serious gaps in the availability of reliable data for African countries. There are also indications that homicide is underreported in the official statistics in Pacific countries.

This study offers particular insights into the gender-related killing of women and girls. "Femicide" represents just a small percentage of the overall number of homicides, but our analysis indicates that the drivers of this type of lethal violence require tailored responses. Killings carried out by intimate partners are rarely spontaneous or random, and should be examined as an extreme act on a continuum of gender-related violence that remains underreported and too often ignored.

The *Global Study on Homicide 2019* also documents successes in preventing and addressing lethal violence. In particular, the study offers examples of effective community-based interventions in settings afflicted by violence, gangs and organized crime. These accounts show that with targeted interventions backed by sustained engagement and trust between communities and law enforcement, bringing down homicide rates is possible.

Yury Fedotov

Executive Director, United Nations Office on Drugs and Crime

ACKNOWLEDGEMENTS

CONTENTS

SCOPE OF THE BOOKLET

This booklet constitutes the second part of the *Global Study on Homicide 2019*. It provides an overview of intentional homicide counts, rates and trends. Starting at the global level, the analysis turns to regional, subregional and national trends before the focus shifts to the subnational picture of homicide in selected locations where such data are available and patterns can be identified. Urban homicide patterns and urban homicide trends are examined as are the demographics of homicide victims and the sex of homicide perpetrators. The booklet ends with an overview of the criminal justice response to homicide. In-depth contributions by external experts feature throughout the booklet.

The overall picture presented in this booklet shows the diversity of situations with regard to lethal violence encountered around the world and sets the stage for more detailed analyses of demographics of both victims and perpetrators of homicide in terms of sex and age, homicide typologies, mechanisms and drivers in the subsequent booklet.

INTRODUCTION TO THE CONCEPT OF INTENTIONAL HOMICIDE

Intentional homicide is the ultimate crime and has ripple effects that go far beyond the original loss of human life. For homicide also blights the lives of the victim's family and community, who may therefore be described as "secondary victims". It creates a violent environment that has a negative impact on society, the economy and government institutions. Homicide is not limited to people living on the margins of society; rather, it can affect all people, irrespective of their age, sex, ethnicity and socioeconomic background. Since homicide has an impact on people from all walks of life, all facets of homicide need to be analysed.

The study of intentional homicide is relevant not only because of the gravity of the offence, but also because intentional homicide is one of the most measurable and comparable indicators for monitoring violent deaths. Because of its lethal outcome, homicide is particularly amenable to temporal (longitudinal) and cross-national (geographic) comparisons: it tends to have greater definitional specificity than other crimes in different historical and national contexts.[1] Homicide is an act that meets with virtually universal condemnation, and homicide statistics are accordingly considered to be relatively reliable and valid – both at the national level and for longitudinal and cross-national comparisons.[2] As a readily measurable indicator, homicide is both a reasonable proxy for violent crime and a robust indicator of levels of violence within States.[3]

When attempting to measure the scale of homicide it is important to have a clear definition that provides guidance on which specific acts of killing are to be considered intentional homicide. Certain contextual challenges may arise when intentional killings have to be disentangled from other killings during situations of collective violence, such as armed conflict or civil unrest.

The International Classification of Crime for Statistical Purposes (ICCS),[4] developed by the United Nations Office on Drugs and Crime (UNODC), provides a framework for the definition and classification of unlawful killings, both in conflict and non-conflict situations. Homicide is defined in ICCS as "unlawful death inflicted upon a person with the intent to cause death or serious injury". This statistical definition contains three elements that characterize the killing of a person as "intentional homicide":

1. The killing of a person by another person (objective element)
2. The intent of the perpetrator to kill or seriously injure the victim (subjective element)
3. The unlawfulness of the killing (legal element)

For recording purposes, all killings that meet the criteria listed above are to be considered intentional homicides, irrespective of definitions provided by national legislations or practices. Killings as a result of terrorist activities are also to be classified as a form of intentional homicide.

ICCS also provides a statistical framework for disentangling homicides from other conflict-related deaths. When applying this framework and aggregating the various forms of lethal victimization perpetrated globally, it transpires that a relatively small share is attributable to conflict deaths. The greatest burden of lethal victimization ultimately stems from homicidal violence.

Among the various forms of violent death, the core element of intentional homicide is the complete liability of the perpetrator, which differentiates it from killings related to armed conflict and war, self-inflicted death (suicide), killings due to legal interventions and justifiable homicide (such as self-defence), and from deaths caused by reckless or negligent actions, which were not intended to take a human life (non-intentional homicide).

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[1] Johnson, B. D., Van Wingerden, S. and Nieuwbeerta, P., "Sentencing homicide offenders in the Netherlands: offender, victim, and situational influences in criminal punishment", *Criminology*, vol. 48, No. 4 (November 2010), pp. 981–1018.

[2] Marshall, I. H. and Summers, D. L., "Contemporary differences in rates and trends of homicide among European nations", *Handbook of European Homicide Research: Patterns, Explanations, and Country Studies* (New York, Springer, 2012).

[3] UNODC, *Global Study on Homicide 2013* (United Nations publication, Sales No. 14.IV.1).

[4] UNODC, *International Classification of Crime for Statistical Purposes (ICCS): Version 1.0* (Vienna, 2015).

VIOLENT DEATHS

Killings directly related to war/conflict	Non-conflict related deaths	Self-inflicted deaths (suicides)

Intentional homicide

Killings in self-defence

Killings in legal interventions with no excessive use of force

Non-intentional homicide
- Negligent
- Non-negligent

Related to criminal activities   Interpersonal   Sociopolitical
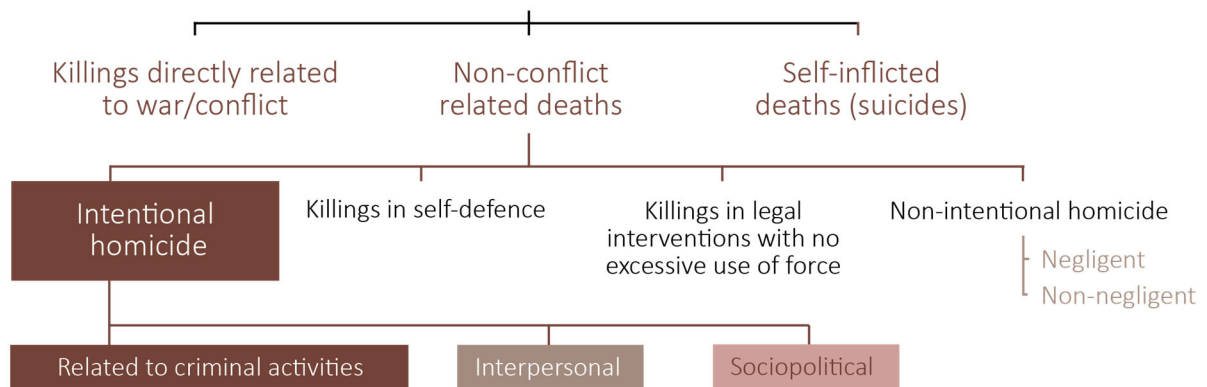
Source: UNODC.

Various circumstances, motivations and relationships can act as driving forces of homicide, and they are often overlapping and multifaceted. Although it can sometimes be difficult to distinguish between the different elements that drive homicide, the *Global Study on Homicide* uses a classification of homicide into three main typologies: homicide related to interpersonal conflict, homicide related to criminal activities and homicide related to sociopolitical agendas.

KEY FINDINGS

UNODC estimates that a total of 464,000 deaths were caused by intentional homicide worldwide in 2017. The largest share (37 per cent) was registered in the Americas, closely followed by Africa, which accounted for just over a third (35 per cent) of the total. Despite its large population, Asia accounted for less than a quarter of the total (23 per cent), while Europe (4.7 per cent) and Oceania (0.2 per cent) accounted for by far the smallest shares.

The total estimated number of homicide victims in 2017 gives an average global homicide rate of 6.1 per 100,000 population. Although the magnitude of homicide is easier to conceive in terms of the number of victims, the different population sizes of the various world regions mean that it is important to look at the regional rates, too. In most cases, the disparity between the regions in terms of homicide rate is actually greater than when considering the absolute numbers of homicide victims.

Excluding all the subregions of Africa, for which complete data are not available, Central America and South America, at 25.9 and 24.2 per 100,000 population, respectively, were the subregions with the highest average homicide rates in 2017, followed by the Caribbean, at 15.1 per 100,000 population. By contrast, the subregions with the lowest levels of homicide, at around 1 victim per 100,000 population per year, were Southern, Western and Northern Europe, East Asia and Oceania (Australia and New Zealand).

In Central America, the highest national homicide rate (62.1) is over seven times higher than the lowest (8.3). In South America, the highest national homicide rate (56.8) is over 16 times higher than the lowest (3.5). In South-East Asia, there are also large intraregional differences in the homicide rate, with the highest national rate being 44 times higher than the lowest. Western Europe is the most homogenous subregion in terms of homicide rates, although there are still disparities: the highest national rate (1.7) is more than three times the lowest (0.5).

Ten countries with a combined population of 2.7 billion, or around 35 per cent of the global population, accounted for 299,000 intentional homicides, or 65 per cent of the global total in 2017. In 2017, a total of 20 countries had a homicide rate above 20 per 100,000 population (six of them had rates above 40). With a combined population of 707 million, or 9 per cent of the global total, those 20 countries accounted for 49 per cent of global homicides. A further 18 countries, with a combined population of 86 million, had homicide rates above 10 per 100,000 population; making up roughly 1 per cent of the global population, those countries account for 2.5 per cent of all homicides. Conversely, 38 countries with a combined population of 2.2 billion, or 30 per cent of the global population, had homicide rates below 1 per 100,000. These 38 countries accounted for just 2.8 per cent of global homicides.

At the global level, the homicide rate has been slowly decreasing for over two decades, from a peak of 7.4 per 100,000 in 1993 to 6.1 per 100,000 in 2017, including a period of steady decrease from 1993 to 2007 and a period of stability thereafter. However, this overall trend masks wide variations in regional, subregional and even city-based trends, and while the trend has been steadily downward in most regions, in others a fall in homicide rates has been followed by periods of strong increase. Moreover, while a declining homicide rate signals a lower average homicide risk over time, the continuous growth of the global population means that, in absolute terms, the global number of homicide victims increased from 362,000 in 1990 to 464,000 in 2017.

In broad terms, homicide rates have been at a steadily high level in the Americas for the past three decades. Over the period 1990–2016, the region's average homicide rate remained at between 14.5 and 16.7 per 100,000 population, or around two to three times the global average, before increasing to 17.2 in 2017. Although fluctuating in the 1990s, the homicide rate in Europe has declined by 63 per cent since 2002, while in Asia it has declined by 36 per cent since 1990. Owing to large data gaps, trend estimates for Africa are tenuous, but generally indicate a declining then stagnating trend at a high level.

Globally, 81 per cent of homicide victims are male and the male global homicide rate (9.1 per 100,000 males) is roughly four times the female global homicide rate (2.0). As in other aspects of homicide, the picture varies greatly between and within regions around the world, particularly so in the case of male victimization. The highest male homicide rates can be observed in the Americas and Africa (31.2 and 21.5 per 100,000 males, respectively), while the lowest can be observed in Asia (3.1), Europe (4.3) and Oceania

(3.9). By contrast, female homicide rates stay within a narrower range of between 4.5 per 100,000 females in Africa and 1.5 in Asia. Accordingly, the ratio between male and female homicide rates varies between 2.0 and 4.8 in all regions, except the Americas, where the male rate is over eight times the female rate.

Analysis of data for 132 countries around the world indicates that the male homicide rate is substantially higher than the female homicide rate in almost every country and subregion. The greatest disparity between male and female homicide rates is found in South America, Central America and the Caribbean, where male homicide rates are 8 to 11 times the female rates. Large disparities also exist in Central, South-East and Western Asia, and in Eastern Europe.

In general, the higher the homicide rate of a specific country, the greater the difference between the male and female homicide rates tends to be. This also means that the share of male homicide victims tends to increase in line with the total homicide rate and, conversely, that the share of female homicide victims is larger in countries with comparatively lower total homicide rates. This relationship holds true at the global level and in each of the five regions (figure 21). In fact, in some countries in Asia (e.g. Japan and the Republic of Korea) and Europe (e.g. Austria) with a total homicide rate under 1 per 100,000, women make up the majority of homicide victims.

The reason for these discrepancies in the demographics of homicide is that the predominant type of homicide changes depending on whether countries have high or low homicide rates. While the former group is dominated by male-to-male lethal violence, often between gang members, the latter group experiences much lower levels of male-to-male violence. On the other hand, intimate partner/family-related homicide, which is predominantly male-to-female violence, is at a similar level across countries and regions. Thus, as the overall homicide level declines, this type of homicide accounts for a relatively larger share of the total.

Globally, young men aged 15–29 years face the highest risk of homicide, with a rate of 16.6 per 100,000 males in that age group, while men aged 30–44 years face the second-highest risk, at 14.7 per 100,000. The homicide risk decreases for men aged 45–59 years (10.7) and 60+ years (5.6). At 1.2 per 100,000, the homicide risk is lowest for boys under 15 years of age. By contrast, women face a much lower homicide risk across all age groups.

Differences in age-specific homicide rates are particularly pronounced at the regional and national levels. The type of homicidal violence that occurs in the Americas predominantly affects young males and is perpetrated by young males, but that is not the case in other regions. In Asia and Europe, the highest homicide risk is faced by men aged 30–44 years, while in those African countries for which data are available men aged 45–59 years face the highest risk of homicide.

Although women generally face a much lower homicide risk than men, there is remarkable similarity in relative age-specific homicide risks faced by women and men: women in the Americas aged 15–29 years also face the highest homicide risk, while in Asia and Europe this is the case for women aged 30–44 years, as well as for women aged 45–59 years in some African countries. Like sex-specific homicide rates, age-specific homicide rates show less variation between countries for women than for men.

The global and regional picture

In the past quarter century, an estimated 11.8 million people worldwide have lost their lives as a result of intentional homicide, making intentional homicide a more important cause of violent death than war.[5] Although a great many more people are killed at particular moments in time during armed conflicts, homicide, over time, accounts for far more lives lost than those attributable to other types of violent killings, including armed conflict.

On the basis of its comprehensive Homicide Statistics 2019 data set, which draws on a number of new and improved sources, UNODC estimates that a total of 464,000 [6, 7] deaths were caused by intentional homicide worldwide in 2017. The largest share (37 per cent) was registered in the Americas, closely followed by Africa, which accounted for just over a third (35 per cent) of the total. Despite its large population, Asia accounted for less than a quarter of the total (23 per cent), while Europe (4.7 per cent) and Oceania (0.2 per cent) accounted for by far the smallest shares (see figure 1).

Figure 1: Total number of homicide victims, by region, 2017
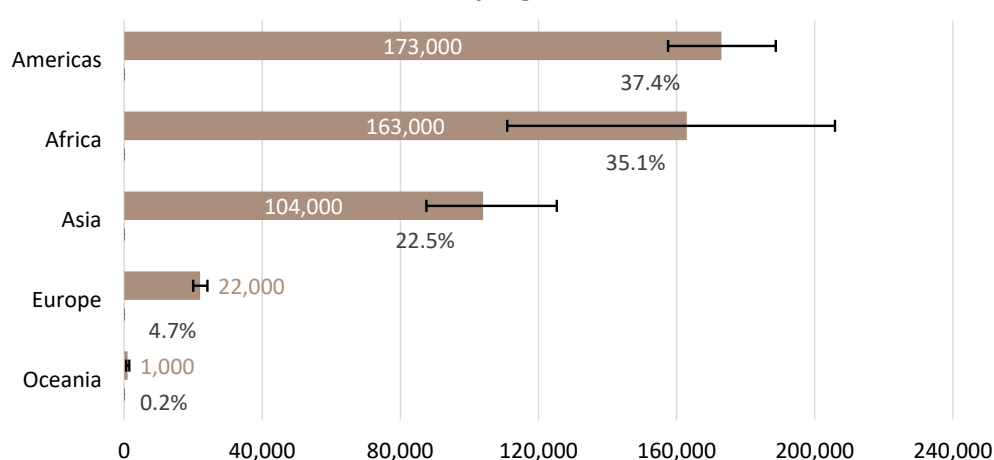
Source: Estimates based on UNODC homicide statistics.
Note: Error bars represent the regional sum of lower and upper estimates at the national level.

The total estimated number of homicide victims in 2017 leads to an average global homicide rate of 6.1 per 100,000 population.[8] Although the magnitude of homicide is easier to conceive in terms of the number of victims, the different population sizes of the various world regions mean that it is important to look at the regional rates, too. In most cases, the disparity between the regions in terms of homicide rate is actually greater than when considering the absolute numbers of homicide victims (see figure 2).

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[5]   According to UNODC estimates, based on the UNODC homicide statistics 2019 database, in the 28 years between 1990 and 2017, globally between 9.2 and 14.3 million persons, with a central estimate of 11.8 million persons, lost their lives through intentional homicide. Over the same period, the number of conflict deaths recorded in the UCDP/PRIO Armed Conflict Dataset, which is maintained by the Peace Research Institute Oslo (PRIO) in cooperation with the Uppsala Conflict Data Program (UCDP), adds up to around 2.2 million. Of these, around 850,000 were civilians (including 500,000 victims of the genocide in Rwanda in 1994). See the UCDP database at https://ucdp.uu.se/#/exploratory. Compare also: Eisner, M. and Nivette, A., "How to reduce the global homicide rate to 2 per 100,000 by 2060", in *The Future of Criminology* (New York, Oxford University Press, 2012).

[6]   The global count of victims of intentional homicide is based on available homicide data for 202 countries and territories, representing 96 per cent of the world population, which are used to estimate regional and global aggregated values. The global total for 2017 is bounded by a low estimate of 377,000 victims and a high estimate of 546,000 victims (see the online methodological annex to this study for more information on the calculation of homicide estimates and estimate intervals).

[7]   This point estimate is based on an improved data set that draws on country data that were previously unavailable or have been significantly revised to take into account new international statistical standards, definitions and counting rules. It is therefore not possible directly to compare this total estimate with previous global estimates by UNODC published for the years 2010 (468,000) and 2012 (430,000). A new methodology for obtaining regional and global estimates has been developed, which focuses on the production of consistent time series at national and regional levels.

[8]   The global homicide rate is complemented by an interval estimate, with a low estimate of 5.0 and a high estimate of 7.2 victims of intentional homicide per 100,000 population.

This estimate of global and regional homicide rates represents a marked improvement on previous estimates,[9] but there is still a considerable degree of uncertainty surrounding the extent of homicide in some countries, mainly located in Africa, for which reliable counts of homicide are lacking.[10]

Figure 2: **Homicide rate (victims of intentional homicide per 100,000 population), by region, 2017**
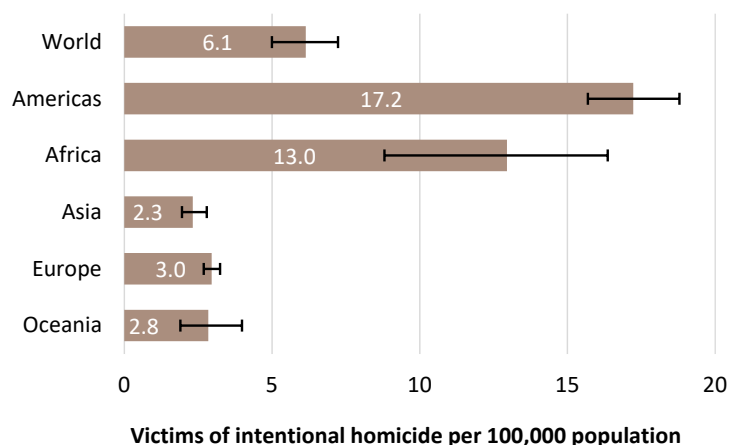
Victims of intentional homicide per 100,000 population

Source: Estimates based on UNODC homicide statistics.
Note: Error bars represent the regional/global sum of lower and upper estimates at the national level.

BOX 1: Criminal justice data sources versus public health sources

Data on homicide stems predominantly from two main types of sources: criminal justice and public health. Criminal justice data on homicide are typically recorded by the police, based on information collected when they receive details of a crime. Depending on national legislation and practices, data on homicide can be directly generated by police forces or public prosecutors. Public health data reflect information on the causes of death collected by the public health or medical service of a country. At the global level, the World Health Organization (WHO) collects data on homicide from public health sources through a data set on the causes of mortality, while UNODC collects data primarily from criminal justice sources, although some countries report public health data. Where both criminal justice and public health sources exist, the two sources often provide similar results, although discrepancies often exist where coverage and quality of administrative records are poor. As explained in the methodological annex to this study, UNODC homicide estimates are built by selecting a preferred source at the country level as the basis for subregional, regional and global estimates. Where available, reliable data on intentional homicide victims from criminal justice sources are given preference over public health data, because public health data typically do not take the legality of the act causing death into account (e.g. killings in self-defence). In countries for which no reliable criminal justice data on intentional homicide victims exist, mortality data collected by WHO are used when these are based on actual counts of deaths by cause (according to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10), in particular "death by assault" categories X85–Y09).[a]

[a] In the UNODC homicide statistics (2019) database, data on the total number of intentional homicides, which are based on either criminal justice sources or on homicide counts in public health registers, are available for 202 countries and territories, representing 96 per cent of the global population. However, in 38 countries and territories worldwide (of which 23 are countries in Africa), accounting for 4 per cent of the world population, neither reliable counts of homicide from criminal justice sources, nor reliable death registers based on actual counts exist. For the calculation of the global homicide rate, these countries were accounted for by imputing national homicide rates through regional groupings as the closest available proxy (for further information, see the online methodological annex to this study).

9 The methodological reasons mentioned in footnote 8 mean that it is not possible directly to compare this new global estimated homicide rate with previous global estimated homicide rates published by UNODC for the years 2010 (6.9 per 100,000) and 2012 (6.2 per 100,000). Instead, new trend estimates are provided later in this booklet.

10 For detailed explanations on the calculation of global and regional estimates, as well as the ranges around them, see the methodological annex to this study. Available at www.unodc.org/gsh/.

BOX 2: Assessing the quality of homicide data

The *Global Study on Homicide 2019* is able to build on a data set that greatly expands previously available homicide data in terms of coverage, time period, indicators and disaggregation. During the compilation process, a comprehensive effort of data collection and validation was made in order to select the best data available. The UNODC study is accompanied by a comprehensive assessment of the quality of the data used. To quantify and communicate the quality assessment, a data quality score was determined for each country and territory included in the database (for details, see the methodological annex to this study). This quality score has three main purposes:

- to ensure that the data selected conform to some minimum standard of data quality;
- to support the interpretation of data and the analysis presented; and
- to identify priorities for data improvement by providing a quick assessment of the main data quality issues.

The data quality score is based on five main criteria:

- comparability;
- completeness;
- timeliness;
- internal consistency; and external consistency.

For each of these five criteria, quality "sub-indicators" were defined and a quantitative score was computed per country/territory, which was then converted to a qualitative score in three categories (good; fair; low). Furthermore, a total score for each country/territory was calculated using a weighted average of the five quantitative scores and was also converted to a qualitative score with the same three categories. The total quality score was computed for 202 countries and territories (see the map below).

Quality score categories for homicide data, 1990–2016
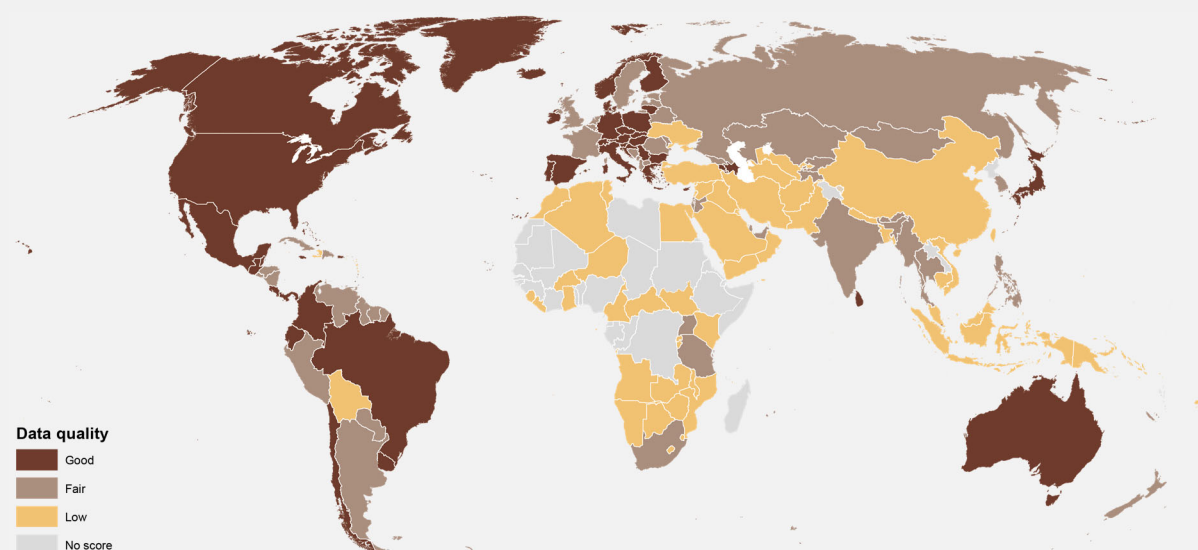
Data quality
- Good
- Fair
- Low
- No score

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Source: UNODC homicide statistics.

The subregional and national picture

The analysis in this booklet is made on the assumption that geographical proximity implies a certain degree of cultural, social, legal, economic and political homogeneity among countries,[11] althou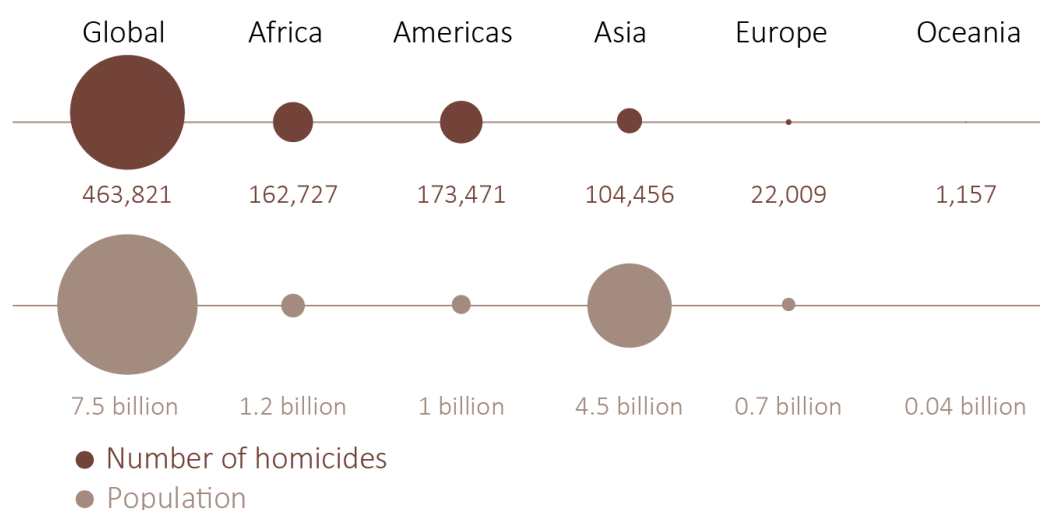gh the analysis of the extent and patterns of, and trends in, intentional homicide show both similarities and differences within regions and subregions.

Excluding all the subregions of Africa, for which complete data are not available, Central America and South America, at 25.9 and 24.2 per 100,000 population, respectively, were the subregions with the highest average homicide rates in 2017, followed by the Caribbean at 15.1 per 100,000 population.[12] As shown later in this booklet, these broad patterns have changed gradually over the past quarter century, with certain subregions, including South and Central America, and also some countries in Southern Africa, experiencing consistently higher levels of homicide than other subregions for long periods.

By contrast, the subregions with the lowest levels of homicide, at around 1 victim per 100,000 population per year, were Southern, Western and Northern Europe, East Asia and Oceania (Australia and New Zealand).

Figure 3: **Homicide victims and population by region, 2017**

	Global	Africa	Americas	Asia	Europe	Oceania
Number of homicides	463,821	162,727	173,471	104,456	22,009	1,157
Population	7.5 billion	1.2 billion	1 billion	4.5 billion	0.7 billion	0.04 billion

● Number of homicides
● Population

Source: Estimates based on UNODC homicide statistics.

While the picture at the subregional level provides more detail than the broad regional averages, regional rates inevitably mask important differences at the national level. These disparities become visible when looking at the two countries with the highest and lowest homicide rates within particular subregions.

In Central America, for example, the highest national homicide rate (62.1) is over seven times higher than the lowest (8.3). A multitude of factors explain this disparity, which include levels of socioeconomic development, the rule of law, demographic factors (such as the size of the young population) and local circumstances related, for example, to political instability and the presence of organized crime groups and gangs (see booklets 3 and 4 of this study for detailed analysis).

In South America, the highest national homicide rate (56.8) is over 16 times higher than the lowest (3.5). Such a large disparity in homicide rates may be related to different structural, social, economic and political conditions. In particular, different levels of socioeconomic development, together with political and

....
[11] See Marshall and Summers, "Contemporary differences in rates and trends of homicide among European nations".
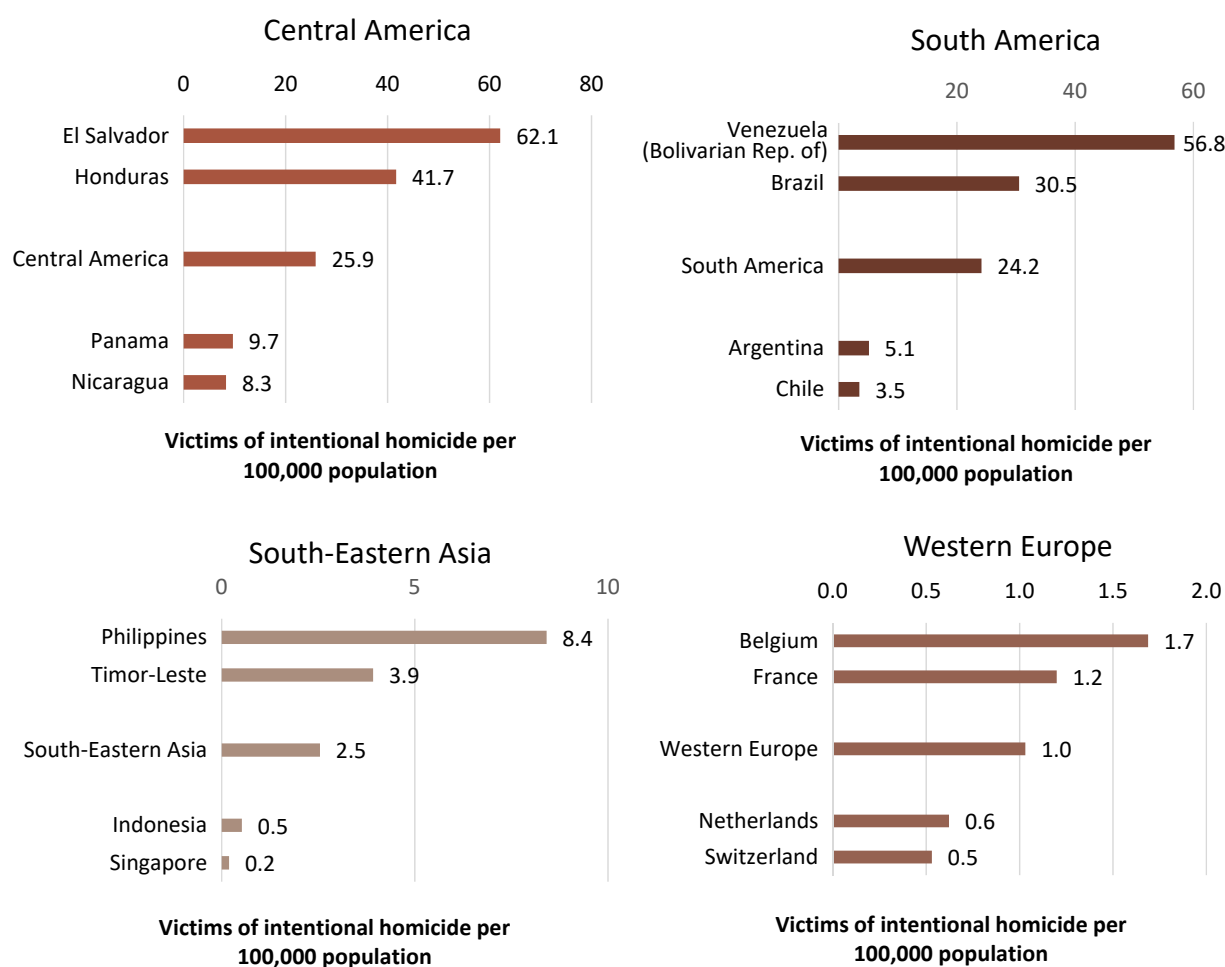
[12] Subregional homicide rates for Africa are not given here because the number of countries with actual data in individual subregions is too low. Recent data on individual countries in Africa, however, show widely diverging homicide rates, ranging from around 34 per 100,000 to around 2 per 100,000.

economic crises that have undermined the legitimacy of criminal justice institutions in some countries,[13] are believed to be mainly responsible for this disparity.

In South-East Asia, there are also large intraregional differences in the homicide rate, with the highest national rate being 44 times higher than the lowest. Singapore's low homicide rate, for example – one of the lowest in the world – has largely been attributed to long-term investment in universal education and health care, good governance, strong rule of law, corruption control and policies aimed at minimizing social segregation. [14] The higher homicide rates in the subregion can be explained by lower levels of socioeconomic development and probably also by higher rates of impunity,[15] as well as by the impact of organized crime and an increase in terrorist activities in some countries.[16]

Western Europe is the most homogenous subregion in terms of homicide rates, although there are still disparities: the highest national rate (1.7) is more than three times the lowest (0.5). This difference is relatively small, however, and does not seem to be the result of different levels of socioeconomic development, as gauged by the human development index and the Gini coefficient, which measures income inequality.

Figure 4: **Countries with highest and lowest homicide rates in selected subregions, 2017**

Central America

Country	Rate
El Salvador	62.1
Honduras	41.7
Central America	25.9
Panama	9.7
Nicaragua	8.3

Victims of intentional homicide per 100,000 population

South America

Country	Rate
Venezuela (Bolivarian Rep. of)	56.8
Brazil	30.5
South America	24.2
Argentina	5.1
Chile	3.5

Victims of intentional homicide per 100,000 population

South-Eastern Asia

Country	Rate
Philippines	8.4
Timor-Leste	3.9
South-Eastern Asia	2.5
Indonesia	0.5
Singapore	0.2

Victims of intentional homicide per 100,000 population

Western Europe

Country	Rate
Belgium	1.7
France	1.2
Western Europe	1.0
Netherlands	0.6
Switzerland	0.5

Victims of intentional homicide per 100,000 population

Source: UNODC homicide statistics.

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[13] Tremaria, S., "Violent Caracas: understanding violence and homicide in contemporary Venezuela", *International Journal of Conflict and Violence*, vol. 10, No. 1 (2016), pp. 61–76.

[14] For a detailed discussion, see box 9.

[15] Bünte, M., "Human rights in Southeast Asia: from contestation to compliance?", in *Politics and Constitutions in Southeast Asia* (Abingdon, United Kingdom, Routledge, 2016).

[16] Le Clercq, J. A. and Rodríguez, G., eds., *Global Impunity Index 2015* (Puebla, Mexico, University of the Americas Puebla, 2015).

As shown in map 1, national homicide rates also differ markedly between regions: ranging from 0.2 per 100,000 to 62.1 per 100,000, a factor of over 300.

Map 1:   Homicide rate, by country or area, 2017 or latest available year between 2013 and 2016
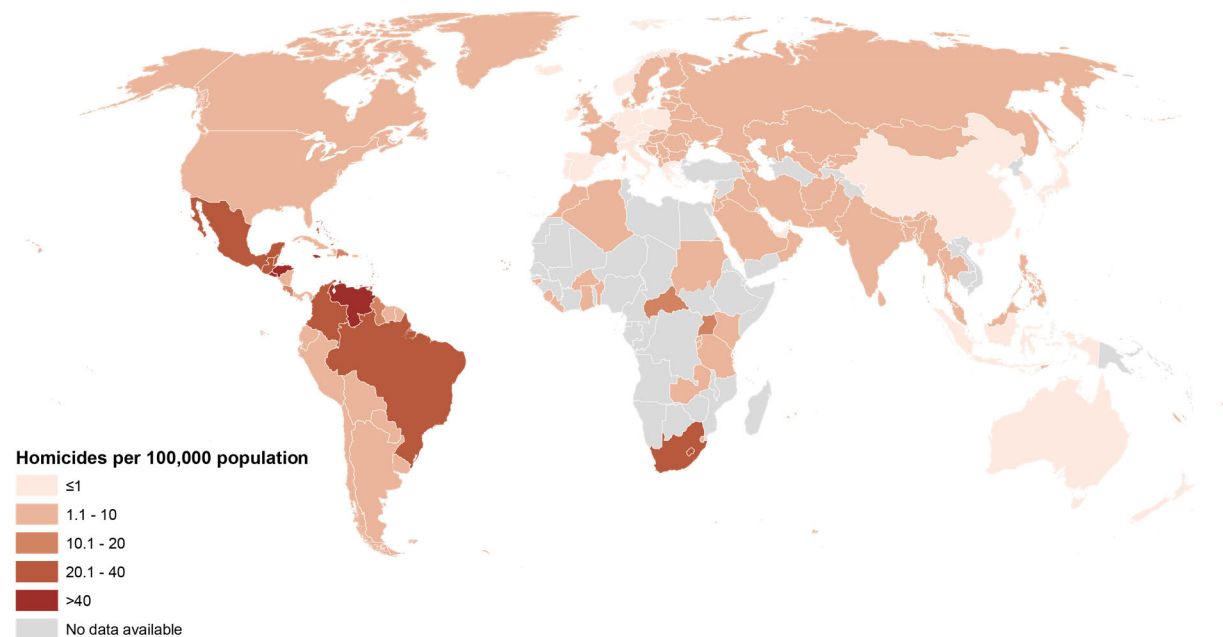
The boundaries and names shown and the designation used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.
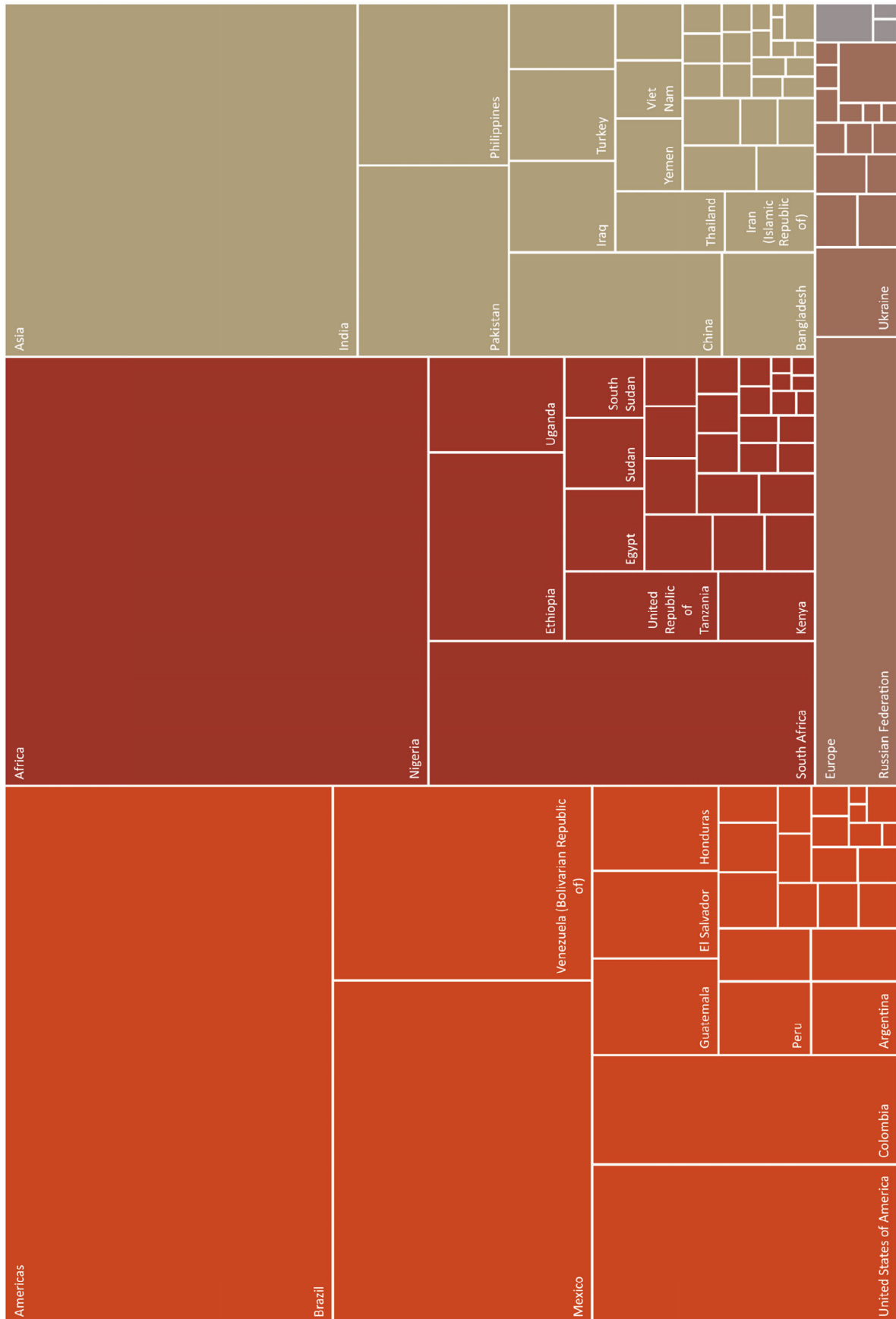
Source: UNODC homicide statistics.

Great disparities in homicide levels are also apparent when looking at the absolute numbers of homicide victims across the world. As can be seen in figure 6, in each region two or three countries dominate in terms of these absolute numbers. Ten countries with a combined population of 2.7 billion, or around 35 per cent of the global population, accounted for 299,000 intentional homicides, or 65 per cent of the global total in 2017. In absolute numbers, Nigeria and Brazil, which together make up around 5 per cent of the global population, accounted for 28 per cent of global homicides.

In 2017, a total of 20 countries had a homicide rate above 20 per 100,000 population (six of them had rates above 40). With a combined population of 707 million, or 9 per cent of the global total, those 20 countries accounted for 49 per cent of global homicides. A further 18 countries, with a combined population of 86 million, had homicide rates above 10 per 100,000 population;[17] making up roughly 1 per cent of the global population, those countries accounted for 2.5 per cent of all homicides. Conversely, 38 countries with a combined population of 2.2 billion, or 30 per cent of the global population, had homicide rates below 1 per 100,000. These 38 countries accounted for just 2.8 per cent of global homicides.

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[17]   A homicide rate of 10 per 100,000 population has been termed "epidemic" in the literature, although it is questionable whether this medical metaphor is appropriate in such a context and why the threshold for calling it "epidemic" is set exactly at this rate. This designation is widely used by the media, and is often ascribed to the United Nations, but its exact origin remains unclear. A search of the literature uncovered several reports that refer to the term as originating from the World Health Organization. See e.g. World Bank, *Crime and Violence in Central America*, vol. II (2010), p. 2; United Nations Development Programme, *Regional Human Development Report 2013–2014: Citizen Security with a Human Face – Evidence and Proposals for Latin America* (2013), "Executive summary", p. 1.

Figure 6: **Victims of intentional homicide, by region and country, 2017**
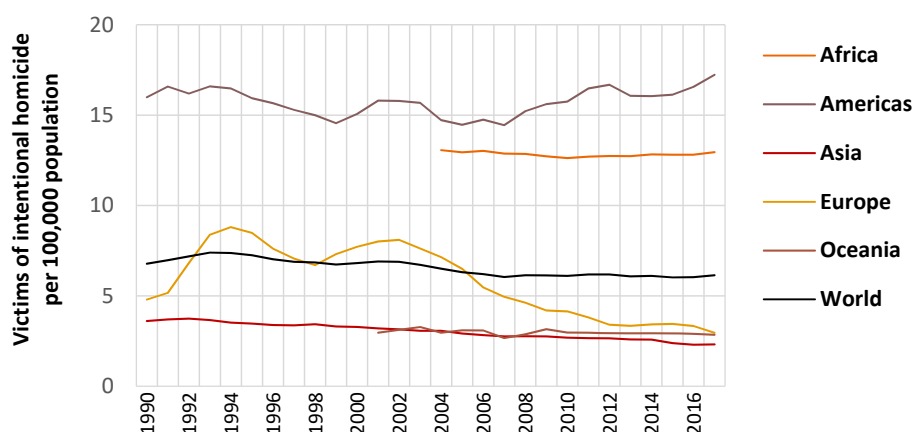

Source: UNODC homicide statistics.

Global and regional homicide trends

At the global level, the homicide rate, which measures homicides as a proportion of the population, has been decreasing slowly for over two decades, from a peak of 7.4 per 100,000 in 1993 to 6.1 per 100,000 in 2017, including a period of steady decrease from 1993 to 2007 and a period of stability thereafter.[18] However, this overall trend masks wide variations in regional, subregional and even city-based trends, and while the trend has been steadily downward in most regions, in others a fall in homicide rates has been followed by periods of strong increase. Moreover, while a declining homicide rate signals a lower average homicide risk over time, the continuous growth of the global population means that, in absolute terms, the global number of homicide victims increased from 362,000 in 1990 to 464,000 in 2017.

In broad terms, homicide rates have been at a steadily high level in the Americas for the past three decades. Over the period 1990–2016, the region's average homicide rate remained at between 14.5 and 16.7 per 100,000 population, or around two to three times the global average, before increasing to 17.2 in 2017, the highest level since 1990. Although fluctuating in the 1990s, the homicide rate in Europe has declined by 63 per cent since 2002, while in Asia it has declined by 36 per cent since 1990. Owing to large data gaps, trend estimates for Africa are tenuous,[19] but generally indicate a declining then stagnating trend at a high level.

**Figure 7: Trends in homicide rate, by region, 1990–2017**

Source: UNODC homicide statistics.

As indicated above, owing to gaps in the availability of trend data for certain countries, subregions and regions, regional time trends are subject to varying degrees of uncertainty. This is best illustrated by displaying time trends together with a range calculated around the trend estimates.[20] As shown in figure 8, these trend lines move within a relatively narrow range in the case of Europe, Asia and Oceania, and within a limited range in the case of the Americas. By contrast, in the case of Africa the level of uncertainty (as reflected in the wide space between the upper and lower bounds) is still very high, owing to the limited availability of reliable time series for many countries in the region. At the global level this implies that, although there has been a decline in the central estimate of the homicide rate of 9 per cent since 1990, and of 17 per cent since 1993, the exact extent of the decline is subject to a certain degree of uncertainty.

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[18] The analysis of homicide trends over the past 28 years is based on an improved data set for 202 countries and territories, representing 96 per cent of the world population. For 86 of these, a complete time series could be constructed, while for the other time series one or more datapoints had to be estimated on the basis of a trend model that "fills in" missing datapoints with moving averages of available datapoints for that same country (see also the online methodological annex to this study. Available at www.unodc.org/gsh/.

[19] While the proportion of the population in countries covered by at least one "real" datapoint was 99–100 per cent in the other regions, the available data on 39 countries in Africa cover around 80 per cent of the population of that region. Long-term trend estimates are available for only a few countries in Africa and are therefore not shown here at the regional level.

[20] For details on the calculation of ranges, see the online methodological annex to this study. Available at www.unodc.org/gsh/.

Figure 8: **Upper and lower ranges of trends in homicide rate, by region, 1990–2017**
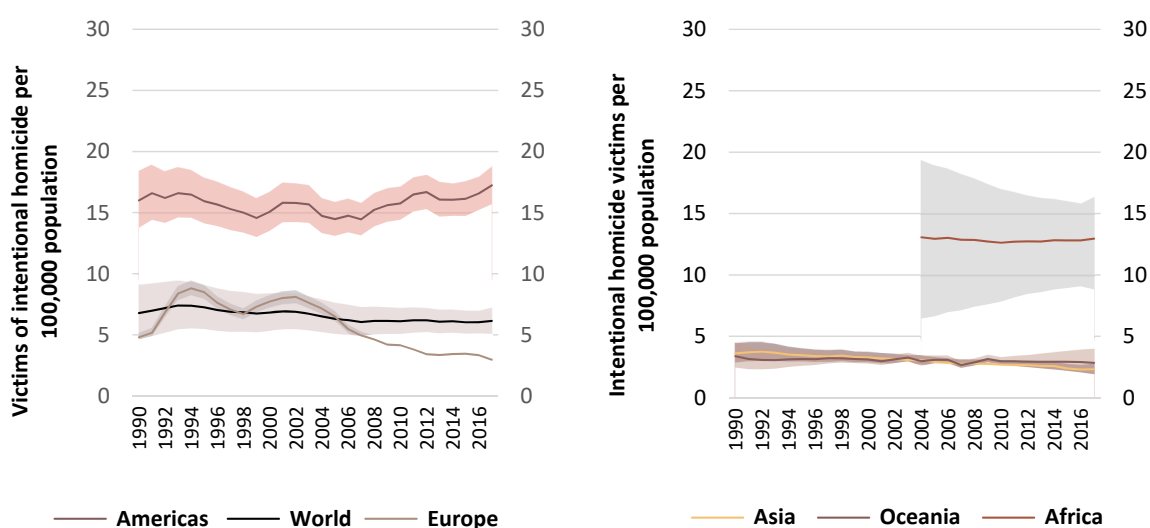
Source: UNODC homicide statistics.
Note: The thick lines represent regional homicide rates, while the coloured transparent lines indicate upper and lower ranges for the trend lines.
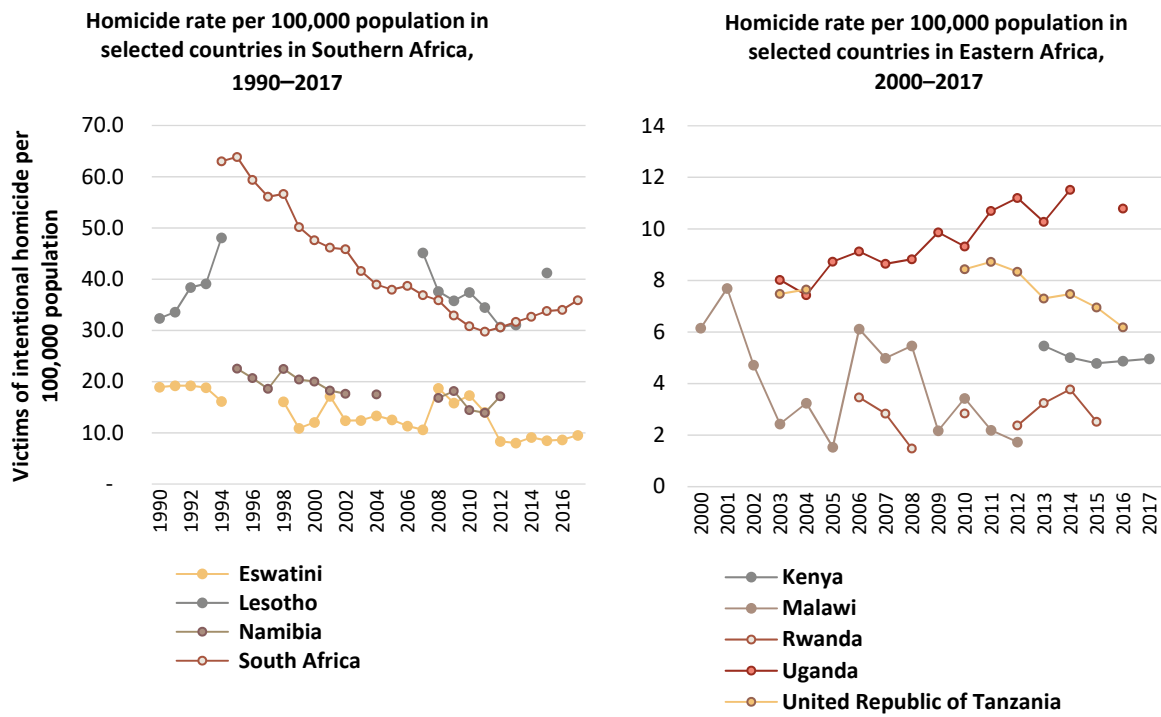
Africa

Comprehensive data on homicide trends are not available for many countries in Africa. Thus, any statement about long-term homicide trends in Africa as a whole is subject to wide margins of error. Rather than looking at aggregate regional and subregional trends, the following section provides some insights gained from available trend data at the country level.[21]

Long-term trend data since the early 1990s can be constructed for South Africa and, to a lesser extent, countries in its vicinity: Eswatini (formerly Swaziland), Lesotho and Namibia. As figure 9 shows, there was a sharp downward trend in the homicide rate after South Africa abolished the apartheid system in the early 1990s. The country's transition to a multiparty democracy was accompanied by a continuous decline in the homicide rate for many years, but since 2011 it has been increasing again. In Eswatini, Lesotho and Namibia, which have much smaller populations than South Africa, the available data point to downward or stable trends.

In East Africa, Uganda has experienced an upward trend in the homicide rate since 2003, while the homicide rate in the United Republic of Tanzania has decreased. In Rwanda, the homicide rate fluctuated between 2 and 4 per 100,000 population, while Malawi saw a sharp decrease between 2001 and 2012, from 7.7 to 1.7, and data for Kenya indicate a stable trend between 2013 and 2017. Because of the scattered nature of African data, it remains very difficult to discern a general African trend, even in recent years, since homicide rates and trends continue to vary widely between countries and subregions. Some variations may reflect genuine differences in levels of criminal violence across countries, but they may also be due to different capacities for the recording of data on crime.

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[21] Long-term trend data for North and West Africa are available only for a few, mostly smaller, countries. For some large countries, such as Ethiopia and Nigeria, no trend data are available, while for others, such as Egypt and Tunisia, trend data end in 2012, before the effects of the "Arab Spring" become noticeable.

Figure 9: **Homicide trends in selected countries in Africa, 1990/2000–2017**

Homicide rate per 100,000 population in selected countries in Southern Africa, 1990–2017

Homicide rate per 100,000 population in selected countries in Eastern Africa, 2000–2017
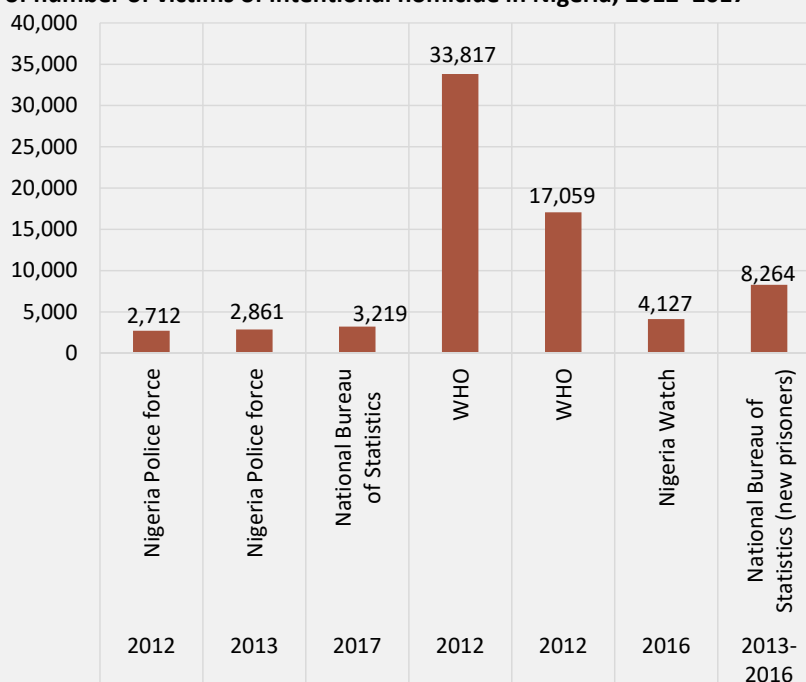
Source: UNODC homicide statistics.

BOX 3: Estimating homicide rates in Nigeria

Reliable criminal justice data on the number of intentional homicide victims in Nigeria are not generally available. Moreover, existing data are often patchy and diverging, illustrating the uncertainty surrounding the number of intentional homicide victims. Data provided by the Nigeria Police Force indicate that there were 2,712 and 2,861 homicides in 2012 and 2013, respectively. However, according to the Federal Ministry of Justice, these data are incomplete and comprise only those areas of the country that reported on homicide. A report published recently by the National Bureau of Statistics put the number of "murders" in 2017 at 3,219.[a] An alternative source is modelled estimates based on public health data provided by the World Health Organization (WHO)[22]. In 2013, WHO published an estimate of 33,817 homicide victims for 2012, which would mean a homicide rate of 20 per 100,000 population. The following year, WHO revised this estimate down to 17,059, which would mean a rate of 10.1.

In 2017, the National Bureau of Statistics published prison statistics indicating that from 2013 to 2016 a total of 33,057 persons, or an average of 8,264 per year, were imprisoned for allegedly committing "murder". Other entities try to capture homicide data through detailed monitoring of media reports. For example, according to reports collected by Nigeria Watch, the number of reported homicides in 2016 was 4,127, which was considered a strongly underreported figure.[b] In short, the actual number of homicides and the homicide rate in Nigeria are largely unknown.

**Various estimates of number of victims of intentional homicide in Nigeria, 2012–2017**

Source: Nigeria Police Force; UNODC homicide statistics; National Bureau of Statistics; WHO; Nigeria Watch.

To find out more about homicide in Nigeria, UNODC, in partnership with the National Bureau of Statistics of Nigeria, made use of an ongoing large-scale household survey that is representative of the country's population of 186 million (2015).[c] The survey was conducted in April–May 2016 and covered 33,067 households selected using probabilistic sampling in all 36 States and the Federal Capital Territory of Nigeria. Drawing on the experience of other countries that have included questions on homicide in victimization surveys, a module on homicide was tested in the pilot survey and eventually included in the full household survey. The module asked a randomly selected adult member of a household about any occurrences of violent deaths in the household over the previous three years. Appropriate safeguards were included in the interview to ensure that only victims of intentional homicide were counted (as opposed to unintentional deaths, accidents and suicides), and that these victims were also members of the household during the period in question.[d]

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[22] Further details about the modelled estimates provided by the WHO are available in the methodological annex to this study. Available at www.unodc.org/gsh/.

The results of the survey provide strong evidence that the level of lethal violence in Nigeria is likely to be higher than commonly assumed. On the basis of the survey sample, the annual homicide rate of Nigeria in the period 2013–2016 was estimated at 34 per 100,000 population, corresponding to around 64,000 victims of intentional homicide annually.[e] Thanks to its large sample size, the survey allows for further disaggregation (but within wider margins of error), namely by the country's six large zones and by the three main types of intentional homicide. The total homicide rate was highest in two northern zones (North-East: 79 per 100,000 population; North-Central: 65) and lowest in the South-West (4.4). By type of intentional homicide, most reported killings fell into the category "terrorist attacks" (a rate of 20.9 per 100,000 population), with high rates also reported in the case of "criminal attacks" (9.1) and "personal conflicts" (4.4). The homicide rate related to terrorist attacks was highest (around 51 per 100,000 population) in the North-Central and North-East zones (it is precisely these areas that are severely affected by terrorist attacks perpetrated by Boko Haram; in the North-Central zone there is also a growing number of confrontations between herders and farmers). The highest homicide rate related to criminal attacks was found in the North-East (22 per 100,000 population), followed by the North-West (10), South-South (9) and North-Central (9) zones.

Estimated homicide rate in Nigeria, by zone and type, 2013–2016 (average)
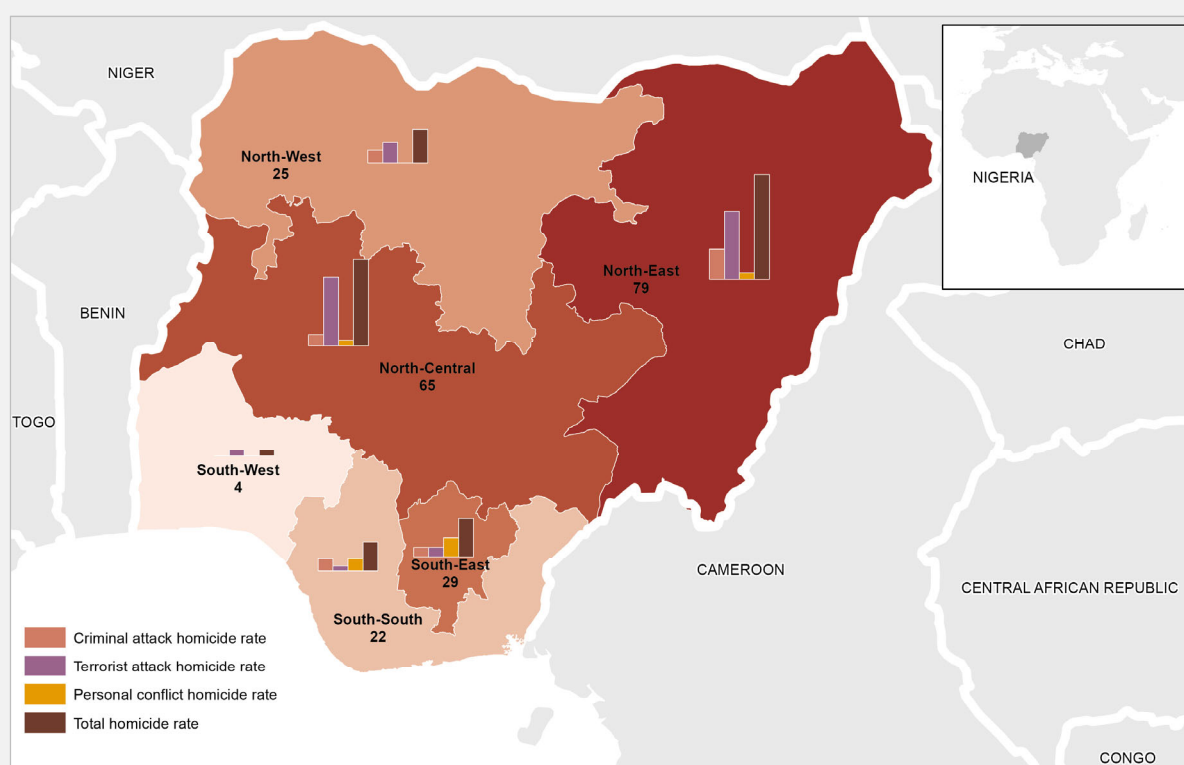
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC and National Bureau of Statistics, National Survey on Quality and Integrity of Public Services (2016).

One question surrounding the validity of this estimate of intentional homicides is whether responding household members understood the questions correctly and excluded unintentional homicides and other deaths from their answer. The fact that 43 per cent of victims were reported as having been killed with firearms and a further 13 per cent with explosive weapons (including bomb attacks), while the rest were reported as having been killed with knives or other or unknown means, does, however, suggest that the information collected is credible. In addition, the demographic distribution of the homicide victims (84 per cent male; 46 per cent of all victims, male and female, being under the age of 30, with a further 32 per cent aged between 30 and 44) is in line with that observed in other countries with high homicide rates and lends further credibility to the validity of the estimate.

The estimated homicide rate of 34 per 100,000 population provides an initial indication of the magnitude of intentional homicide in Nigeria. Because of the characteristics of sample surveys, this may be a conservative or lower-boundary estimate. In this case, for example, the survey omitted victims who lived in single-person households (around 3 per cent of the population), victims who lived in closed settings, such as refugee camps, foster homes or prisons, and victims who lived in households with no surviving household members who could be interviewed. Other groups not covered by the survey were those who were not included in the original sample

frame of the survey (e.g. homeless people or people who had moved abroad between the reference period and the time of the survey). In view of these limitations, the high estimated homicide rate obtained from this survey in Nigeria makes it clear that more research and improved data collection for criminal justice statistics are urgently needed in countries with low levels of data coverage in order to determine more accurately the actual level of lethal violence and devise better strategies for tackling such violence.

[a] Nigeria, National Bureau of Statistics, *Crime Statistics: Reported Offences by Type and State (2017)* (2018). No comparable data have been published for 2014–2016.
[b] Nigeria Watch, Sixth Report on Violence in Nigeria (2016) (2017).
[c] The survey was part of a larger technical assistance project on corruption funded by the European Union (Support to Anti-Corruption in Nigeria) and was implemented by the National Bureau of Statistics of Nigeria in partnership with UNODC. In addition to corruption, the survey covered selected topics relating to crime victimization and access to justice. See UNODC, Corruption in Nigeria – Bribery: Public Experience and Response (Vienna, 2017).
[d] The full questionnaire and all technical documentation for the survey are available at www.unodc.org/unodc/en/data-and-analysis/corruption.html.
[e] This rate is a three-year average of the estimated total number of homicide victims between May 2013 and April 2016. The point estimate of 34.4 lies within a 95 per cent confidence interval of 21.4–47.5, or 39,900–88,500 victims.
[f] The survey asked specifically whether a particular household member who had died as a result of "outside force or violence" in the previous three years had been: (1) the victim of a criminal attack (robbery, assault, gang fight, illegal ritual, etc.); (2) the victim of a terrorist attack, political, social or inter-ethnic violence; or (3) the victim of a personal conflict (revenge, family-related, etc.).

BOX 4 Long-term homicide dynamics in South Africa

At 36 per 100,000 population in 2017 (ending 31 March 2018), South Africa has a high rate of homicide by global standards. Contrary to popular perception, however, analysis of long-term recorded rates of lethal violence shows that this is by no means a post-apartheid phenomenon. Despite data limitations and jurisdictional inconsistencies resulting in a probably large undercount of homicide victims throughout the twentieth century, the country's official homicide rate has been well above the current global average since at least the 1920s.[a]

Long-term trend in estimated national homicide rate in South Africa
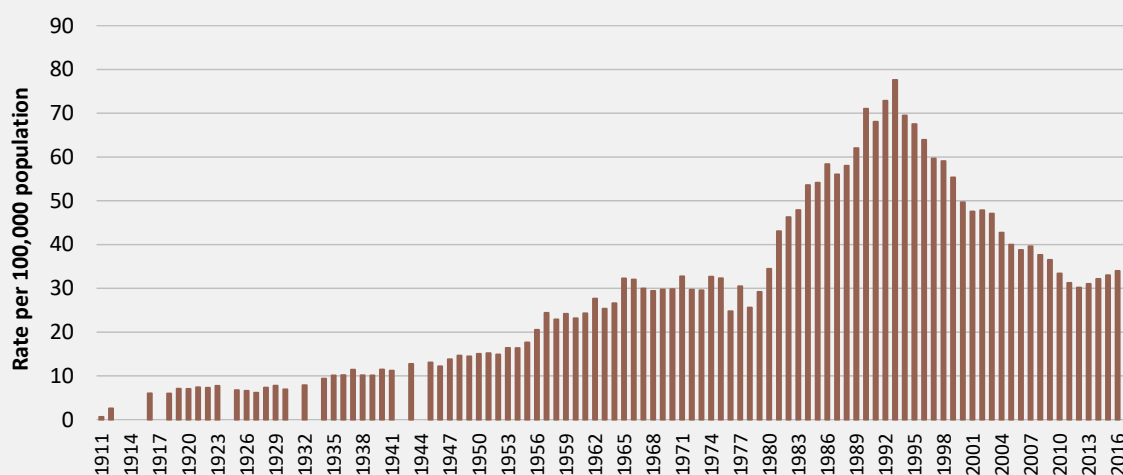
Source: Homicide figures: South African Police, South African Police Service. Population figures: South African Central Statistical Service, Statistics South Africa, South African Institute of Race Relations, United Nations Population Division.

The steady increase in the homicide rate in the first half of the twentieth century corresponds to a period of rapid urbanization and industrialization. This generated major social disruption, as millions moved from traditional, rural contexts to urban townships organized around different values and structures of authority. The escalation in homicide from the mid-1950s reflects the impact of the State's apartheid policies of enforced racial segregation. Large-scale forcible removals destroyed communities and social networks, caused widespread trauma and entrenched poor conditions and spatial exclusion. With the intensification of political conflict, the 1980s saw the already high homicide rate spiral to unprecedented levels. About a quarter of the fatalities in the early 1990s were directly attributed to political violence, notably competition between different political and ethnic factions.[b] Using different population estimates, other contemporary sources calculated rates even higher

than those indicated here, suggesting that by 1993 the homicide rate was above 80 or even above 90 per 100,000 population.[c]

In 1994, the police recorded almost 26,000 homicides nationally, or a rate of 63 per 100,000. In 2017 (year ending March 2018), in a national population that has since grown by almost half, the police recorded just over 20,000 homicides, which yields a rate of 36 per 100,000. After the political transition of 1994, the homicide rate began to decline by about 5 per cent per year – halving over the course of two decades. Other data sources, including mortuary records and surveys, corroborate the trend.[d] Mortuary data suggest that some of the decline can be attributed to a reduction in firearm availability following a policy overhaul.[e] The reduction in non-firearm homicide has been significantly more modest, such that sharp-force injuries now appear to be the principal means of homicide in the country.[f]

The downward trajectory has shown a reversal in recent years, however, with the homicide rate climbing from 30 per 100,000 in 2011 to 36 per 100,000 in 2017. The reasons for this remain unclear, but it may have to do with a surge in the availability of illegal firearms, including hundreds diverted from police custody by corrupt officials, particularly to gangs.[g] The rise in the homicide rate may also be related to an increase in public protest and political turmoil stemming from perceptions of State corruption and popular frustration at the slow provision of resources (e.g. sanitation and decent housing).[h]

According to the best available estimates, South Africa's official homicide rate has been above 20 per 100,000 population since the 1950s and above 30 per 100,000 since the 1960s. Understanding the long history of chronic violence while taking recent developments into account (e.g. changes in political leadership, police resources and the abolition of the death penalty) is important in order to find solutions to the country's persistently high homicide rate.

This contribution was provided by Anine Kriegler, Centre of Criminology, University of Cape Town.

[a] Kriegler, A. and Shaw, M., *A Citizen's Guide to Crime Trends in South Africa* (Cape Town, Jonathan Ball, 2016).
[b] South African Institute of Race Relations, *Race Relations Survey 1990–1993* (Johannesburg, 1992); South African Police, *Annual Report of the Commissioner of the South African Police 1992* (1993), p. 103.
[c] South African Police annual reports and South African Institute of Race Relations, *Race Relations Survey 1993/1994* (Johannesburg, 1994).
[d] See e.g. Gould, C., Burger, J. and Newham, G., "The SAPS crime statistics: what they tell us – and why they don't", *South African Crime Quarterly*, No. 42 (December 2012), pp. 3–12.
[e] Matzopoulos, R. G., Thompson, M. L. and Myers, J. E., "Firearm and nonfirearm homicide in 5 South African cities: a retrospective population-based study", *American Journal of Public Health*, vol. 104, No. 3 (2014), pp. 455–460.
[f] Matzopoulos, R. et al., "Injury-related mortality in South Africa: a retrospective descriptive study of postmortem investigations", *Bulletin of the World Health Organization*, vol. 93, No. 5 (May 2015), pp. 303–313.
[g] Matzopoulos, R. et al., "A retrospective time trend study of firearm and non-firearm homicide in Cape Town from 1994 to 2013", *South African Medical Journal*, vol. 108, No. 3 (2018), pp. 197–204.
[h] Alexander, P. et al., "Frequency and turmoil: South Africa's community protests 2005–2017", *South African Crime Quarterly*, No. 63 (March 2018), pp. 27–42.

The Americas

Perhaps the most striking feature of regional trends in homicide is the persistently high rate in the Americas, although the overall stable trend masks dynamic developments at the subregional level. South America originally experienced a strong increase in its already high subregional rate, followed by a decrease that lasted up to 2010 and was followed by another increase from 2011 onwards. Behind these fluctuations are divergent trends at the national level in which South American countries can be divided roughly into two categories:

- The first group comprises countries with (notwithstanding substantial decreases or increases over some periods) persistently high homicide rates, including Brazil, Colombia, and the Bolivarian Republic of Venezuela. Colombia has experienced a dramatic decrease in the homicide rate, from over 80 per 100,000 population in 1991 to 25 in 2017, which has been partially attributed to the intensification of State action against drug trafficking.[23] By contrast, Brazil has experienced continuously high rates of between 20 and 26 per 100,000 population in 2012, with an increase to over 30 in 2017. In absolute numbers, around 1,2 million people lost their lives as a result of intentional homicide in Brazil between 1991 and 2017. Over the same period, the Bolivarian

[23] UNODC, *Global Study on Homicide 2011* (Vienna, 2011).

Republic of Venezuela has seen the most dramatic increase, from a rate of 13 to 57 per 100,000 population in 2017.

- The second group comprises countries, including Argentina, Chile, Peru and Uruguay, with homicide rates that are lower than those in the first group but still above or around the global average (except for Chile, where the homicide rate has been consistently below that average).

In Central America, the trend in homicide rates has been erratic, yet rates there have remained at quite a high level overall. The fluctuations mainly serve to illustrate the unpredictability of homicide perpetrated by gangs and organized crime groups active in the subregion (see booklet 3 of this study). These findings are in line with prior research, which has concluded that it is virtually impossible to find any clear general trend in countries suffering from high to very high homicide rates.[24] Additionally, these findings suggest that the relationship between the size of drug markets and homicide is not necessarily linear. Large-scale drug trafficking may well coincide with (temporarily) lower homicide rates: violence occurs and escalates only when the balance of power shifts, competition in the market increases and territorial disputes arise. Some sharp increases in this subregion may also be attributed to intensified State action against organized drug trafficking, leading to territorial disputes over lucrative drug routes.[25]

Homicide trends in the Caribbean have also been influenced by violence associated with drug trafficking flows and concentrated in particular locations, although not exclusively.[26] Changes in the subregional homicide rate in the Caribbean have mirrored changes in drug markets, with the subregion losing its position as the central drug trafficking route from South to North America. As a result, competition between drug trafficking organizations has intensified as they fight for their share of the diminished market.[27]

North America saw a steady decline in its homicide rate from around 9.0 to 4.2 per 100,000 population from the early 1990s to 2014. Over the past few years, however, the homicide rate in the subregion (mainly in the United States of America) has climbed back to 5.1 per 100,000.

Figure 10: **Homicide rates in the Americas, by subregion, 1990–2017**
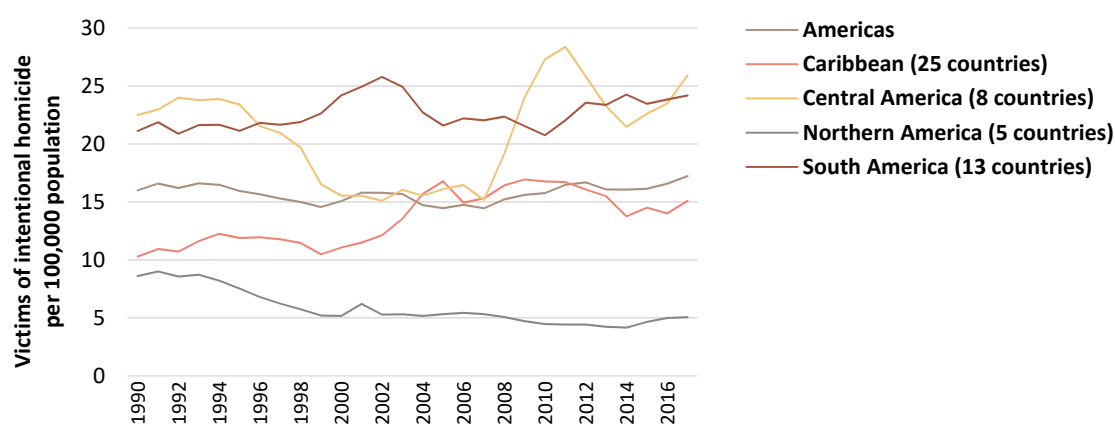
Source: UNODC homicide statistics.
Note: The number of countries for which time series could be constructed on the basis of available data is given in brackets for each subregion.

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[24] Lappi-Seppälä, T. and Lehti, M., "Cross-comparative perspectives on global homicide trends", *Crime and Justice*, vol. 43, No. 1 (2014), pp. 135–230.

[25] UNODC, *Global Study on Homicide 2011*.

[26] See booklet 3 of this study.

[27] Lappi-Seppälä and Lehti, "Cross-comparative perspectives on global homicide trends"; UNODC, *Global Study on Homicide 2011*.

BOX 5: Concentration of violent crime and new tools to disrupt criminal violence in Latin America

Violent crime typically concentrates in particular places, at specific times and among certain groups. Homicide and violent assaults are especially concentrated in Latin America.[a]

One reason for the concentration of violent crime has to do with the characteristics of the places in which it occurs. If the social ties within a community or neighbourhood are too weak to influence how local people behave, criminality, in particular juvenile crime, is more likely. High levels of social disorganization and institutional anomie are often singled out by researchers.[b] In areas marked by poverty and inequality, high levels of youth unemployment and a high turnover of residents, the prevalence of crime tends to be greater.

Another reason why crime concentrates is related to the specific behaviour of people, namely of perpetrators and victims. In order for a crime – for example, property crime – to be committed, there must be a motivated offender, a suitable target and the absence of someone who might intervene. Crime, then, is closely linked to the routine activities of people.[c] Would-be perpetrators consider the risks and rewards involved in committing a specific crime. Moreover, offenders are often more likely to carry out acts closer to home and in areas that are familiar.[d]

In Latin America, violent crime is often highly concentrated in specific places, often referred to as "hotspots".[e] A study of five Latin American countries using micro-geographic units of analysis found that 50 per cent of all crime occurred in just 3 to 8 per cent of street segments.[f] Moreover, these crime hotspots are not always persistent over time; they may appear and disappear, when, for example, crime is displaced to other areas as criminals adapt to police strategies. The concentration of crime has also been documented in the United States, where a review of 44 studies found that violent crime is often even more concentrated than property crime.[g]

Concentration of robberies in Montevideo, 2006 and 2015
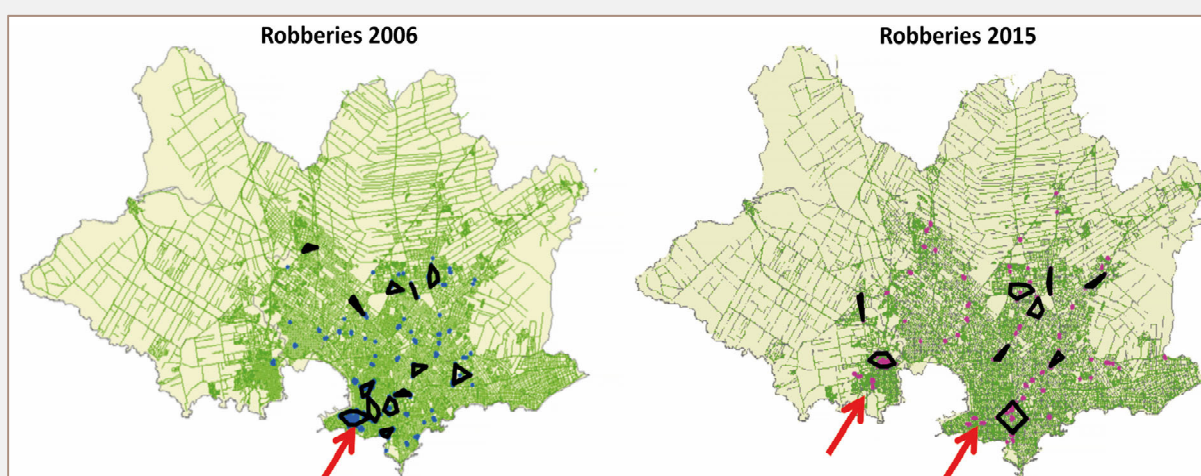
Source: Jaitman, L. and Ajzenman, N., "Crime concentration and hot spot dynamics in Latin America", IDB Working Paper Series, No. 699 (Inter-American Development Bank, 2016).

In Mexico City, four municipalities account for more than one quarter of all crimes,[h] while in Caracas, roughly three municipalities account for over 50 per cent of all homicides.[i] In Colombia, the clusters are even more pronounced: in Bogotá, just 1.2 per cent of street addresses account for 99 per cent of homicides. The same level of homicide was similarly highly concentrated in Barranquilla (within 1.9 per cent of street addresses) and in Medellín (3.2 per cent).[j]

Violent crime and property crime hotspots in Bogotá
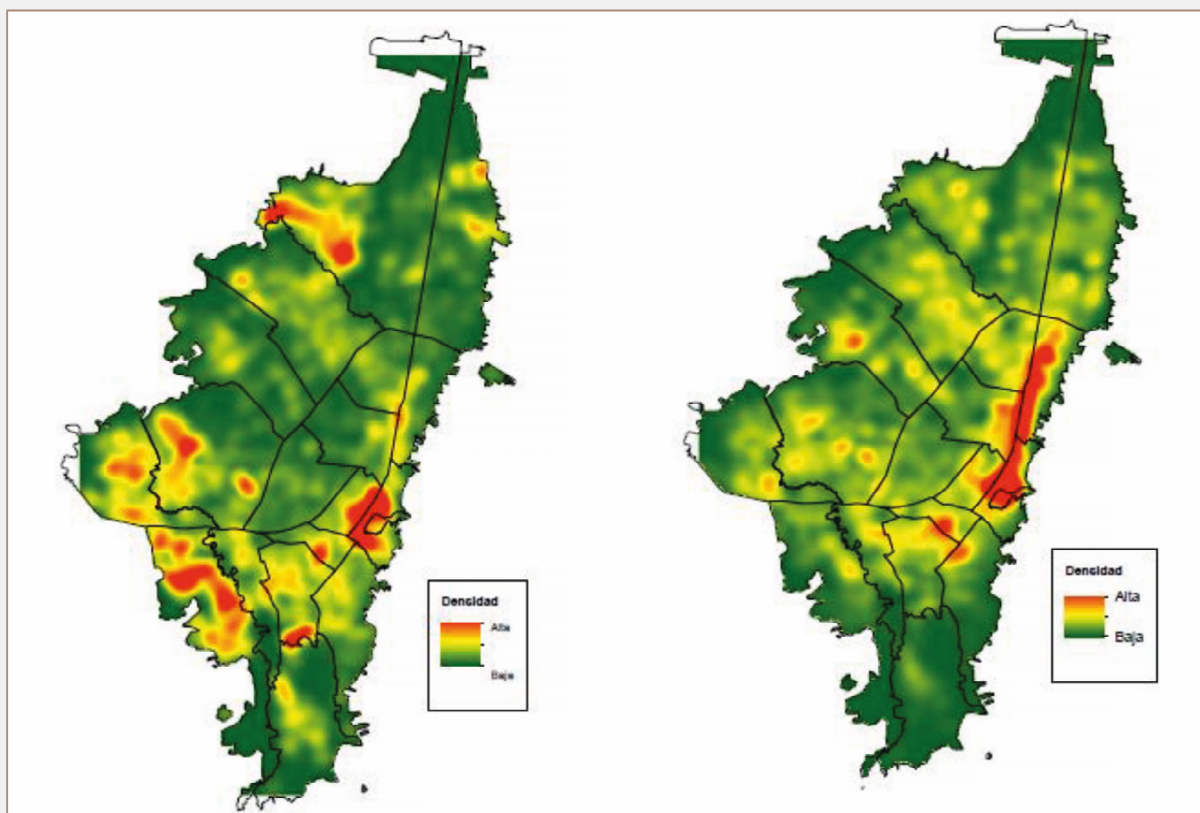
Source: Mejía D., Ortega, D. and Ortiz, K., "Un análisis de la criminalidad urbana en Colombia" Documento de Trabajo, No. 2015/06 (Andean Development Corporation (Corporación Andina de Fomento), 2015).

The very concentration of criminal violence opens up possibilities for its disruption. Recent advances in data processing, geospatial mapping and artificial intelligence are giving rise to a host of new crime detection and forecasting tools.[k] Crime prediction platforms are increasingly common in North America and Western Europe, and are gradually being rolled out in Latin American settings, too. The combination of these platforms together with data-driven policing and prevention could generate significant reductions in violent and non-violent crime if data protection and civil liberty concerns were to be properly addressed in the development and use of the platforms.

The deployment of crime mapping platforms for policing began in the 1990s. From the very start they were designed to integrate management, improve tactical planning and promote accountability. Computer statistics programs are now widespread in this field. A growing array of tools are being made available to the community (e.g. Chicago Data Portal[l] and Data-Crim[m] in Peru), in certain cases allowing the public to report crime online (e.g. London[n]). Most digital platforms, however, are not public-facing and are designed to improve police performance and dispatch (e.g. ISPGeo in Rio de Janeiro[o] and CompStat in New York City).

Crime prevention measures focusing on "hotspots", "hot people" and "hot behaviours" that explicitly target places, people and times associated with a high concentration of crime are bound to be effective.[p]

There is ample evidence that place-based interventions can help reduce crime. A positive example is Colombia's piloting of hotspot interventions ("Plan Cuadrantes"), which have led to sharp reductions in criminality.[q] Another example is the focused patrolling strategy deployed in Montevideo.[r] There are also positive examples in Brazil, including focused deterrence experiments in Belo Horizonte,[s] Rio de Janeiro[t] and São Paulo.[u]

Other place-based strategies include problem-oriented policing and crime prevention through environmental design, which involves adapting the design of the built environment in order to deter criminal behaviour and strengthen natural surveillance.[v]

This contribution was provided by Robert Muggah and Katherine Aguirre, Igarapé Institute.

[a] Muggah, R. and Aguirre, K., "Reducing Latin America's violent hot spots", Journal of Aggression and Violent Behaviour, published online on 5 October 2018.

[b] Vilalta, C. and Muggah, R., "What explains criminal violence in Mexico City? A test of two theories of crime", Stability: International Journal of Security and Development, vol. 5, No. 1 (2016).

[c] Cohen, L. and Felson, M., "Social change and crime rate trends: a routine activity approach", American Sociological Review, vol. 44, No. 4 (August 1979), pp. 588–608.

[d] Brantingham, P. L. and Brantingham, P. J., "Environment, routine, and situation: toward a pattern theory of crime", in Advances in Criminological Theory, vol. 5, Routine Activity and Rational Choice (New Brunswick, NJ, Transaction Publications, 1993).

[e] Muggah and Aguirre, "Reducing Latin America's violent hot spots".

[f] Jaitman, L. and Ajzenman, N., "Crime concentration and hot spot dynamics in Latin America", IDB Working Paper Series, No. 699 (Inter-American Development Bank, 2016).

[g] Lee, Y. et al., "How concentrated is crime at places? A systematic review from 1970 to 2015", Crime Science, vol. 6, No. 6 (December 2017).

[h] Vilalta and Muggah, "What explains criminal violence in Mexico City?".

[i] Acero-Velázquez, H., Situación de violencia y delincuencia de Venezuela y concentración delincuencial en Caracas (Bureau for Scientific, Criminal and Forensic Investigations (Cuerpo de Investigaciones Científicas, Penales y Criminalísticas), 2006).

[j] Mejía D., Ortega, D. and Ortiz, K., "Un análisis de la criminalidad urbana en Colombia" Documento de Trabajo, No. 2015/06 (Andean Development Corporation (Corporación Andina de Fomento), 2015).

[k] Muggah R., "How smart tech helps cities fight terrorism and crime", World Economic Forum, 15 June 2018; Muggah, R., "What happens when we can predict crimes before they happen?", World Economic Forum, 2 February 2017.

[l] See https://data.cityofchicago.org/Public-Safety/Crimes-Map/dfnk-7re6.

[m] See https://datacrim.inei.gob.pe/ciudadano/.

[n] See www.cityoflondon.police.uk/contact-city-police/reporting-a-crime/Pages/Online-crime-report.aspx

[o] See www.isp.rj.gov.br/Conteudo.asp?ident=176

[p] Muggah, R., Aguirre, K. and Chainey, S., "Targeting 'hot spots' could drastically reduce Latin America's murder rate", Americas Quarterly, 14 March 2017.

[q] Muggah, R. and Szabó de Carvalho, I., "How to make Latin America's most violent cities safer", The Guardian, 13 June 2016.

[r] Blattman, C. et al., "Improving security through concentrated policing in Bogotá, Colombia" (Abdul Latif Jameel Poverty Action Lab, 2016).

[s] Alvarado, N. and Muggah, R., "Crimen y violencia: un obstáculo para el desarrollo de las ciudades de América Latina y el Caribe", Documento para discusión, No. 644 (Inter-American Development Bank, 2018).

[t] Chainey, S. P. and da Silva, B. F. A., "Examining the extent of repeat and near repeat victimisation of domestic burglaries in Belo Horizonte, Brazil", Crime Science, vol. 5, No. 1 (December 2016).

[u] Cano, I. and Ribeiro, E., "Old strategies and new approaches towards policing drug markets in Rio de Janeiro", Police Practice and Research, vol. 17, No. 4 (2016), pp. 364–375.

[v] Ceccato, V., "Homicide in São Paulo, Brazil: assessing spatial-temporal and weather variations", Journal of Environmental Psychology, vol. 25, No. 3 (September 2005), pp. 307–321.

Asia

Following a modest increase in the early 1990s, the regional homicide rate of Asia has been decreasing steadily. This overall decline is mirrored in four of its five subregions, with Western Asia being the exception. The most remarkable decline occurred in Central Asia where social and economic turmoil in some countries in the 1990s led to an increase in the average homicide rate to over 11 per 100,000 before it declined to 3.7 in 2017.[28] As mentioned in booklet 3 of this study, in such contexts it may be difficult to distinguish homicide from lethal violence caused by conflict. Conflicts may cause deaths that are not related to criminal violence, but they often also create breeding grounds for various types of interpersonal violence, including homicide.[29]

While the homicide rate has decreased steadily in South-East Asia as a whole, individual countries in the subregion have often experienced divergent trends. In Thailand, for example, homicide rates fluctuated between 8 and 10 per 100,000 population from 1990 to 2003 and have since declined sharply to 3.6 in 2017. Indonesia saw a steady decline in its homicide rate between 1990 and 2017 and, along with Brunei Darussalam and Singapore, continues to have one of the lowest homicide rates in the subregion, although the low homicide rate in Indonesia may reflect the country's lower capacity to record homicide compared with other countries. After some fluctuations in the 1990s, Cambodia experienced a steady decline in its homicide rate after 2000, from 4.7 to 2.1. This decrease may be attributed to the decline in the political conflict that previously affected the country and was accompanied by a high level of homicide.[30]

[28] The major exception is the year 2010, when civil unrest in Kyrgyzstan led to a temporary increase in the subregional homicide rate.

[29] UNODC, Global Study on Homicide 2013.

[30] Lappi-Seppälä and Lehti, "Cross-comparative perspectives on global homicide trends".

By contrast, the Philippines has experienced a sharp increase in homicide following on from a period that was characterized by a downward trend. It has been argued that this is closely connected to an increase in violence related to organized crime, vigilante violence and an increase in terrorist activities by local gangs affiliated with Islamic State in Iraq and the Levant (ISIL).[31]

In South Asia, trends in homicide have been declining steadily, mirroring those in its two most populous countries, India and Pakistan. In East Asia, starting from a relatively low rate of 1.9 per 100,000 population in 1990, the homicide rate declined further to 0.6 in 2017, mainly reflecting the moderate levels of homicide in China, Japan and the Republic of Korea. Prior analyses have shown that these low-homicide countries have several factors in common that are strongly linked to a reduction in lethal violence, including an emphasis on educational achievement, modernization (measured by the Globalization Index) and a culture that values long-term orientation.[32]

Figure 11: **Homicide rates in Asia, by subregion, 1990–2017**
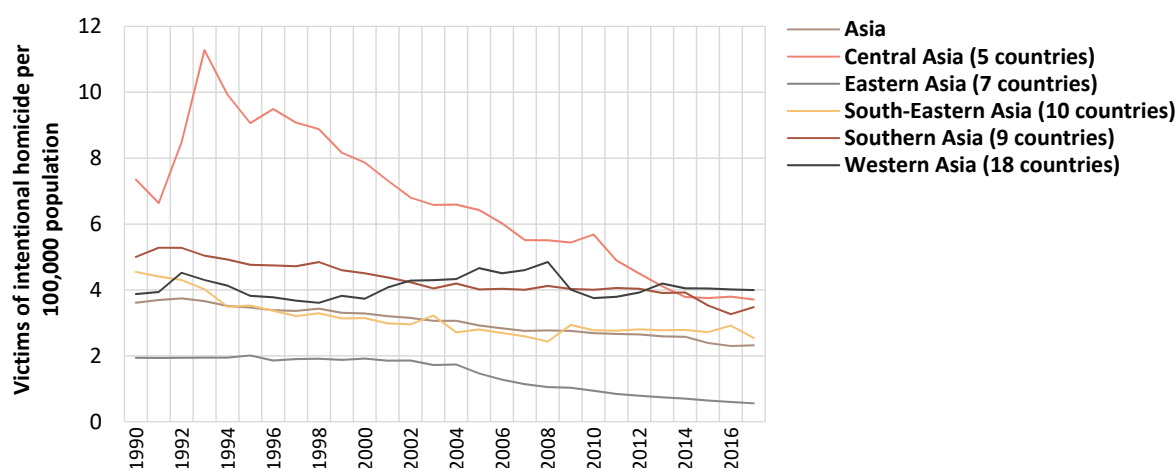
Source: UNODC homicide statistics.
Note: The number of countries for which time series could be constructed on the basis of available data is given in brackets for each subregion.

BOX 7: Homicide in the Pacific Islands

The availability of data on homicide in the Pacific Islands is quite limited. Among those islands for which data are available, there is large variation between different countries and territories, ranging from zero in Nauru and Niue to estimates of over 10 per 100,000 in Papua New Guinea. Given their small population size, the temporal and geographical variability of the homicide rate in single nations can also be quite high. In Papua New Guinea, for example, homicide varies from relatively low levels in the provinces of Gulf and Milne Bay, among others, to estimates of over 60 per 100,000 in the second largest city of Lae in Morobe Province.[a]

Causes of death related to injuries are often poorly reported in the Pacific islands, with death certificates often being absent or incomplete.[b] Hospital records suggest that the homicide rate is much higher than is officially reported, and the national police force of Papua New Guinea has confirmed that significant underreporting of homicide is likely.[c] The extreme isolation of certain villages is one factor contributing to the underreporting of crime.[d]

Even in urban areas, many people are inclined to report crime to traditional leaders instead of to the police.[e] Consequently, accurate data for homicides across the Pacific are unlikely to be forthcoming. Independent research has shown that some of the reported homicide rates in international databases, along with other data, could not be verified within the countries concerned.[f] Apart from underreporting, there are additional concerns over the source and reliability of time-series data.

[31] Le Clercq and Rodríguez, eds., *Global Impunity Index 2015*.

[32] Lappi-Seppälä and Lehti, "Cross-comparative perspectives on global homicide trends".

On the basis of the available data, most of the Pacific Islands have generally low rates of homicide, although in the smaller countries[g] there may be isolated instances that inflate the rate.

	2010	2011	2012	2013	2014	2015	2016
Fiji	2.3	2.3	2.3	2.2	2.3		
Papua New Guinea	10.0						
Guam	1.9	2.5					
Kiribati	3.9	10.5	7.5				
American Samoa	9.0	9.0	3.6	5.4	5.4	7.2	5.4
Samoa	8.6			3.1			
Tonga	1.0	1.9	1.0				
Tuvalu	9.5	9.4	18.6				

Homicide can be divided into three broad categories in the Pacific: ethnic conflict, violent crime and domestic violence. Domestic violence can occur in a variety of contexts; lethal violence perpetrated in the domestic sphere generally affects women disproportionately, which is indicative of a power imbalance between women and men in that sphere.[h] Drug and alcohol consumption has been linked to intimate partner violence in several countries, yet a causal relationship between alcohol consumption and such violence has not been conclusively demonstrated.[i] In the Pacific, domestic violence has been associated with a context of alcohol and drug use. Other types of violent crime are usually related to gambling and organized crime.

Generally, the more populated countries in the Pacific, have higher homicide rates than the less populated countries. Papua New Guinea, one of the most diverse countries in the world, with over 800 different languages, has the highest homicide rate in the region (estimated at 10 per 100,000 population).[k]

Other sources indicate that quite a large share of violent deaths in those Pacific Islands that have relatively high homicide rates were caused by firearms. This is a surprising finding, since the Pacific region has relatively low levels of firearms – roughly a quarter of the levels found in the rest of the world.[n] However, there is no recent comprehensive study on the availability of firearms in the region. (The most recent studies are qualitative assessments of illicit small arms in Fiji, Papua New Guinea, Samoa and Solomon Islands.)[o]

Although a ubiquitous problem, gender-based violence has a particularly high prevalence in the Pacific Islands.[p] This includes intimate and non-partner physical and sexual violence, trafficking and bride price arrangements, and sexual exploitation. Lifetime rates of these forms of violence include more than two thirds of women in many countries across the Pacific.[q] Unsurprisingly, with such high rates of gender-based violence, females are often victims of violent deaths, accounting for between 10 and 44 per cent of all such victims in the more populated Pacific Islands.[r] There are a range of sociocultural factors that explain why rates of gender-based violence are so high. On average, across the Pacific Islands, 51 percent of men and boys, and 58 percent of girls and women believe there are reasons which justify a husband hitting or beating his wife.[s]

This contribution was provided by Murray Ackman, Research Fellow, Institute for Economics and Peace.

[a] Lakhani, S. and Willman, A. M., "Trends in crime and violence in Papua New Guinea", Research and Dialogue Series: The Socio-economic Costs of Crime and Violence in Papua New Guinea, No. 1 (Washington, D.C., World Bank, 2014).

[b] Secretariat of the Pacific Community, *Mortality Trends in Pacific Island States* (2014).

[c] Lakhani and Willman, "Trends in crime and violence in Papua New Guinea".

[d] Hayward-Jones, J., *The Future of Papua New Guinea: Old Challenges for New Leaders* (Lowy Institute for International Policy, 2016).

[e] Lakhani, S. and Willman, A. M., "Drivers of crime and violence in Papua New Guinea", Briefing Note, No. 2 (Washington, D.C., World Bank, 2012).

[f] Forthcoming report on data availability undertaken by Murray Ackman for the United Nations Development Programme (UNDP) Pacific Office.

[g] Of the 22 Pacific Island countries and territories, 16 have populations under 200,000, with Papua New Guinea being the only country with a population of over 1 million people.

[h] For further information, see booklet 5 of this study.

[i] WHO, *Intimate Partner Violence and Alcohol* (2006), p. 2.

[k] Lakhani and Willman, "Trends in crime and violence in Papua New Guinea".

[n] Small Arms Survey, *Small Arms Survey 2007: Guns and the City* (Geneva, Graduate Institute of International Studies, 2007), ch. 2, annex 4.

[o] Koorey, S., "Illicit small arms in the Pacific", Civil-Military Occasional Papers (Australian Civil-Military Centre, 2016).

[p] According to UN-Women 2014 statistics on intimate partner violence.

[q] Fiji Women's Crisis Centre, *Somebody's Life, Everybody's Business! National Research on Women's Health and Life Experiences in Fiji (2010/2011): A Survey Exploring the Prevalence, Incidence and Attitudes to Intimate Partner Violence in Fiji* (Suva, 2013).

Europe

Homicide rates in Europe's subregions have generally been below the global average and, other than in Eastern Europe, have been decreasing steadily since the early 1990s. In Eastern Europe (which includes the Russian Federation), the homicide rate originally doubled in the first half of the 1990s – a period of rapid economic and social transformation following the collapse of the Soviet Union – then fluctuated until around 2002 and then declined by two thirds until 2017.

Scholars have interpreted this trend from a Durkheimian perspective,[33] arguing that the transition from a communist to a capitalist society creates conflict between old and new values, leading to a state of anomie. From this theoretical perspective, the swift political changes that occurred in Eastern Europe after the fall of communism constituted what Durkheim referred to as "a threat to the collective sentiment", which contributed to a rise in violent crime, including homicide.[34, 35]

Another way in which these trends can be understood is through the linkage of homicide to other public health issues in the subregion, most notably alcohol consumption. The rate of alcohol consumption in Eastern Europe has historically been significantly higher than in Western Europe and North America. As for consumption patterns, these are characterized by heavy episodic drinking ("binge drinking") and a preference for distilled spirits.[36] Generally on the increase since the 1960s, the problem spiked dramatically after the dissolution of the Soviet Union,[37] closely mirroring the homicide pattern.

From an opportunity theory perspective, it has been argued that increasing opportunities, including the availability of certain weapons, may have played a role in the increase in homicide in Eastern Europe. Thus, the limited availability of firearms in Western Europe has often been invoked as one of the main causes of very low rates of homicide in that subregion, whereas the higher levels of homicide in Central and Eastern Europe has been attributed to the greater availability of firearms there. From this perspective, the collapse of the Soviet Union contributed to the circulation of firearms that were held in former arsenals before being distributed via organized trafficking, which may explain the sharp increase in the homicide rate in its aftermath.[38]

In Southern Europe, homicide rates have declined steadily[39] by 65 per cent, from 2.3 per 100,000 population in 1990 to 0.8 in 2017 and in some cases even further (in 2017, Italy had a homicide rate of around one quarter its rate in 1990). Northern Europe experienced a moderate increase in homicide in the first half of the 1990s, followed by a gradual decrease to an average of 1.2 per 100,000 population in 2017. In Western Europe, the homicide rate declined steadily from 1.8 per 100,000 population in the early 1990s to 1.0 in 2017, with a temporary increase to 1.1 in 2015 and 2016.[40]

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[33] Durkheim, E., *Suicide: A Study in Sociology* (London, Routledge, 1951).

[34] Stamatel, J. P., "The effects of political, economic, and social changes on homicide in Eastern Europe", in *Handbook of European Homicide Research*.

[35] Pridemore, W. A. and Kim, S.-W., "Democratization and political change as threats to collective sentiments: testing Durkheim in Russia", *Annals of the American Academy of Political and Social Science*, vol. 605, No. 1 (May 2006), pp. 82–103.

[36] Bye, E. K., "Alcohol and homicide in Europe", in *Handbook of European Homicide Research*.

[37] Stamatel, "The effects of political, economic, and social changes on homicide in Eastern Europe".

[38] Aebi, M. F. and Linde, A., "Regional variation in Europe between homicide and other forms of external death and criminal offences", in *Handbook of European Homicide Research*.

[39] A notable exception to this steady decline is Albania, which experienced a dramatic escalation in lethal violence during a period of civil unrest in the late 1990s, with the homicide rate reaching 43 per 100,000 population in 1997, followed by a sustained reduction to 2.7 per 100,000 population in 2016.

[40] The temporary increase was driven by a spike in homicides due to a series of terrorist attacks in France in 2015 and by an increase in homicides involving both foreign perpetrators and foreign victims in Germany in 2016.

Several scholars have applied historical criminological approaches to explain the downward homicide trend that has occurred throughout the Western world – first in North America then somewhat later in Western Europe. The recent decline constitutes a continuation of a centuries-long lessening of violence that can be attributed to better governance and the rule of law, the promotion of self-control and cultural change towards greater civility. [41] Others have adopted an opportunity theory perspective, proposing that homicide in those subregions has declined as a result of a change in youth lifestyle introduced by the development of the Internet. Computer access causes young males – both would-be perpetrators and potential victims – to spend more time at home and less time in public, resulting in a lower likelihood of becoming involved in face-to face conflict, including homicide.[42]

Figure 12: **Homicide rates in Europe, by subregion, 1990–2017**
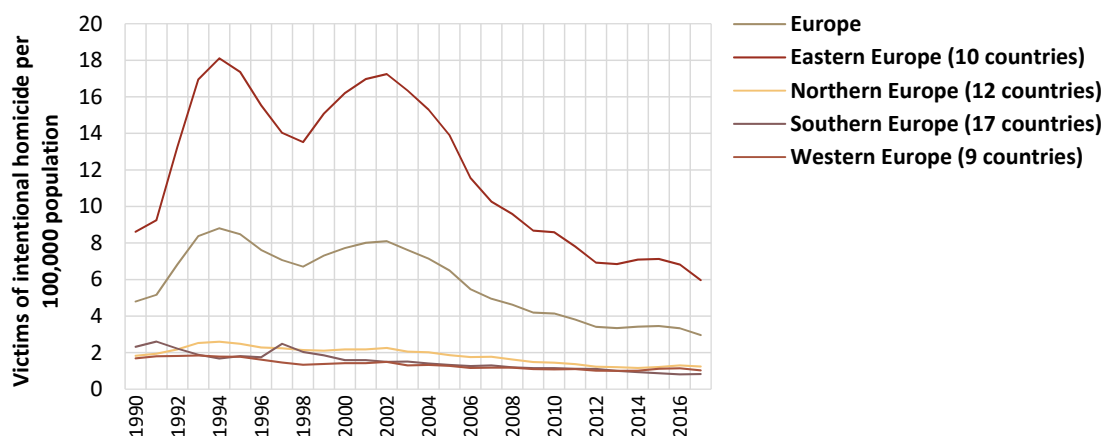
Source: UNODC homicide statistics.
Note: The number of countries for which time series could be constructed on the basis of available data is given in brackets for each subregion.

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[41]   Eisner, M., "Modernity strikes back? A historical perspective on the latest increase in interpersonal violence (1960–1990)", *International Journal of Conflict and Violence*, vol. 2, No. 2 (2008), pp. 288–316; Pinker, S., *The Better Angels of Our Nature: The Decline of Violence in History and Its Cause*s (London, Allen Lane, 2011).

[42]   Aebi, M. F. and Linde, A., "The persistence of lifestyles: rates and correlates of homicide in Western Europe from 1960 to 2010", *European Journal of Criminology*, vol. 11, No. 5 (September 2014), pp. 552–577.

BOX 8 Is target 16.1 of the Sustainable Development Goals on track?

Within the framework of the Sustainable Development Goals agreed by all Member States in 2015, target 16.1 calls for "all forms of violence and related death rates everywhere" to be significantly reduced by 2030. Based on current global levels and trends in homicide, this target is not likely to be achieved. The homicide rate is the main indicator agreed by Member States for monitoring target 16.1. Since the target was agreed in 2015, the homicide rate has increased from 6.02 to 6.14 per 100,00 population and the number of victims from 444,871 to 463,821, clearly showing that no progress has been made in the achievement of the target. However, when looking at a longer time span, the global estimated rate of homicide can be seen to have declined slowly from 1990 to 2015, from 6.78 to 6.02. In attempting to forecast the homicide trajectory from 2018 to 2030, to see if the target of significantly reducing violence is likely to be achieved, different scenarios can be considered depending on the projection method and the historical period considered. If only data from 2015–2017 are considered, the homicide rate increases to 6.89 by 2030, or by 14 per cent from 2015, clearly missing the target.

Other projections are more encouraging. Using a simple linear projection of the trend from 1990 to 2017 results in a homicide rate of 5.24 by 2030, some 13 per cent lower than the homicide rate in 2015. Similarly, projecting the trend from 2000 to 2017 results in a homicide rate of 5.26 by 2030 (also 13 per cent lower) and projecting the trend from 2010 to 2017 results in a forecasted homicide rate of 5.92 by 2030, only 2 per cent lower than the 2015 rate and thus hardly a "significant reduction" as postulated in target 16.1.

Projections of the global homicide rate and number of homicide victims based on different scenarios, 1990–2030
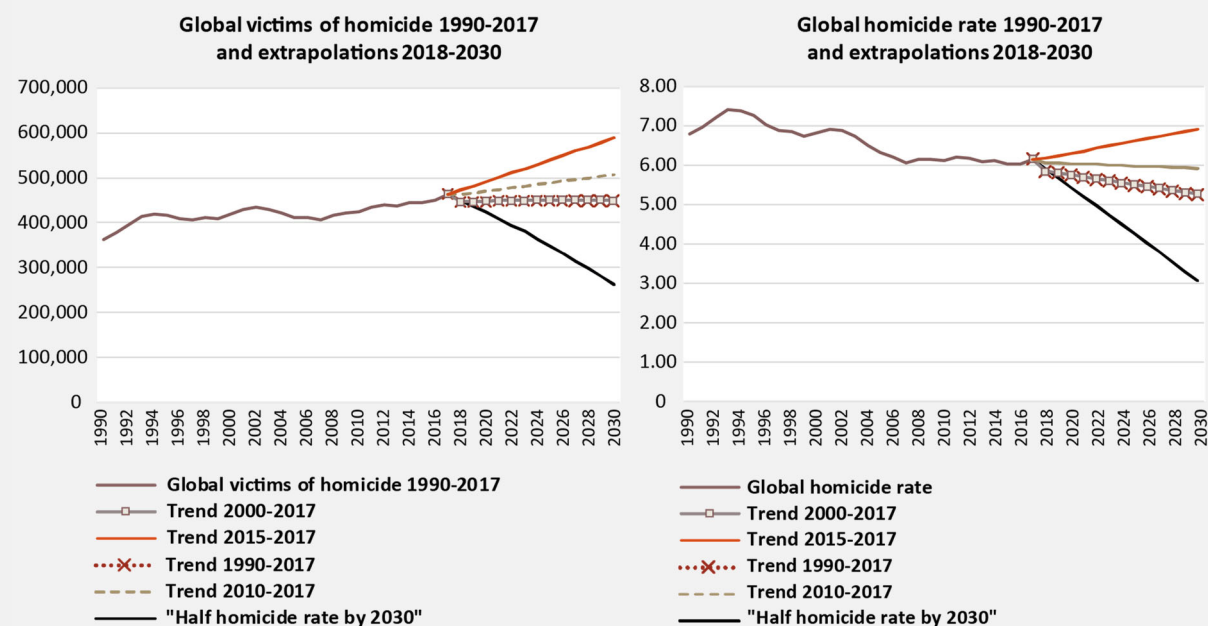
Source: UNODC homicide statistics; calculations are based on simple linear regression.

If the absolute number of homicide victims is utilized to determine the likelihood of achieving the target, the 2030 scenarios are more pessimistic. The projected global population growth between 2015 and 2030 (by 16 per cent according to the medium forecast by the United Nations Population Division) means that the absolute number of homicides may increase in each of the four projection scenarios outlined above. If the trend in the global homicide rate from 1990 or 2000 is used for forecasting, the absolute number of homicides increases by 1 per cent, if the trend from 2010 is applied, it increases by 14 per cent and if only data for 2015–2017 are considered, the absolute number of homicides between 2015 and 2030 increases by as much as 32 per cent. To achieve a significant reduction in the absolute number of homicide victims a reduction in the homicide rate that far exceeds population growth is needed. For example, achieving a significant reduction of around 40 per cent in the global number of homicide victims, would require the global homicide rate to be halved from 2015 to 2030.

BOX 9: Historical perspective: what the past can teach about reducing homicide. The decline in homicide in Europe, 1200–2016.

Countries in Western Europe are currently experiencing some of the lowest rates of interpersonal killing ever seen, with homicide rates ranging from 0.4 to 1.7 per 100,000 population and an average rate of 1.0. These low levels of homicide are part of a significant broader drop in property and violent crime across most affluent societies, which started in the early 1990s. It was probably triggered to some extent by improvements in security technology, which increasingly permeates daily life in the form of central deadlocking systems, home protection technology and CCTV cameras, and also by the transition to a cash-free economy.[a] However, the roots of the decline in homicide in Europe go back several centuries.[b] Judicial documents from as far back as the thirteenth century suggest that many places in medieval and early modern Europe experienced homicide levels similar to those found in some of the most violent places in the twenty-first century. Yet, the lethal violence declined in a surprisingly regular fashion over the next 600 years.

The causes of this long-term decline have been much debated, but they probably include the gradual expansion of the State's monopoly on power, the increasing reach of the law, the weakening of collective obligations in favour of a more individualistic way of thinking, the proliferation of schools and literacy, and the promotion of self-discipline and civility. Although sweeping generalizations have been made about a worldwide fall in violence, much less is known about long-term trends in homicide outside the Western world. However, recent evidence from several regions shows how different factors and decisions in social, political and economic sectors can have either a positive or a negative impact on homicide trends.

Homicide rate in selected countries in Europe, 1200–2016
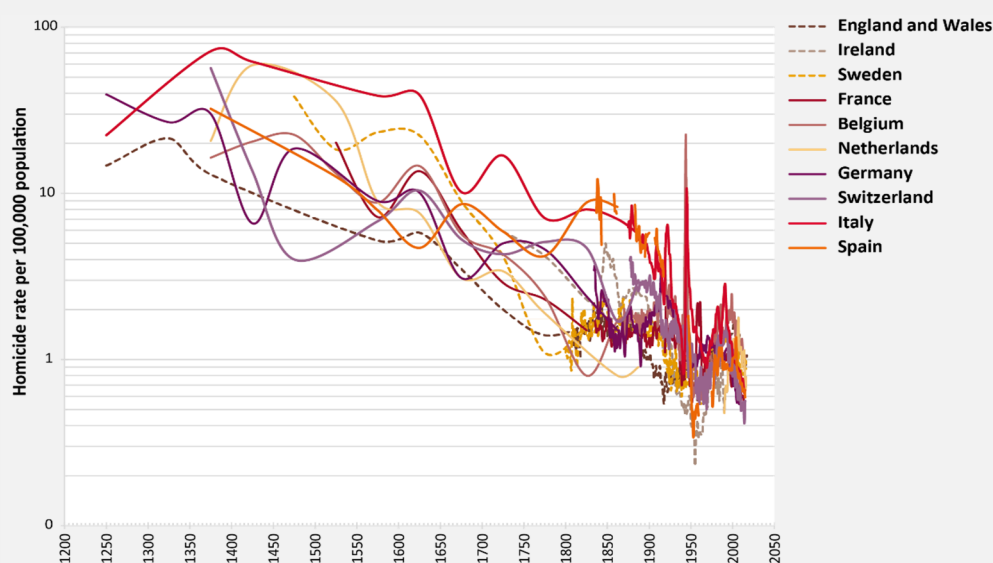
Source: Data until 1850 are estimates based on local and regional studies and averaged for 50-year periods. Data from about 1850 are national homicide rates, based on either police statistics or mortality statistics.
Note: For further details of the sources, see Eisner, M., "From swords to words: does macro-level change in self-control predict long-term variation in levels of homicide?", *Crime and Justice*, vol. 43, No. 1 (2014), pp. 65–134; Eisner, M., "Modernity strikes back? A historical perspective on the latest increase in interpersonal violence (1960–1990)", *International Journal of Conflict and Violence*, vol. 2, No. 2 (2008), pp. 288–316.

This contribution was provided by Manuel Eisner, Institute of Criminology, University of Cambridge.

[a] Farrell, G., Tilley, N. and Tseloni, A., "Why the crime drop?", *Crime and Justice*, vol. 43, No. 1 (2014), pp. 421–490.
[b] Eisner, M., "From swords to words: does macro-level change in self-control predict long-term variation in levels of homicide?", *Crime and Justice*, vol. 43, No. 1 (2014), pp. 65–134.

BOX 10: Historical perspective: what the past can teach about reducing homicide. Historical homicide trends in Jamaica and Singapore.

Jamaica and Singapore are quite different in respect of homicide levels. Singapore, with a population of 5.5 million, recorded 11 homicides in 2017, yielding a homicide rate of 0.2 per 100,000 population. In the same year, Jamaica, with a population of 2.9 million, recorded 1,647 homicides, yielding a homicide rate of 57.0 per 100,000 population. On a per-capita basis this translates into a ratio of 1 to 296, which puts the two countries close to the opposite ends of the global spectrum of homicide rates.

That was not always the case. In fact, the two islands have many common features. Both were part of the British Empire until the early 1960s, and after independence both countries adopted a political system based on the Westminster model, thereby also inheriting a justice system rooted in the common law tradition. Shortly before independence, their societies were strikingly similar in many ways: according to World Bank data, their GDP per capita was almost identical, at roughly $3,300 at 2010 prices; the two societies had similar literacy rates of around 75 per cent, similar life expectancy at birth (64 years in Jamaica; 66 years in Singapore) and similar birth rates (41 per 1,000 population in Jamaica; 38 per 1,000 population in Singapore). Also, the two societies were on a similar footing in respect of violence: in the years 1955–1959, the average homicide rate in Singapore was 3.2 per 100,000 population,[a] while it averaged about 5 per 100,000 population in the same period in Jamaica[b] – a difference that lies well within the boundaries of measurement error and random fluctuations.

How, then, did the difference in contemporary homicide rates come about? What can these diverging trends teach about why some societies experience a sustained reduction in lethal interpersonal violence while others suffer escalating levels of homicide to the extent that political stability is threatened, economic growth is undermined, and fear and distrust destroy communities?

When did the different trajectories begin?

Analysing long-term trends can help explain when the turning points that send countries along different trajectories actually occur. In Jamaica, criminal statistics began to be reported in the 1870s, but estimates presented in a recent study go back to the eighteenth century.[c] In the Straits Settlements – a conglomerate of territories, including Penang, Malacca and Singapore – statistics on recorded crime have been published since 1855.[d]

Long-term trend in homicide rates in Jamaica and Singapore
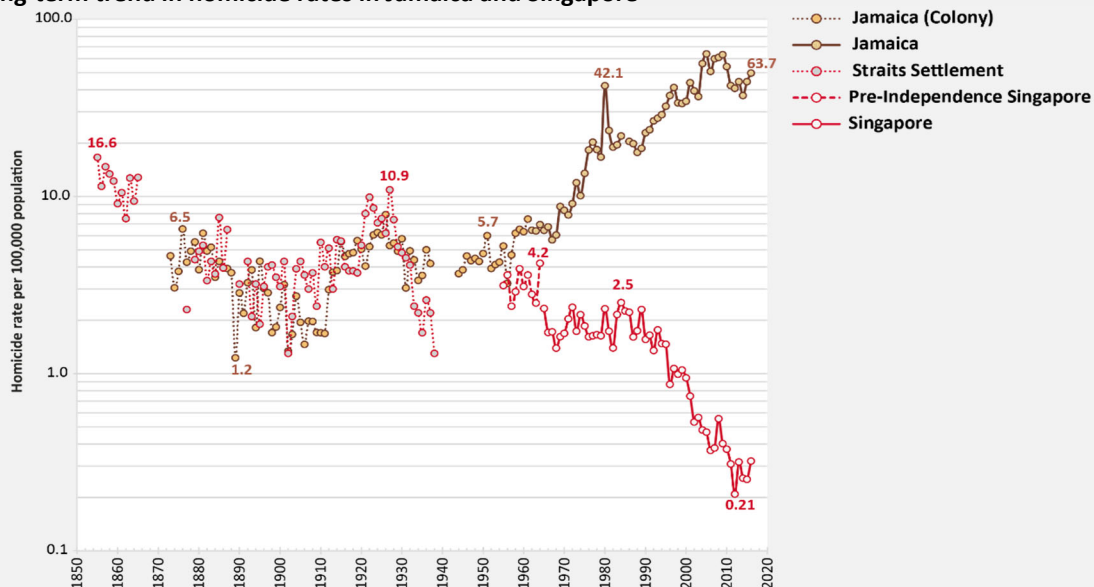
Sources: Singapore, 1855–1940: Tai, W. S., "Murder and other crimes in the Straits Settlements", MPhil thesis, University of Cambridge, 2010; Singapore, 1955–1964: Ting, S. K. and Tan, K. K., "Post-mortem survey of homicides in Singapore (1955-1964)", *Singapore Medical Journal*, vol. 10, No. 4 (December 1969), pp. 243–247; Singapore, 1965–2016: World Health Organization (WHO) mortality statistics; Colony of Jamaica, 1870–1961: *Blue Book of the Island of Jamaica*, later *Handbook of Jamaica*; Jamaica, 1962–2016: "Crimes known to the police", Jamaica Constabulary Force annual reports.
Note: Selected years highlighted with homicide rates.

The long-term trends displayed in the figure above lead to an initial conclusion: the two colonial societies were quite similar in their levels of lethal violence in the century preceding independence. Both also experienced a decline during the second half of the nineteenth century, broadly in line with trends in Western Europe.[e] The homicide rate in both countries then surged in the 1920s, a period during which Singapore in particular had a reputation for lawlessness, corruption, gang warfare, drug trafficking, gambling and prostitution.

It seems that the homicide rates of the two islands began to drift apart some 60 years ago, when the homicide rate in Jamaica started to increase by an average of 4.4 per cent per year, which continued for five decades, while Singapore experienced an average decline of a similar magnitude: around −4.2 per cent per year. This relatively recent development has implications for plausible explanatory models: they make it less likely that century-old factors such as slavery in Jamaica can account for the observed patterns, and put the focus on processes between the 1950s and the 1980s.

Governance and violence

What led the two islands from broad similarity in their levels of lethal violence in the decades prior to independence to such vast differences? There is no easy answer, but research conducted in each country suggests that factors related to governance and the rule of law, along with increasing differences in the relationship between the State and civil society, played an important role.

Scholars agree that the decline in crime rates in Singapore should not be viewed in isolation, but in the broader context of achievements in education, health, life expectancy and wealth.[f] They were largely shaped by the first Prime Minister of Singapore, Lee Kuan Yew (1923–2015), who built the Singaporean model of good governance around the rule of law, corruption control, a meritocratic civil service anchored in competitive salaries, strategic investment in universal education and health care, and a public housing policy aimed at minimizing social segregation and providing high-quality housing to all.[g] These policies were complemented by a bundle of value strategies that emphasized hard work, social cohesion and mutual respect.

It is likely that targeted crime reduction policies played a role. They include a hard-line approach to law and order, ranging from tight control over daily behaviour to a highly professional police force that is trusted by the population, a combination of offender treatment and reintegration policies that result in a low recidivism rate, and a broadly conceived crime prevention strategy that combines civic behaviour campaigns, "target hardening", education and monitoring.[h] The backbone of these policies is an effective police force that prioritizes effective control over corruption through adequate salaries, professional recruitment, extensive training, values education and administrative control.[i] In addition, the 1980s saw a major shift in policing strategies from a reactive and incident-centred mode to a community policing approach modelled on the Japanese "kōban" system. Also, the model adopted during the 1980s included a greater emphasis on rehabilitation programmes, victim support schemes, neighbourhood watch schemes and crime prevention committees.

At the other end of the spectrum is Jamaica with its continued increase in interpersonal violence over the past six decades, for which scholars have proposed various explanations.[j] They all highlight the link between the early rise of gun and gang violence and the establishment of political partisan violence. In the 1940s and 1950s, clientelistic political structures began to emerge: the leaders of political parties used political patronage to put supporters into key positions and buy votes in key constituencies. In the lower-class neighbourhoods of Kingston, in particular, political violence became deeply entrenched and led to the development of "garrison" communities. These areas were controlled by "dons", neighbourhood leaders who maintained political party control, organized the use of vigilante violence against political opponents and provided protection to residents. The dons were to become the nuclei of the power of the drug gangs in the 1980s and 1990s.

These developments created ample urban spaces in which criminal organizations and gangs flourished. As a consequence, low police legitimacy, support for violent self-help and legal cynicism became ingrained in the belief systems of many young people in poor communities.

Furthermore, the post-colonial Jamaica Constabulary Force remained rooted in a political-paramilitary model of policing,[k] which included chronic interference of political actors in operational decisions, the politicization of senior appointments and promotions, and a paramilitary emphasis on maintaining order rather than crime control. The Jamaican police force has thus been described as an "institution that has been facing a legitimacy crisis" in Jamaican society and that remained limited in its ability to act as a crime-fighting and crime-preventing organization supported by the citizens.[l] The legitimacy crisis refers to a mode of policing associated with decline in public confidence and escalating social tensions, and the inability of the institution to apply changes to the way in which it operates. Moreover, post-independence Jamaica saw the emergence of a "highly politicized

public service which could not be shielded from interference by political parties".[m] This probably limited the ability of the Jamaican State to address a range of issues associated with violent crime, including effective prevention and intervention in schools and the family, urban planning, social welfare provision and reintegration programmes for offenders.

Role of broader regional dynamics

It is important to ask whether the social forces behind historical trends in homicide are unique to a given country, or whether they cross national boundaries, as in the case of such forces as international drug trafficking, demographic change and value change. For example, trends in homicide over the past 70 years show substantial similarities across geographically disperse high-income Western societies, suggesting that some shared economic, social and cultural processes helped to shape these big-picture patterns.[n]

Although the limited availability of long-term statistical data makes it more difficult to examine similar bundles of trends in non-Western societies, emerging scholarship, including the data collected for this analysis, provides some initial insights.

The figure below shows the previously described long-term trend in homicide rates in Singapore in the context of time series for Hong Kong, China, Japan and Thailand, as well as for Cambodia, where indicators of criminal violence since the French Protectorate have been analysed in a recent study.[o]

Long-term decline of homicide in countries in East Asia
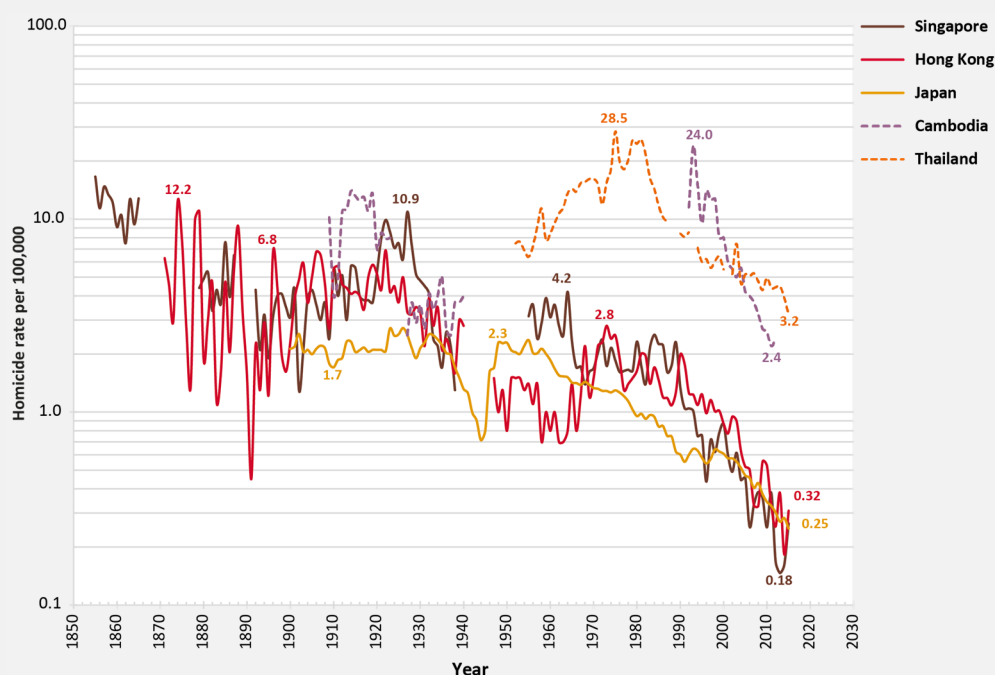
Sources: Singapore: see the figure "Long-term trend in homicide rates in Jamaica and Singapore" above; Hong Kong, 1871–1890: Hong Kong Blue Books, criminal statistics, indictments for murder and manslaughter; Hong Kong, 1890–1980, Broadhurst, R., "Homicide in Hong Kong: the Homicide Monitoring Data Base, 1989–1997", paper presented at the Hong Kong Sociological Association, December 1999; Hong Kong, 1980ff: WHO mortality statistics; Japan, 1900–1950: Hiraiwa-Hasegawa, M., "Homicide by men in Japan, and its relationship to age, resources and risk taking", *Evolution and Human Behavior*, vol. 26, No. 4 (2005), pp. 332–343; Japan, 1950ff: WHO mortality statistics; Cambodia, 1909–1923, 1927–1940, 1993ff: Broadhurst, R., Bouhours, T. and Bouhours, B., *Violence and the Civilising Process in Cambodia* (Cambridge, Cambridge University Press, 2015); Thailand, 1955ff: Lehti, M. and Lappi-Seppälä, T., Comparative Homicide Time Series (CHTS) dataset (Helsinki, National Research Institute of Legal Policy).

The data show that the homicide decline in Singapore following independence occurred in the context of increasing violence in many parts of South-East Asia, such as the escalating interpersonal and political violence in Thailand during the 1960s and 1970s, and the genocidal violence, external military intervention and guerrilla warfare in Cambodia from the late 1960s to the early 1990s. Both Thailand and Cambodia have subsequently experienced an impressive reduction in homicide rates (by around 90 per cent since the peak rates), probably as a result of improved political stability and legitimacy, although governance indicators for both countries do not show clear improvements.

Perhaps the most intriguing aspect of the above trends is the similar development in Singapore and Hong Kong, China. Over a 150-year period, the homicide rates in the two cities look as though they are twinned, although they are geographically separated by 2,500 km of the South China Sea. The two countries/territories certainly

share many economic, social, demographic, cultural and historical features, but it is not clear why they have experienced such similar long-term homicide trends.

One major difference is the fact that the two countries/territories are at opposite extremes in terms of capital punishment. In Hong Kong, China, the last death penalty was carried out in 1966, judicial flogging was stopped in 1990 and capital punishment was abolished in 1993. Singapore, by contrast, has some of the highest execution rates in the world, with a large spike between 1994 and 2004. Since homicide rates trended in exactly the same direction during this period, a recent study concluded that there was no evidence for the notion that the death penalty acted as an effective deterrent in Singapore and contributed to the long-term decline in homicide rates.[p]

Such findings raise a more general question, namely the extent to which the homicide decline in Singapore can be attributed to country-specific policies, and what the role of wider regional economic and social dynamics is. Some scholars have therefore argued for the existence of a specific East Asian model of development that has shaped social and economic change over the past 60 years.[q] It is characterized by great emphasis on assiduity and self-discipline, the promotion of universal education, a high level of regulatory intervention by the State into investment and economic development, and an effective civil service.[r] Although the precise mediating mechanisms are not understood, such domain-general features of the State, with their emphasis on investment in human capital, may have played a more important role in reducing interpersonal violence than any country-specific crime prevention or punishment policy. This is in line with the findings by Lappi-Seppälä and Lehti[s] for the period 1990–2005, which include homicide being more likely to decline in polities with higher investment in education and a greater long-term orientation. It may also explain why Japan, although even further away from Singapore geographically than Hong Kong, China, also has a surprisingly similar long-term trajectory in lethal interpersonal violence.

The increasing homicide trend in Jamaica also needs to be understood in the context of broader regional trends. The long-term trend in homicide over periods of 100 years or more can be tracked, albeit with gaps, in several countries in and around the Caribbean Sea, including the Dominican Republic, Puerto Rico, Trinidad and Tobago, and Venezuela.

Increase in homicide in the Caribbean and Venezuela (logarithmic scale)
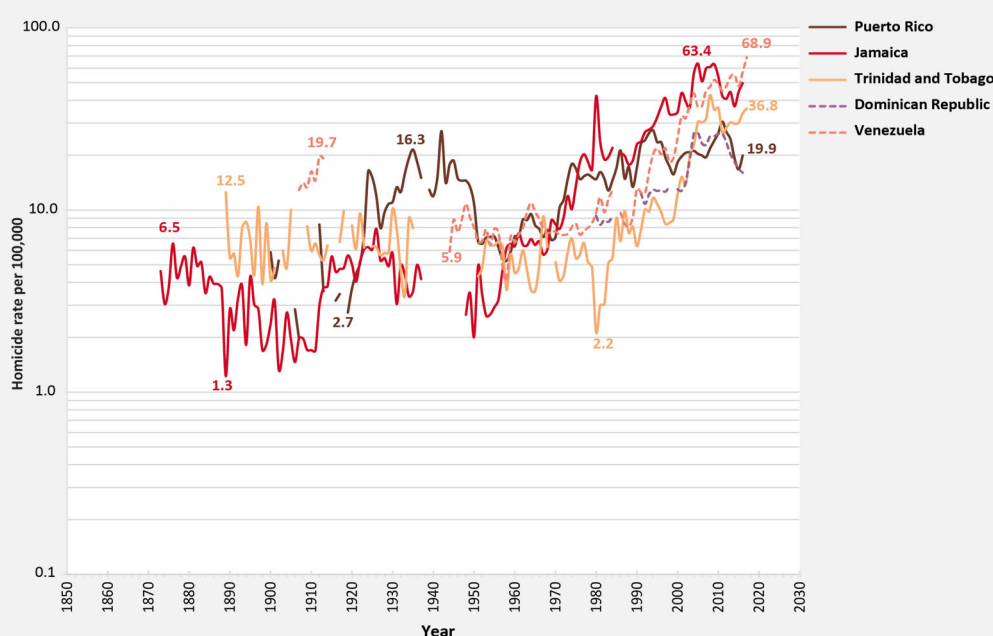
Sources: Puerto Rico, 1900–2009: Planning Board (Junta de Planificación de Puerto Rico) (ed.), Criminalidad en Puerto Rico: Serie Histórica, 1900–2009 (2010); Puerto Rico, 2010ff: Federal Bureau of Investigation (FBI) Uniform Crime Reports; Jamaica: for sources, see the figure "Long-term trend in homicide rates in Jamaica and Singapore" above; Trinidad and Tobago: 1889–1938: Trinidad and Tobago Blue Book, various years, indictments for murder, manslaughter, murder of wife, child murder, concealment of birth; Trinidad and Tobago, 1950–2016: WHO mortality statistics; Dominican Republic: 1950–2016: WHO mortality statistics; Venezuela, 1906–1911: Ministry of Development, Directorate-General of Statistics, homicides dealt with by the courts, Anuario estadístico de Venezuela; Venezuela, 1943–1970: Archer, D. and Gartner, R., Violence and Crime in Cross-National Perspective (New Haven, Connecticut, Yale University Press, 1984); Venezuela, 1970–1989: WHO mortality statistics; Venezuela, 1990–2016: UNODC homicide statistics.

The data suggest that homicide levels were probably not very high in those countries in the late nineteenth century, but that they have all been affected by a shared escalating trend since the early 1960s. The reasons for this shared trend remain controversial: some authors have argued that the high levels of violence have their roots in a deeply entrenched culture of violence rooted in colonialism and slavery.[t] However, this does not explain why homicide levels were much lower in the 1950s. Lappi-Seppälä and Lehti attribute the growing violence to increasing competition between drug-trafficking organizations fighting for their share of a diminishing market. Others have attributed the increase in violence to a lack of State capacity to address social problems or to the chronic concentrated poverty in cities in the Caribbean.

In a recent review, Rivera[u] examined differences in homicide levels and trends across Latin America. He concluded that drug producing or transit countries did not experience comparatively higher homicide rates, but that factors such as "youth bulges" and a previous history of violent political conflict might explain some of the differences seen across Latin America. Also, the rule of law as reflected in a high level of independence of the judiciary, limited use of political violence by governments, and high investment in educational attainment were associated with lower homicide rates across Latin American countries. These seem to be factors not dissimilar to those that have been associated with the homicide decline in Singapore over the past 70 years.

Conclusions

Through the Sustainable Development Goals, the Member States of the United Nations have committed themselves to significantly reducing homicide by 2030, yet the science required to support a population-level decline in interpersonal violence is only just emerging. It requires an understanding of the systemic mechanisms that cause sustained decreases in lethal interpersonal violence, some of which are probably common to the many examples of declining homicide in historical and contemporary societies across the world. These mechanisms are likely to include effective public institutions that are seen as legitimate by citizens, an effective rule of law through professional and well-trained police, the control of corruption and illegal violence by power-holders, investment in human capital in the broadest sense, including the promotion of self-control and respect, and providing universal education and public health services.

This contribution was provided by Manuel Eisner, Institute of Criminology, University of Cambridge.

[a] Ting, S. K. and Tan, K. K., "Post-mortem survey of homicides in Singapore (1955–1964)", *Singapore Medical Journal*, vol. 10, No. 4 (December 1969), pp. 243–247.

[b] Lacey, T., *Violence and Politics in Jamaica, 1960–70: Internal Security in a Developing Country* (Manchester University Press, 1977).

[c] Dalby, J., "Homicide in Jamaica since the eighteenth century: rates, patterns and motives", *Caribbean Journal of Criminology*, vol. 1, No. 3 (2018), pp. 1–40.

[d] Tai, W. S., "Murder and other crimes in the Straits Settlements", MPhil thesis, University of Cambridge, 2010.

[e] Eisner, M., "Modernity strikes back? A historical perspective on the latest increase in interpersonal violence (1960–1990)", *International Journal of Conflict and* Violence, vol. 2, No. 2 (2008), pp. 288–316.

[f] Quah, J. S., "Why Singapore works: five secrets of Singapore's success", *Public Administration and Policy*, vol. 21, No. 1 (2018), pp. 5–21.

[g] Quah, J. S. T., "Crime prevention Singapore style", *Asian Journal of Public Administration*, vol. 14, No. 2 (1992), pp.149–185.

[h] Tai, W. S. and Tang, G. H., "A study of homicide trends in Singapore from 1955 to 2011", *Home Team Journal*, vol. 5 (2014), pp.74–87.

[i] Quah, J. S. T., "Curbing corruption and enhancing trust in government: some lessons from Singapore and Hong Kong", in *Handbook of Asian Criminology* (New York, Springer, 2013).

[j] Clarke, C., "Politics, violence and drugs in Kingston, Jamaica", *Bulletin of Latin American Research*, vol. 25, No. 3 (July 2006), pp. 420–440; Sives, A., "The historical roots of violence in Jamaica: the Hearne Report 1949", in *Understanding Crime in Jamaica: New Challenges for Public Policy* (Kingston, University of the West Indies Press, 2003); Dawson, A., "The social determinants of the rule of law: a comparison of Jamaica and Barbados", *World Development*, vol. 45 (2013), pp. 314–324; Morris, P. K. and Graycar, A., "Homicide through a different lens", *British Journal of Criminology*, vol. 51, No. 5 (September 2011), pp. 823–838.

[k] Harriott, A., *Police and Crime Control in Jamaica: Problems of Reforming Ex-Colonial Constabularies* (Kingston, University of the West Indies Press, 2000).

[l] Ibid.

[m] Sutton, P., Modernizing the State: Public Sector Reform in the Commonwealth Caribbean (Kingston, Ian Randle Publishers, 2006).

[n] Baumer, E. P., Vélez, M. B. and Rosenfeld, R., "Bringing crime trends back into criminology: a critical assessment of the literature and a blueprint for future inquiry", Annual Review of Criminology, vol. 1 (2018), pp. 39–61.

[o] Broadhurst, R., Bouhours, T. and Bouhours, B., Violence and the Civilising Process in Cambodia (Cambridge, United Kingdom, Cambridge University Press, 2015).

[p] Zimring, F. E., Fagan, J. and Johnson, D. T., "Executions, deterrence, and homicide: a tale of two cities", Journal of Empirical Legal Studies, vol. 7, No. 1 (March 2010), pp. 1–29.

[q] Park, J. H., "The East Asian model of economic development and developing countries", Contributions to Asian Studies, vol. 18, No. 4 (2002), pp. 330–353.

[r] Welsh, R. O., "Overcoming smallness through education development: a comparative analysis of Jamaica and Singapore", Current Issues in Comparative Education, vol. 15, No. 1 (2012), pp. 114–131.

[s] Lappi-Seppälä, T. and Lehti, M., "Cross-comparative perspectives on global homicide trends", Crime and Justice, vol. 43, No. 1 (2014), pp. 135–230.

[t] Brereton, B., "The historical background to the culture of violence in Trinidad and Tobago", Caribbean Review of Gender Studies, vol. 4 (2013), pp. 1–16.
[u] Rivera, M., "The sources of social violence in Latin America: an empirical analysis of homicide rates, 1980–2010", Journal of Peace Research, vol. 53. No. 1 (January 2016), pp. 84–99.
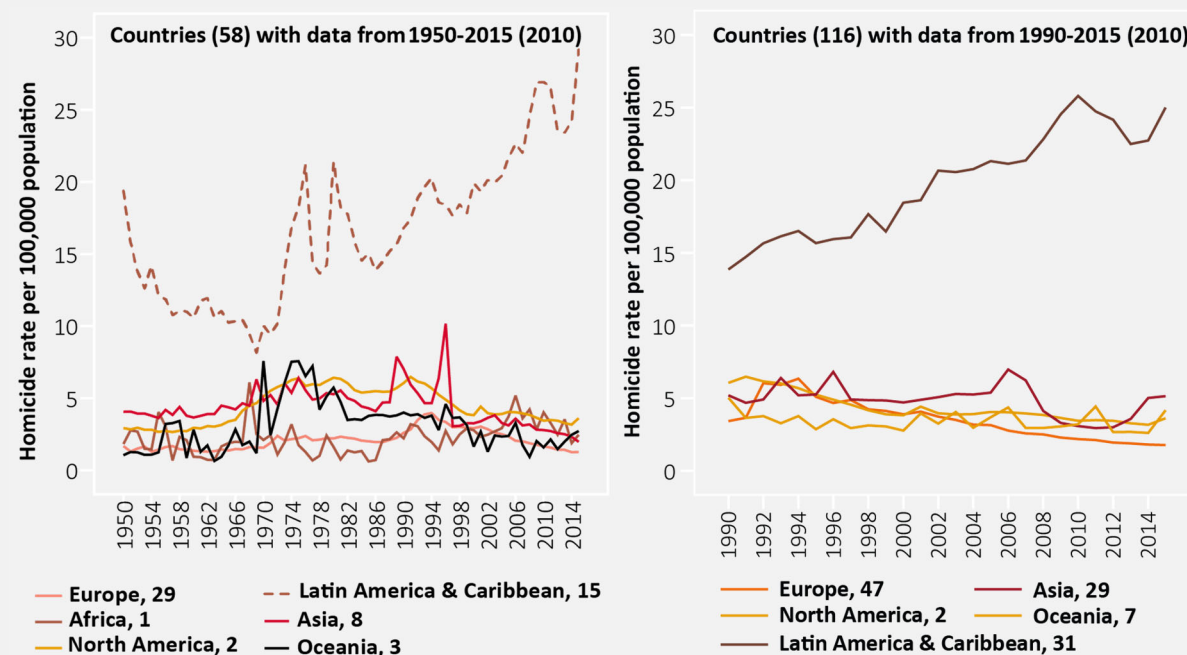
BOX 11: Historical perspective: what the past can teach about reducing homicide. Global homicide trends after the Second World War, 1950–2016.

The analysis of homicide trends over the period 1950–2016 helps explain how criminal violence evolved in the aftermath of the Second World War and whether there were regional differences in trends related to lethal violence during that period.
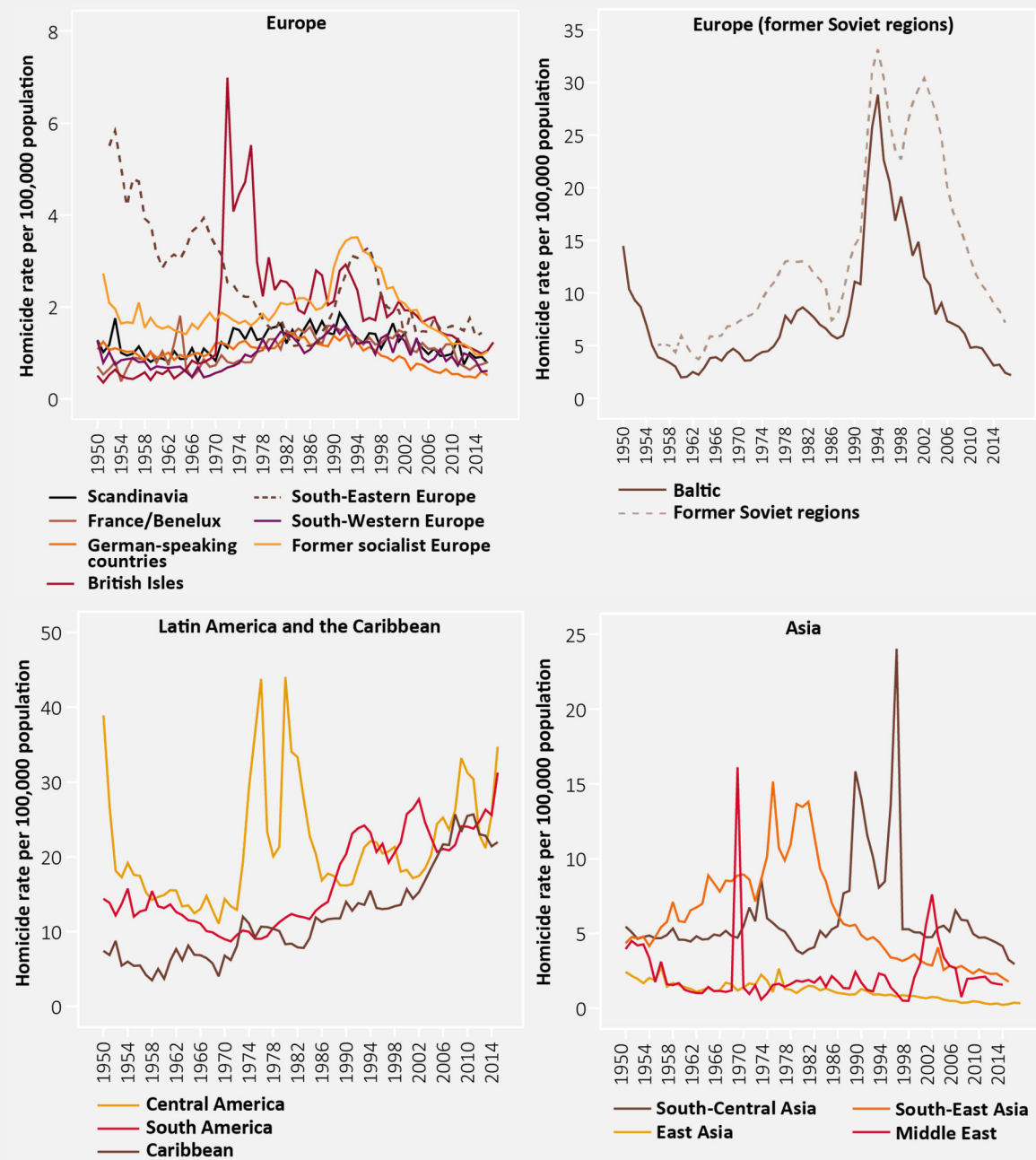
Challenges regarding the comparability of national homicide data become more acute when longer time periods are considered, but trend comparisons are less problematic. The internal comparability of national statistics after the Second World War is relatively good,[a] but the big challenge is the uneven availability of data for this period across regions. Europe, the Americas and South Asia have good coverage, while Africa has poor coverage; trends are therefore only described in the parts of the world for which data are available. This analysis is based on the international comparative homicide database of the Institute of Criminology and Legal Policy at the University of Helsinki. All data have been collected from published public health and criminal justice system sources.[b]

Analysis of the available data indicates that the unweighted global average homicide rate increased in the post-Second World War period, with the increase mainly caused by the trend in Latin America. This is particularly true of the last few decades, when homicide rates have been decreasing in most parts of the world but have been increasing with accelerating speed in Central America and the Caribbean, and more moderately in South America. This observation is, however, partially distorted because of the high quality of Latin American homicide data. Some regions, such as Africa, where the homicide rate may also have increased rapidly, do not possess data that would allow the evaluation of historical trends.

Homicide trends, by region and subregion, 1950–2015 (58 countries) and 1990–2015 (116 countries; Africa not included)

Homicide trends, by subregion, 1950–2015 (58 countries)

Europe

Legend:
- Scandinavia
- France/Benelux
- German-speaking countries
- British Isles
- South-Eastern Europe
- South-Western Europe
- Former socialist Europe

Europe (former Soviet regions)

Legend:
- Baltic
- Former Soviet regions

Latin America and the Caribbean

Legend:
- Central America
- South America
- Caribbean

Asia

Legend:
- South-Central Asia
- East Asia
- South-East Asia
- Middle East

From the 1950s to the 2010s, most European subregions and the non-European English-speaking industrialized countries (Australia, Canada, New Zealand and the United States) had similar trend patterns: a substantial increase in the homicide rate starting between the late-1950s and the second half of the 1960s until the 1990s, followed by a substantial drop in rates from the mid-1990s onwards. The timing and sharpness of the shifts varies, but this general pattern can be observed for all Western countries and Eastern Europe, the subregion that was in the sphere of influence of the former Soviet Union, and which displays a radically different profile in scale and, partly, also in timing.

In Latin America and the Caribbean, there is a rather uniform trend pattern: relatively stable homicide rates between the 1950s and the 1970s, followed by an increase beginning in the 1980s and accelerating in the first decade of the twenty-first century. Many of the countries in that subregion have experienced armed conflicts and civil strife, which have substantially influenced sharp increases in homicide.[c]

It is difficult to describe a regional trend pattern for Asia. The evolution of homicide rates in India resembles the up-and-down pattern of Europe and North America, while Japan and Singapore have experienced a continuous decline in homicide rates from the 1950s onwards. In Hong Kong, China and Thailand, homicide rates peaked in

the 1970s and the early 1980s before they began to decrease. In Thailand, the Indochina wars and their repercussions coincided with the sharpest rate fluctuations and highest homicide rates; similarly, local military conflicts seem to have had a substantial influence on the changes in the homicide rate in Israel, Pakistan and Sri Lanka.

After the 1950s, significant gender differences emerged in homicide rates in almost all regions. The marked difference between the higher male rate and lower female rate observed today in virtually all countries only started to develop after the Second World War. Before that war, the risk of becoming a victim of homicide was roughly the same for males and females, and it is only since then that trends have changed (with the male risk decreasing less than the female risk, or the risk increasing more for males than females).

The most significant deviations from the common patterns coincided with armed conflicts (in France, due to the Algerian war in 1957–1962; in Northern Ireland, due to the Troubles in the 1970s, and in Hungary, due to the 1956 revolution), when male mortality increased much more sharply than female mortality and decreased more sharply after the end of the conflicts. Also, in Australia, Canada, New Zealand and the United States, male and female mortality had similar main trend changes, although the male homicide risk increased more than the female risk.

Trend in homicide victims, by sex, in the United Kingdom of Great Britain and Northern Ireland, 1911–2017
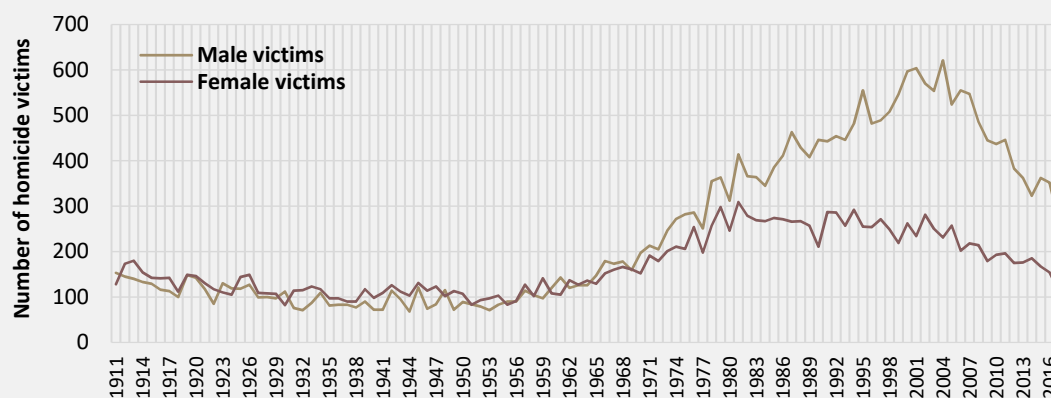
Source: Office for National Statistics (United Kingdom).

Historical data from the United Kingdom suggest that the current pattern of a higher male than female homicide rate only began to emerge in the mid-1970s. This implies that males are now being disproportionately targeted by forms of lethal violence that previously had less of an impact on the population. The upward trend in the male homicide rate may be associated with forms of violence other than that of an interpersonal nature, such as gang- and organized crime-related homicide.

In countries in Asia for which historical data are available, and in Mauritius (Africa), male and female homicide mortality trends were mainly symmetrical and shared similar trend changes. The clearest deviation was to be found in Israel and coincided with the 1969 conflict, when male mortality surged while female mortality declined. In the majority of the countries in Latin America for which data are available from the 1950s onwards, the male homicide rate increased more or decreased less than the female homicide rate between the 1950s and the 2010s. The most notable exceptions to this pattern were El Salvador, Mexico and Nicaragua. In spite of the differences in the speed of the changes, the main trend changes were also shared by male and female homicide mortality in Latin America during the period.[d]

This contribution was provided by Tapio Lappi-Seppälä and Martti Lehti, Institute of Criminology, University of Helsinki. The historical analysis of homicide trends by sex was provided by the UK Home Office.

[a] Aebi, M. F. and Linde, A., "Crime trends in Western Europe according to official statistics from 1990 to 2007", in The International Crime Drop: New Directions in Research (New York, Palgrave Macmillan, 2012); Von Hofer, H. and Lappi-Seppälä, T., "The development of crime in light of Finnish and Swedish criminal justice statistics, ca. 1750–2010", European Journal of Criminology, vol. 11, No. 2 (March 2014), pp. 169–194.
[b] Lappi-Seppälä, T. and Lehti, M., "Cross-comparative perspectives on global homicide trends", *Crime and Justice*, vol. 43, No. 1 (2014), pp. 135–230.
[c] Ibid.
[d] Lappi-Seppälä, T. and Lehti, M., "Global homicide mortality trends by gender 1950–2010", in Women and Children as Victims and Offenders: Background, Prevention, Reintegration – Suggestions for Succeeding Generations (New York, Springer, 2016).

The subnational picture

Based on national-level data, homicide data presented for the global, regional and subregional levels show the "big picture" of homicidal violence, but they also disguise important differences in patterns and trends at the subnational and local levels. The more detailed the picture, the more useful the data for guiding evidence-based strategies for preventing and countering deadly violence. This is especially so when available subnational data show changes over time in the spatial pattern of homicide rates. Recent data at the subnational level are available only for a limited number of countries, but existing data provide important insights that can also serve as a model for data collection in other countries.

In South America, subnational homicide trends can be traced in Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Peru and Uruguay. At the national level, most of those countries experienced decreases in their homicide rates in the period 2010–2017, while Brazil, Peru and Uruguay faced substantial increases of around a third each. However, map 2 shows how national borders do not define homicide distribution, as subnational entities may display contradicting trends. In Argentina, for example, most provinces saw a decrease in their homicide rates between 2008 and 2017, with the exception of some provinces in the north of the country that saw increases.

Map 2:   **Homicide rates at the subnational level, Americas, 2012 (or latest year available 2008-2011) and 2017**
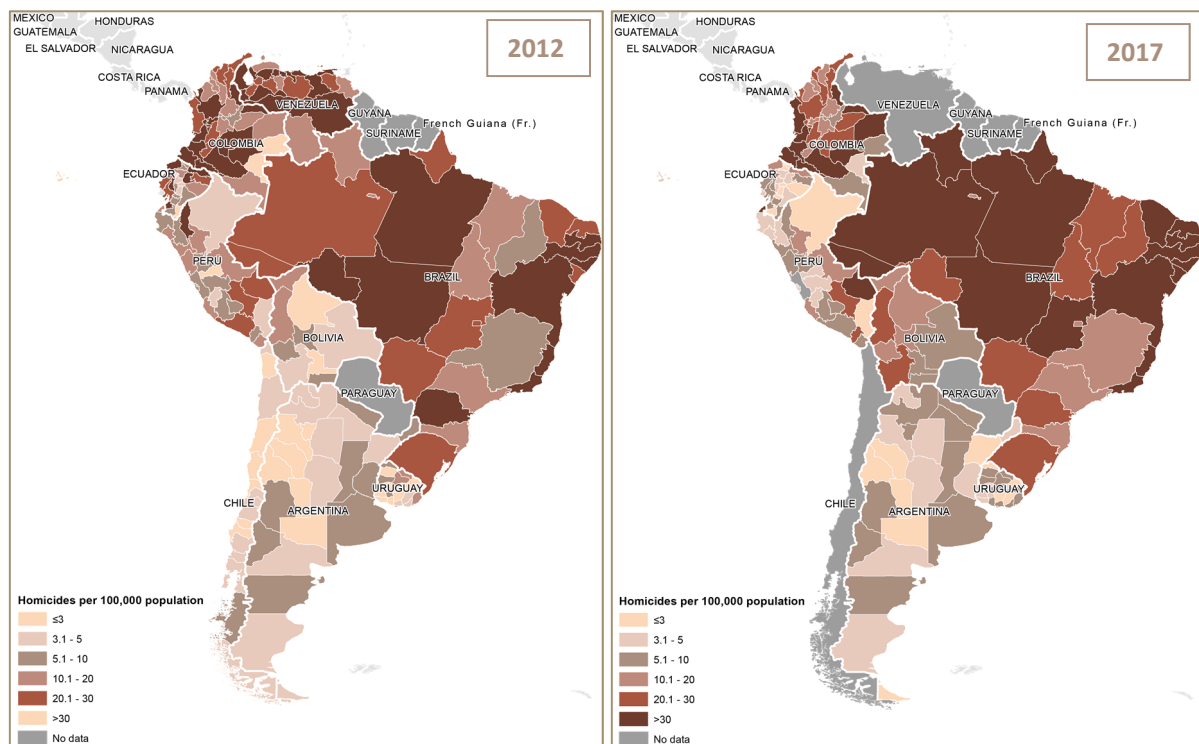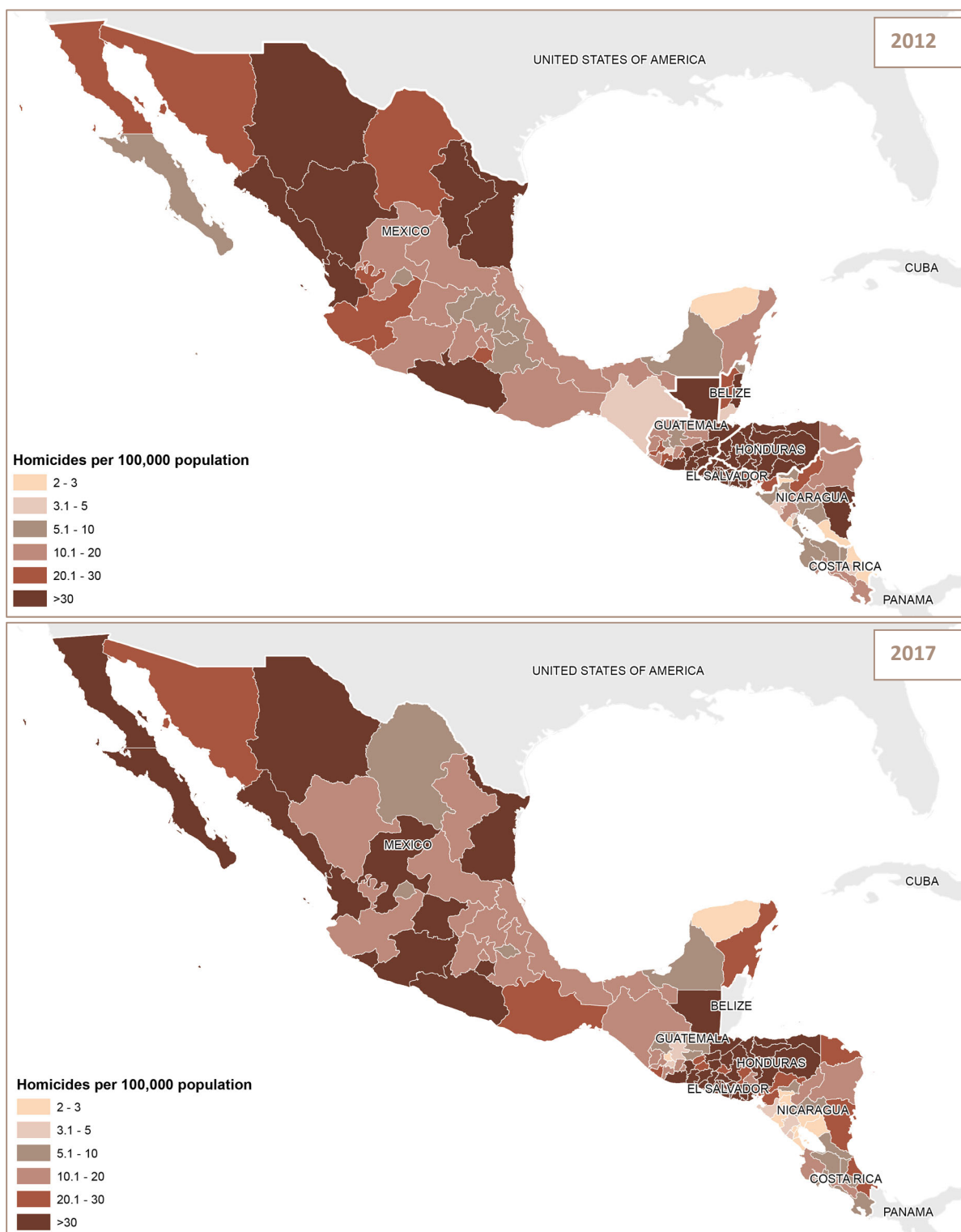

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).
Source: UNODC homicide statistics.

In Central America, homicide rates decreased from very high levels in most countries from 2010 onwards, with the exception of Costa Rica and Mexico, where there was an increase. In Mexico, high homicide rates spread through the central states west of the capital during the period, while they decreased from very high levels in some of the country's northern states.

Map 3:   Homicide rates at the subnational level, Central America, 2012 (or latest available year 2010–2011) and 2017
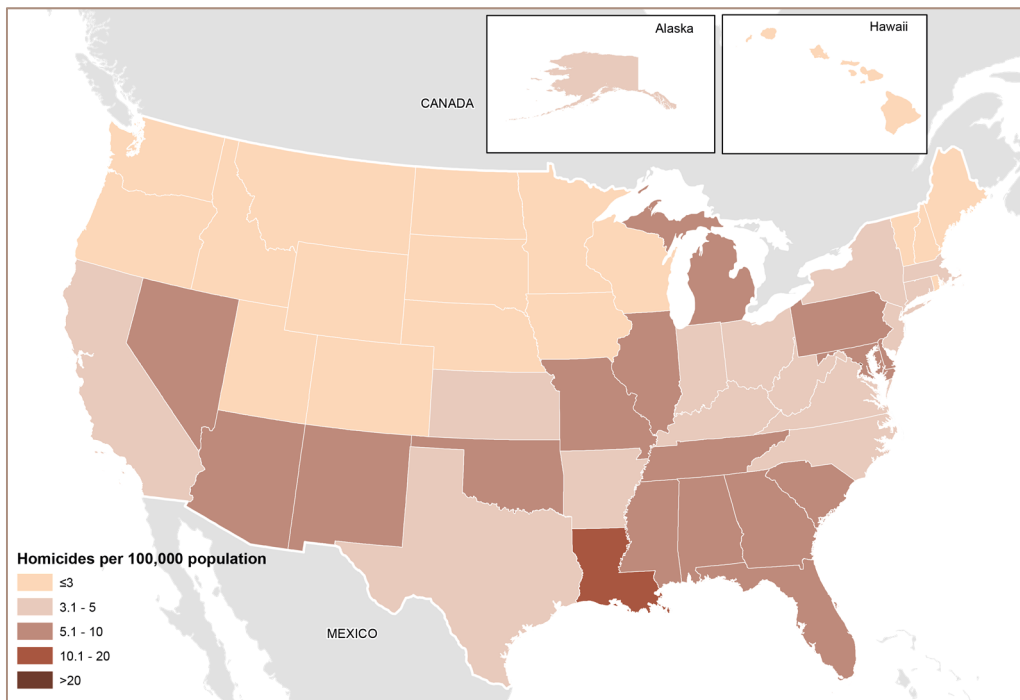

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

In the United States, the homicide rate increased by 14 per cent overall over the period 2010–2017, following several decades of decline. At the subnational level, homicide rates increased across much of the central United States, while the few states where they decreased are mainly in the north-east of the country.
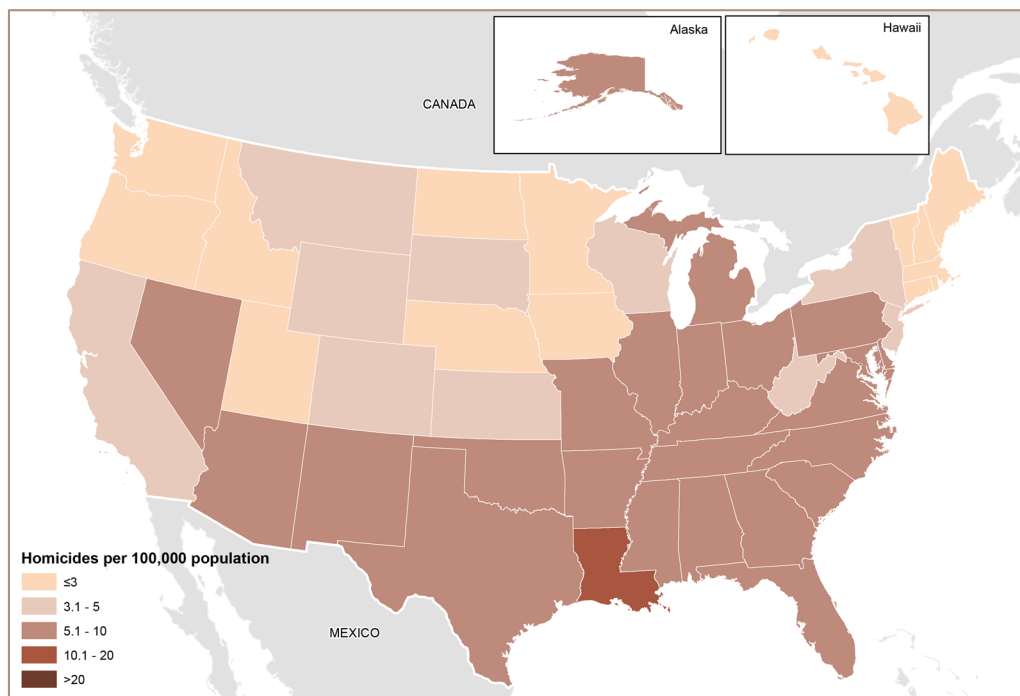
Map 4:   **Homicide rates at the subnational level, United States, 2010**

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

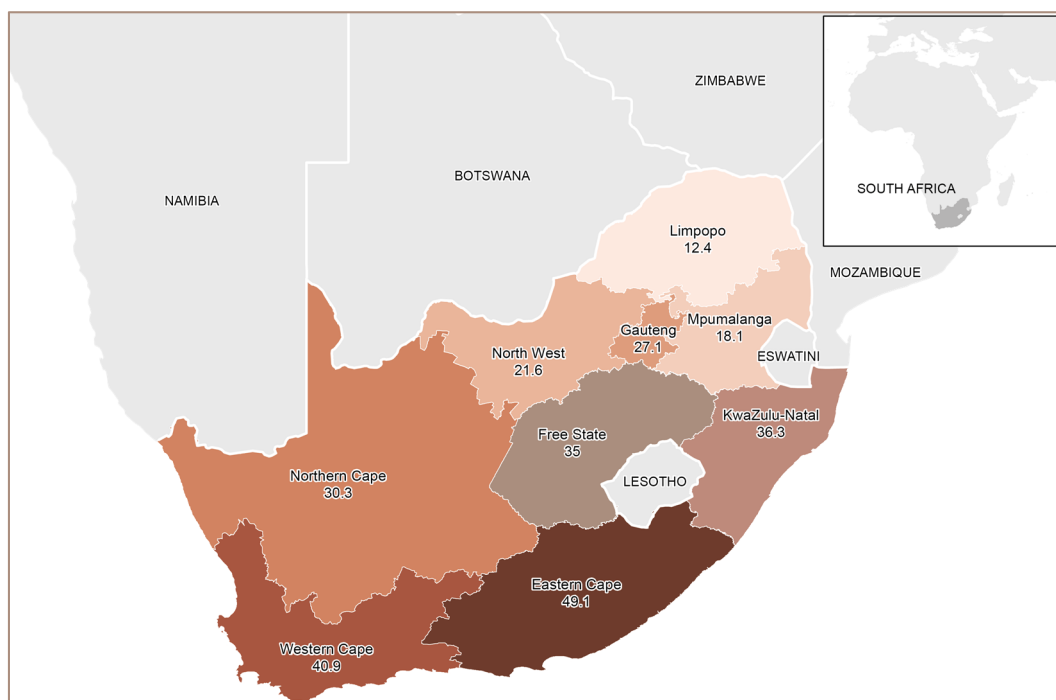**Map 5:**   **Homicide rates at the subnational level, United States, 2016**

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source UNODC homicide statistics.

In South Africa, the homicide rate increased by over 10 per cent over the period 2010–2016, with the homicide rate remaining highest in the south. But the strong increase occurred in the Western and Eastern Cape provinces (the two southernmost provinces), whereas the neighbouring Northern Cape province saw only a slight decrease in the homicide rate.
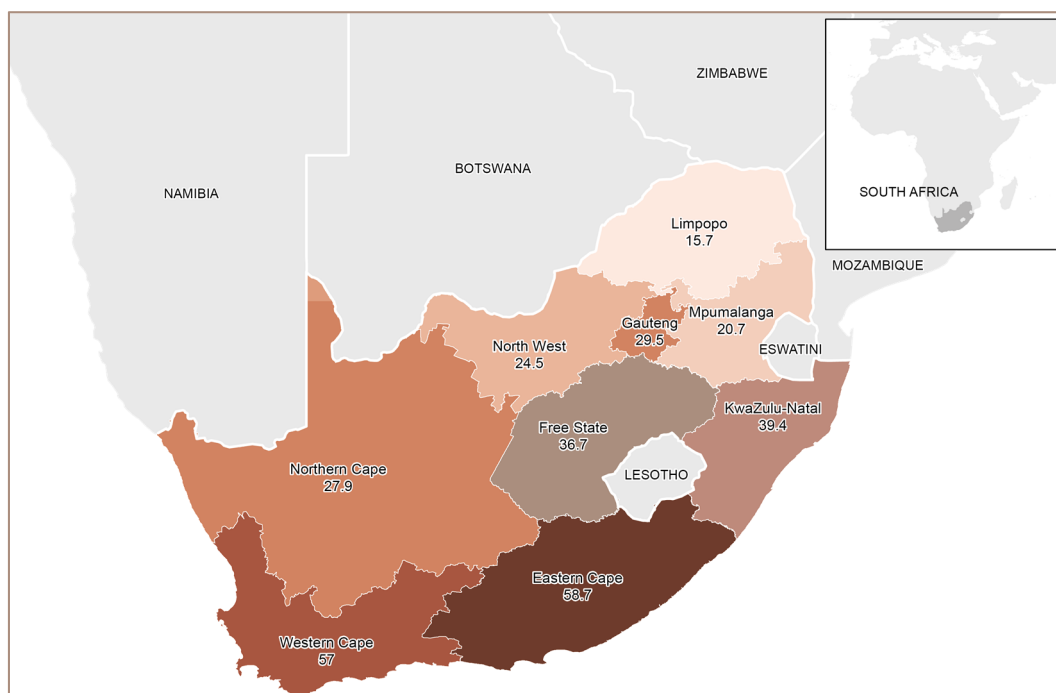
Map 6: **Homicide rates at the subnational level, South Africa, 2010**

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

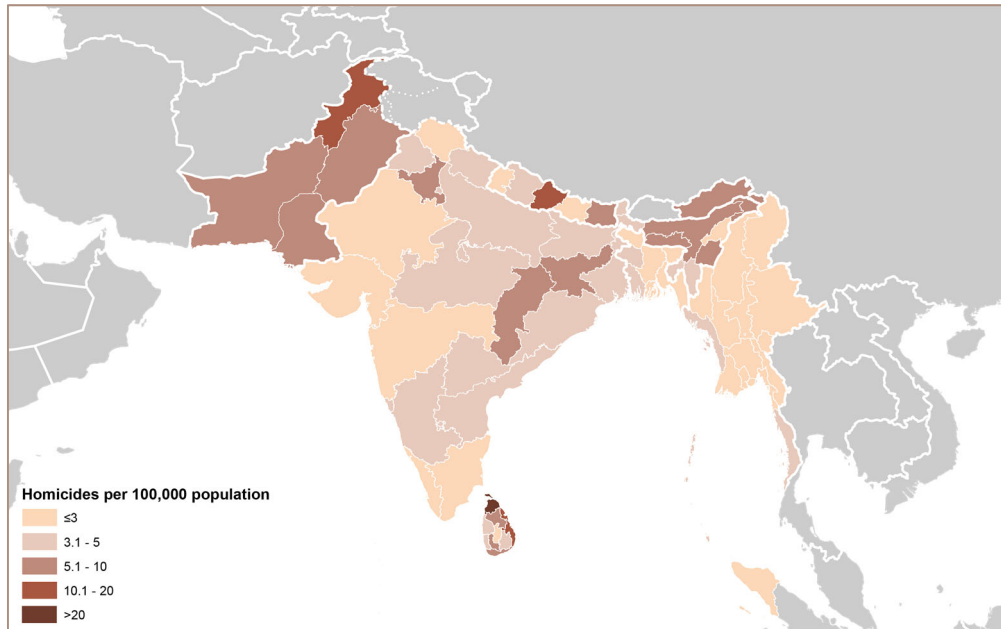**Map 7:** **Homicide rates at the subnational level, South Africa, 2017**

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

In India, the overall homicide rate decreased by 10 per cent over the period 2009–2015, from 3.8 to 3.4 per 100,000 population. At the same time, the spatial variation in the homicide rate shifted noticeably, with some states in the north registering an increase in the homicide rate, while some large states in the south (e.g. Andhra Pradesh) experienced a decrease.

In Sri Lanka, the homicide rate peaked around 2006–2008 and then decreased by 75 per cent in the years up to 2017. This decrease was mostly related to the end of the violent conflict with Tamil separatists in the north of the country, as can also been seen in the sharp decrease in the homicide rate in the northernmost state.

Map 8:   **Homicide rates at the subnational level, in selected countries in South-Eastern Asia and Southern Asia in 2012 (or latest available year in 2010-2011)**

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
Source: UNODC homicide statistics.

Map 9:   **Homicide rates at the subnational level, in selected countries in South-Eastern Asia and Southern Asia in 2017**
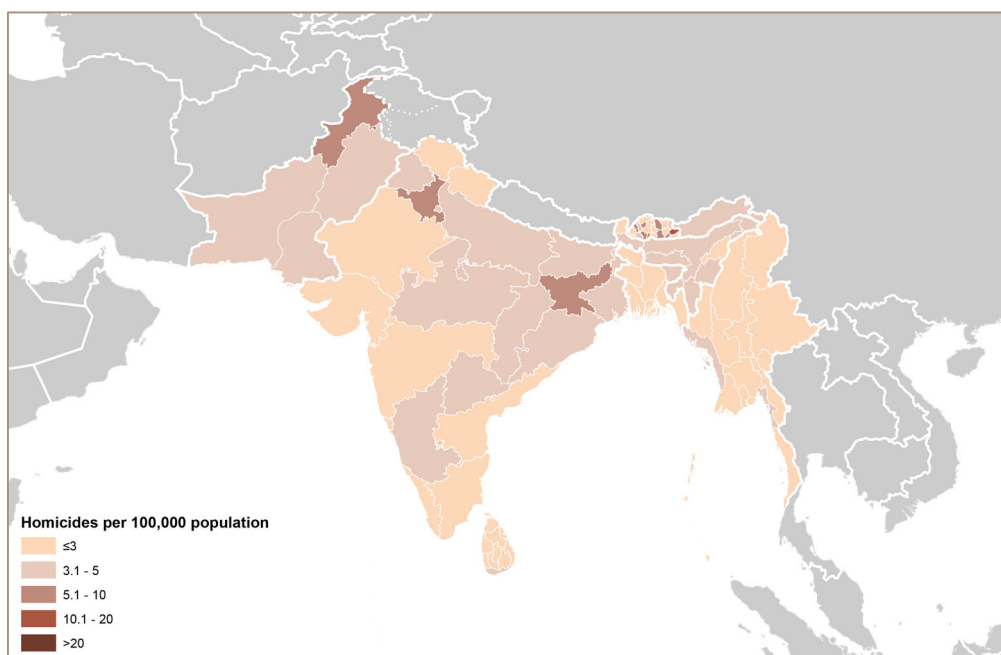
The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir

agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
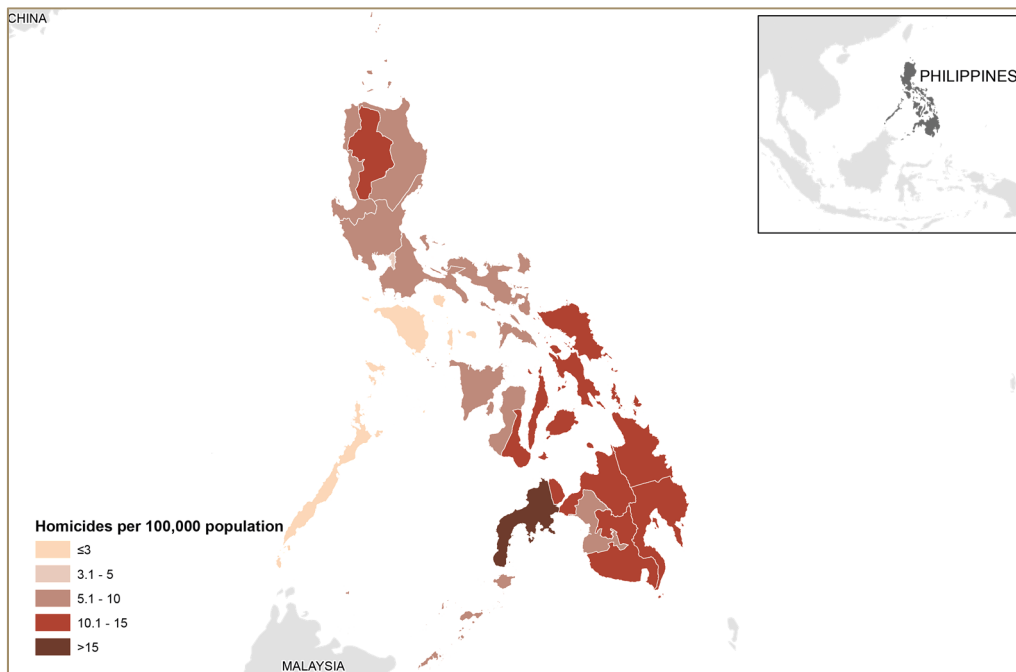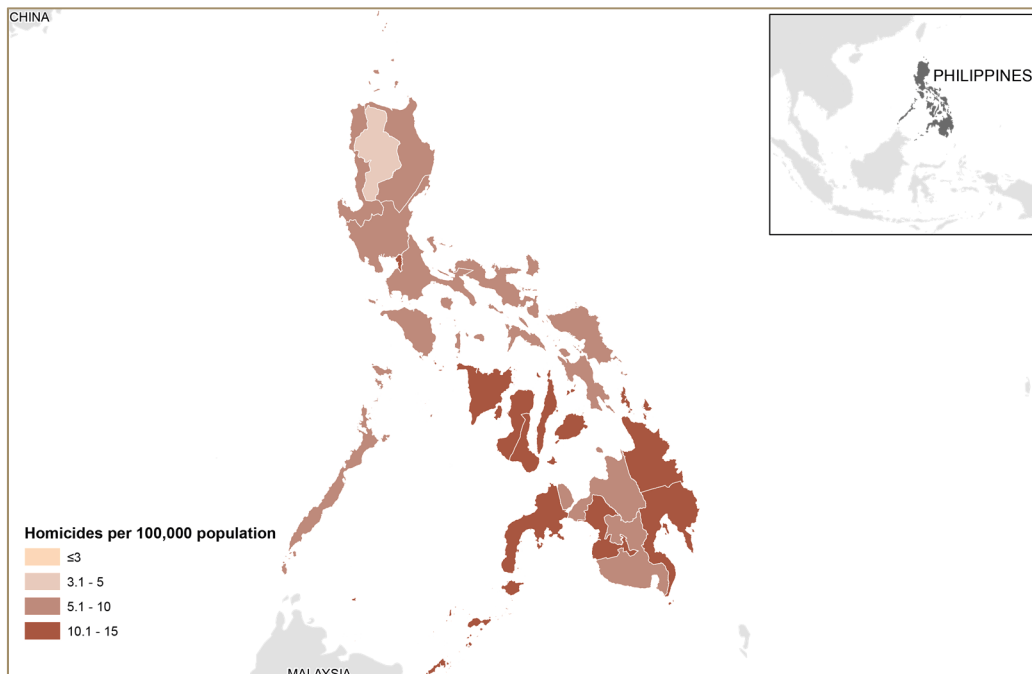Source: UNODC homicide statistics.

Map 10:   Homicide rates at the subnational level, Philippines, 2010

The boundaries and names show n and the designations u sed on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

Map 11:   Homicide rates at the subnational level, Philippines, 2017

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

Urban homicide patterns

Urban development has an impact on homicide, but there is no clear global pattern of how this relationship works.[43] More than half of the global population now lives in urban areas. By 2050, that share will have risen to two thirds[44] – so understanding criminal violence at the city level is ever more important. Differences in the distribution of urban and non-urban violence and their trends are sometimes a reflection of the type of violence and of the characteristics of cities. Certain types of violence, such as that related to access to resources (e.g. land and cattle disputes), predominately occur in rural areas, while gang violence, for example, typically affects urban areas. Organized crime activities may affect both urban and rural areas, depending on the nature of the illicit market and the nature of the organized crime groups involved. Since some cities are more resilient to violence than others, conditions conducive to homicidal violence may translate into different outcomes depending on the city.

The analysis presented below describes the differences between national and city homicide rates, in terms of levels and trends, in an attempt to establish whether there is a consistent pattern of differences between urban and rural violence. The available data confirm the heterogeneity of situations, although global and regional aggregates do not show major differences between city and national homicide rates.

Big cities typically account for a large share of the population of a country and what happens in them therefore has a big impact on the situation at the national level. It is thus not surprising that countries with comparatively higher national homicide rates also contain cities with higher homicide rates.

Reliable data were collected by UNODC for 256 cities in 140 countries worldwide[45] (figure 13).[46] Of the 30 cities with the highest homicide rates in the available data, 26 are in the Americas, 3 are in Africa and 1 is in (Western) Asia. The comparison of city-level homicide data with the corresponding national-level data reveals differences in homicide rates between urban and rural areas. Some cities may experience a considerably higher level of homicidal violence than the rest of their country, while in other cases the level of violence may be higher outside the major cities. For example: the city of San Salvador in El Salvador has a homicide rate of 193 versus a national rate of 83 per 100,000 population; La Ceiba in Honduras has a homicide rate of 131 versus a national rate of 57 per 100,000 population; and Caracas in the Bolivarian Republic of Venezuela has a homicide rate of 122 versus a national rate of 56 per 100,000 population. By contrast, Bogotá in Colombia has a homicide rate of 17, which is below the national rate of 26 per 100,000 population.

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[43]   Urban violence is also discussed in booklet 4 of this study.

[44]   United Nations, "Sustainable Development Goal 11", Sustainable Development Goals Knowledge Platform. Available at: https://sustainabledevelopment.un.org/sdg11 (accessed on 12 June 2019).

[45]   UNODC homicide statistics 2019. The 256 cities represent the largest three cities in each of the 140 countries for which data are available (for some countries data on only the first largest or the first two largest cities are available). The combined city population of those 256 cities was 458 million inhabitants in 2016, while the combined population of the 140 countries in the sample was 4.8 billion.

[46]   The correlation coefficient R^2 is 0.79, which could be interpreted in the sense that the city rate can "explain" over three quarters of the national homicide rate.

Figure 13: **City homicide rates versus national homicide rates, by region, 2016 or latest available year**
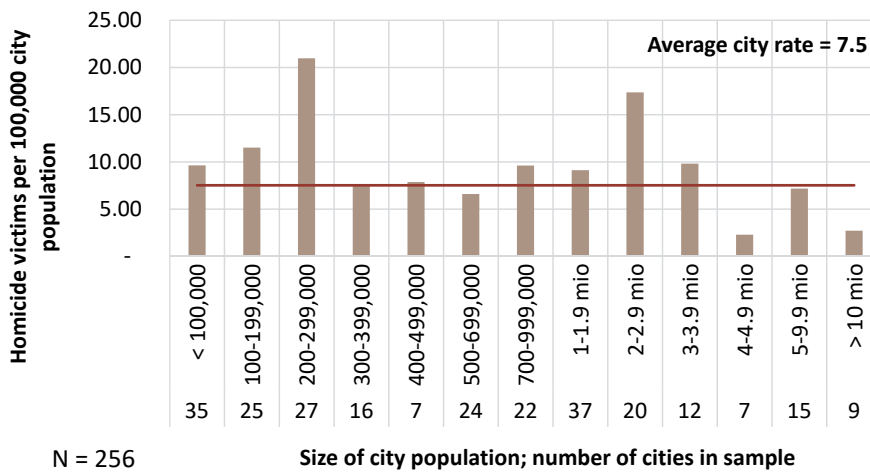

N = 256
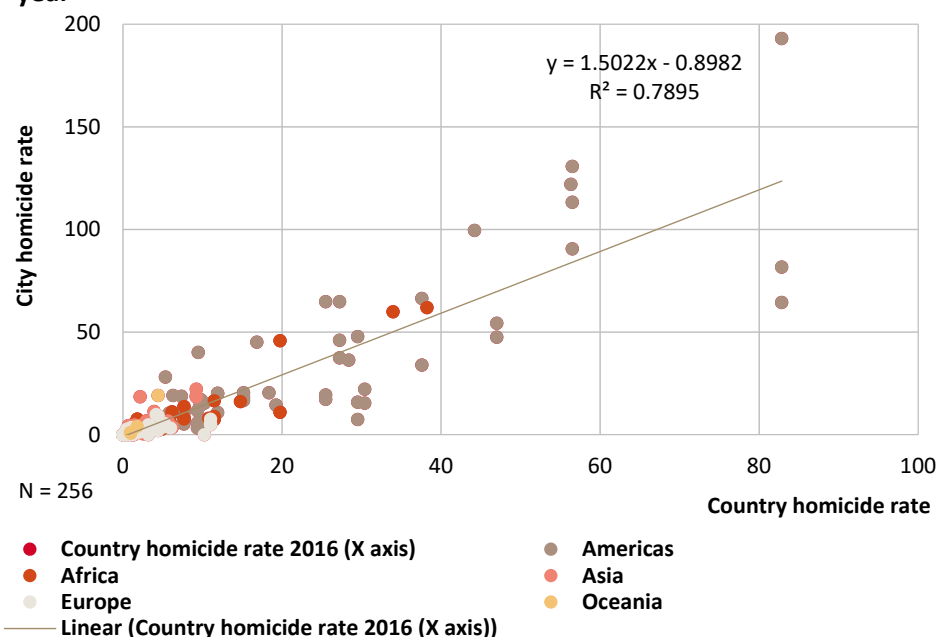
Source: UNODC homicide statistics.

Note: Points represent city homicide rate in relation to the country homicide rate. Colours represent continent of city/country.

While some smaller cities can have very high homicide rates, larger cities tend to have homicide rates that are more closely in line with national homicide rates. Notable exceptions to this general pattern are found mostly in Latin America and the Caribbean, where there are both medium-sized cities that have homicide rates far above the national average (e.g. San Pedro Sula (Honduras): 113; Kingston (Jamaica): 54) and cities of over 1 million inhabitants with above-average homicide rates (e.g. Tegucigalpa (Honduras): 91; Guatemala City: 65; Cali (Colombia): 65). At the other end of the spectrum, there are several large metropolises, particularly in Asia, with populations above 10 million that have homicide rates below 1 per 100,000 population – rates that are even lower than the national average (e.g. Tokyo: 0.3; Jakarta: 0.3; Seoul: 0.67; Mumbai (India): 0.9).

At the global level (figure 14) there is thus no linear association between city size and homicide rate. Among the cities for which data could be located, medium-sized cities of between 200,000 and 300,000 inhabitants and cities of between 2 and 3 million inhabitants have the highest homicide rates (around 21 and 17 per 100,000, respectively), while the 9 largest cities, which have populations of over 10 million inhabitants, have an average homicide rate of 2.7 per 100,000 population.[47]

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[47] Of the nine cities with a population over 10 million, five are in Asia and have homicide rates that are at or below the level of the corresponding national homicide rate.

Figure 14: Homicide rate in cities, by size of population, 2016 or latest available year

Average city rate = 7.5

Size of city population	< 100,000	100-199,000	200-299,000	300-399,000	400-499,000	500-699,000	700-999,000	1-1.9 mio	2-2.9 mio	3-3.9 mio	4-4.9 mio	5-9.9 mio	>10 mio
number of cities in sample	35	25	27	16	7	24	22	37	20	12	7	15	9

N = 256

Size of city population; number of cities in sample

Source: UNODC homicide statistics.
Note: The bars represent population-weighted homicide rates of cities with a certain population size noted below, while the line represents the population-weighted average homicide rate of all cities in the sample.

Map 12: Homicide rate in cities in Central America and South America, by population size, 2016 or latest available year
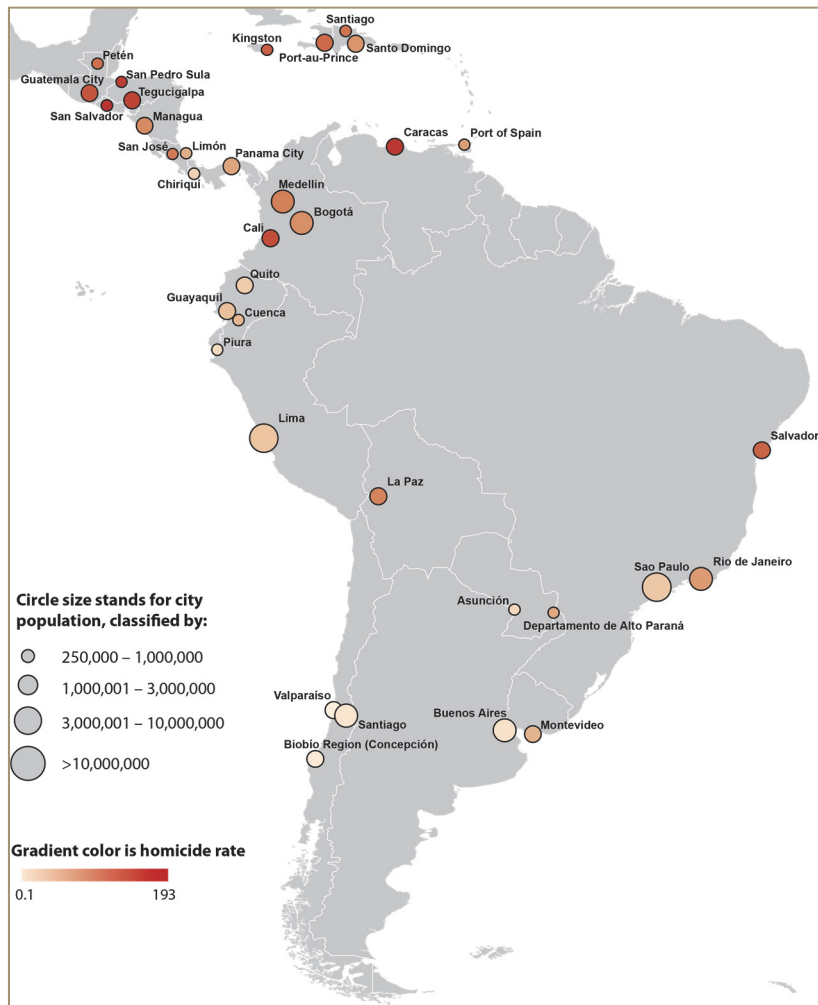

Cities with a population smaller than 250,000 are not displayed on the map. The boundaries and names shown and the designation used on this map do not imply official endorsement or acceptance by the United Nations.
Source: UNODC homicide statistics.

On average, the aggregated city-level homicide rate is not very different from the homicide rate of the 140 countries where the cities are located (only 18 per cent higher), with some regional variations.

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Figure 15: City homicide rate versus national homicide rate in countries with available data (population-weighted averages), by region, 2016 or latest available year
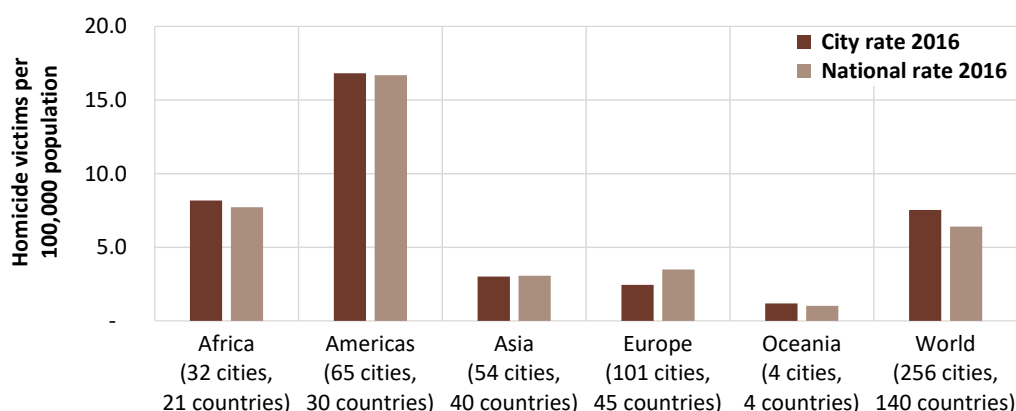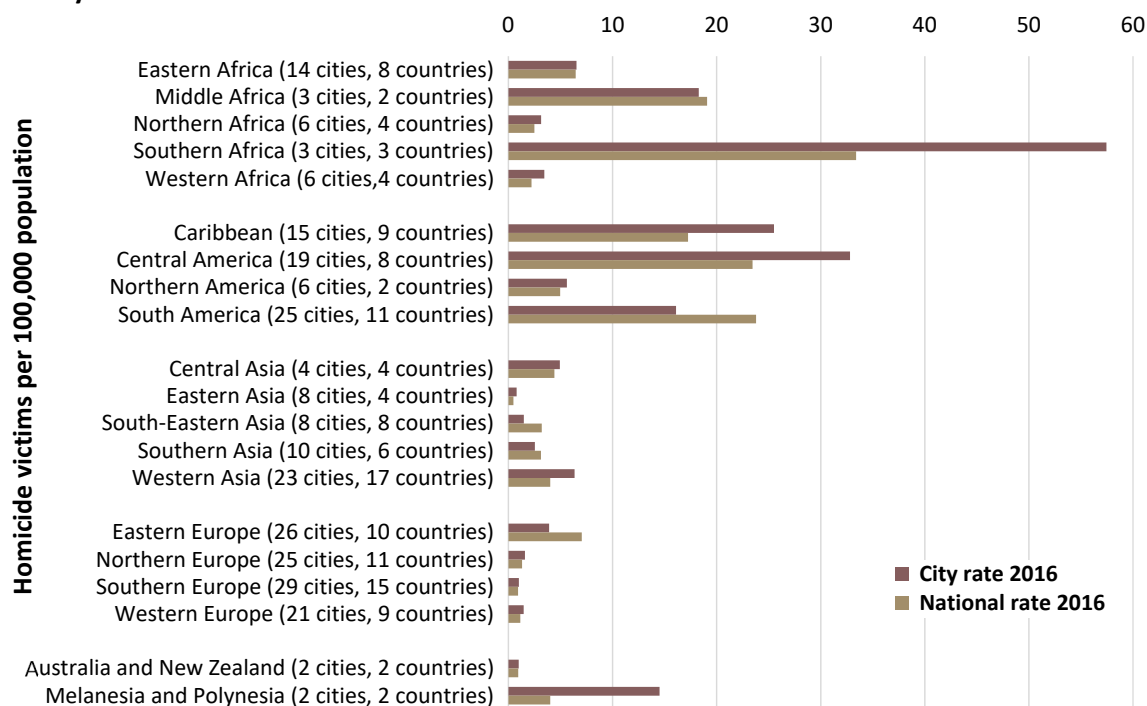

Source: UNODC homicide statistics.
Note: The bars represent population weighted homicide rates of cities and countries belonging to the five regions.

A more nuanced picture emerges when looking at homicide rates at the subregional level. For example, in Africa, only three cities in Southern Africa have much higher homicide rates than the corresponding national averages. In other African subregions, homicide rates in rural areas are often higher than, or the same as, in urban areas. In the Americas, city homicide rates are considerably higher than the national average in Central America and the Caribbean, while rapidly decreasing homicide rates in several cities meant that by 2016 they were already much lower than national homicide rates in South America. Cities in Western Asia and Central Asia have homicide rates above the national average, but this is not the case elsewhere in Asia. In Europe, city rates are slightly above the national average in all subregions, with the exception of Eastern Europe where national homicide rates are almost twice as high as city rates (figure 16).

Figure 16: City homicide rate versus national homicide rate, by subregion, 2016 or latest available year

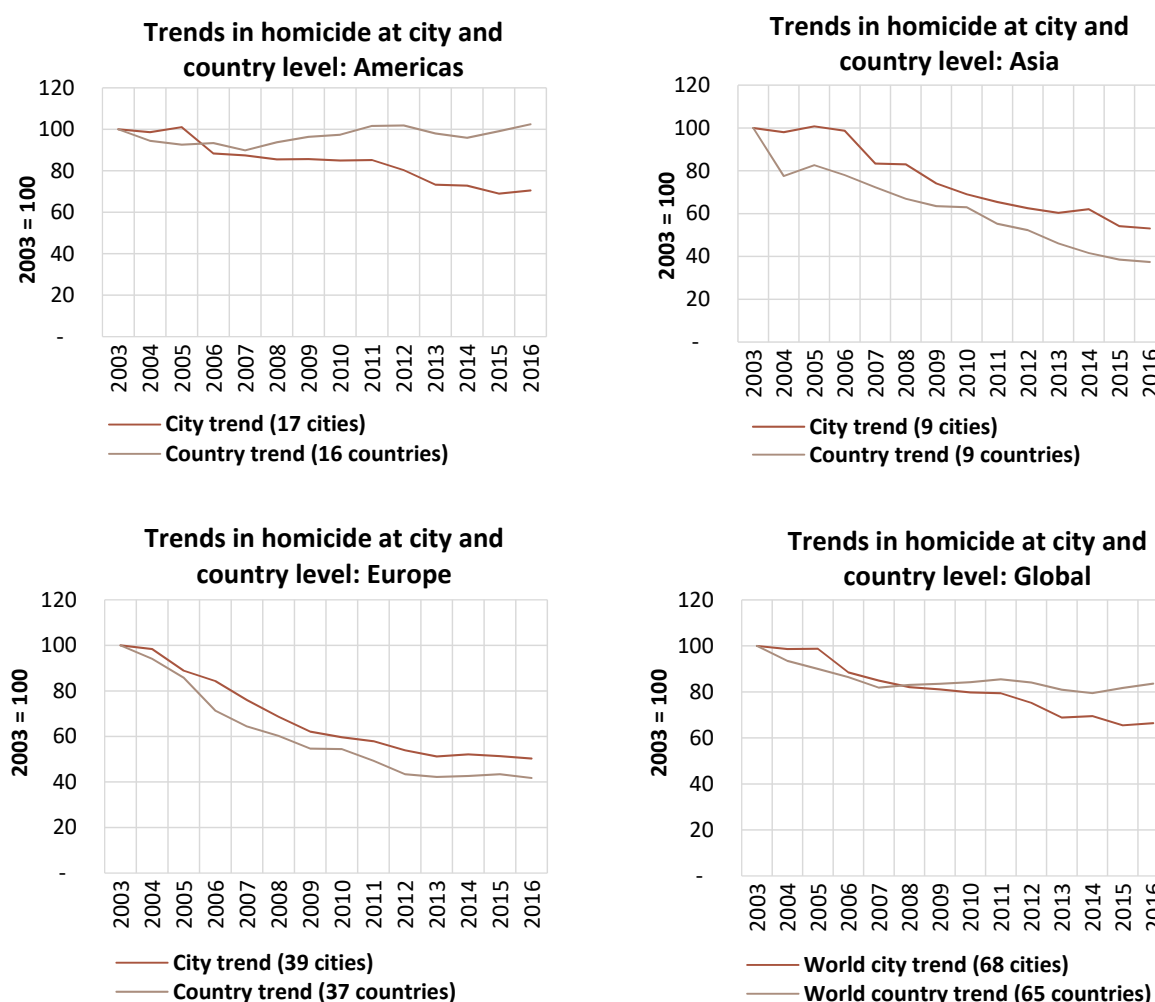Source: UNODC homicide statistics.
Note: The bars represent population-weighted homicide rates of cities and countries belonging to each of the subregions.

City homicide trends

Reliable data on trends in homicide over the period 2003–2016 were available for 68 cities in 66 countries.[48] While a strong correlation between urban and rural homicide trends is not often visible at the national level because of frequent outliers in the form of small and medium cities, a strong association between urban and rural homicide trends is clearly visible at the regional level for the period 2003–2016.

As shown in figure 17, the global trend in homicide in the 68 cities with available data showed a 34 per cent decrease over the period, which was more than double that in the 66 countries where the cities are located. The discrepancy between the city homicide rate and the national rate at the global level is entirely due to the homicide rate in cities in the Americas, as the regional trends in homicide at the city level in the other regions closely mirror trends in the countries where the cities are located. In the Americas, the homicide rate in the 17 largest cities located in the 17 countries analysed declined by an average of 29 per cent from 2003 to 2016, while the national homicide rate in the same countries increased by 2 per cent. This suggests that sharp increases in homicidal violence in some countries in the Americas have mostly affected rural areas.[49]

Figure 17: **Homicide trends in cities and countries, by region, 2003–2016**

Source: UNODC homicide statistics.

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[48] The 68 cities in Africa, the Americas, Asia and Europe represent the largest cities in each of the 66 countries, plus two additional cities. The combined population of these 66 cities was 170 million inhabitants in 2016, while the combined population of the 66 countries was 1.8 billion.

[49] Booklet 3 of this study analyses the changes that have occurred in some countries in Central America as a result of organized crime activities.

The analysis of homicide trends at the subregional level can be further refined with a larger sample of countries and cities when the period under study is shortened to 8 from 14 years. Over this more recent period, the decrease in homicide has also been more pronounced in the 130 cities for which data are available than in the 87 countries in which the cities are located (–16 per cent versus only –2 per cent at the national level). [50] The correlation of city and national trends in some subregions is remarkable, as are some notable exceptions where city trends deviate sharply from subregional trends: the sharp decreases in homicide rates in cities in Central America, for example, mostly reflect decreases from extremely high levels (such as from 129 to 74 per 100,000 population in Guatemala City) and are mirrored in decreases at the national level, whereas the substantial decreases in homicide rates in cities in South America occurred at the same time as national homicide rates were increasing. Homicide rates also decreased substantially in cities in East Africa – a trend that was not mirrored in rural areas, which could be a reflection of increasing conflict over farming and grazing rights in such areas. [51]

In most subregions and cities in Asia there have been decreases in homicide rates from relatively low levels, except in Western Asia, where sharp increases in homicide rates at both the city and country levels reflect a greater number of homicides recorded in Iraq. Increasing homicide rates in cities and countries in North America reflect a recent surge in homicides in some cities in the United States (Chicago in particular). The upward homicide trend in North Africa is based on just two cities and countries (Algiers, Algeria and Casablanca, Morocco). Finally, the homicide rates in rural and urban areas in Western Europe are rapidly converging at moderate levels: although the homicide rate in 14 cities in Western Europe fell from 2.0 to 1.5 per 100,000 population over the period 2009–2016, the overall national rate climbed from 1.1 to 1.25 per 100,000 population.

Figure 18: Homicide trends in cities and countries, by subregion, 2009–2016
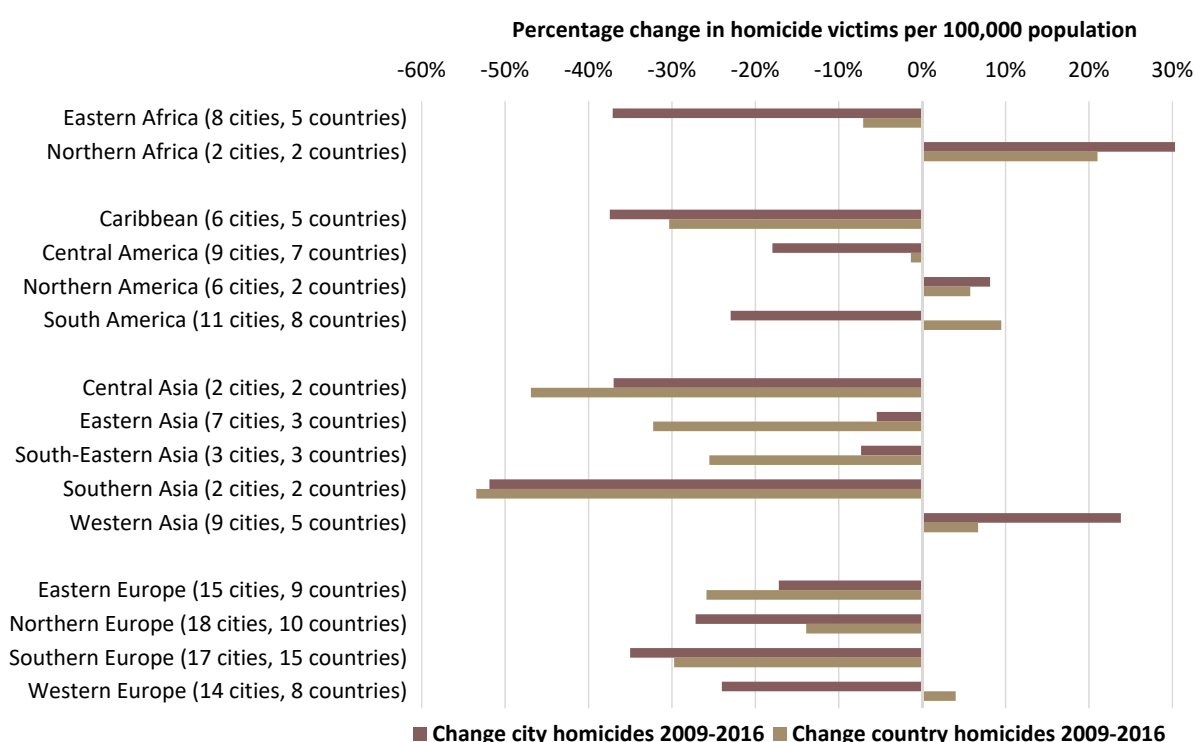
Source: UNODC homicide statistics.

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50   The 130 cities represent the largest three cities in each of the 87 countries for which data are available (in some countries data on only the largest city or the two largest cities are available). The combined city population of the 130 cities was 285 million in 2016, while the combined population of the 87 countries was 2.4 billion.

51   Baca, M. W., "My land, not your land: farmer-herder wars in the Sahel", *Foreign Affairs*, 21 August 2015.

BOX 12: The combination of socioeconomic factors and community policing driving different homicide trends in three cities in the United States: New York, Los Angeles and Chicago

The comparison of different trends experienced in the three largest cities in the United States provides an example of factors that can contribute to increasing or decreasing trends in homicidal violence in urban settings. For some decades now, American criminologists have been arguing that homicide is related to poverty and income inequality[a] with some studies emphasizing that relative poverty (or economic inequality), rather than absolute poverty, can explain variations in criminal activity across cities and their neighbourhoods.[b] In urban areas, other factors, such as drug markets and the presence of gangs may influence fluctuations in homicide trends, particularly in the most populous cities.[d]

While a public opinion poll from 2016 indicated that 53 per cent of people in the United States worried a great deal about crime and violence – the highest percentage measured since 2001[e] – average homicidal violence in the United States has been declining since 2001; despite an increase as of 2014, the homicide rate in 2017 was still substantially lower than in 2001. The mismatch between perception and reality may be the result of media reports and factors that produce social anxiety, but also of conflicting trends that have affected different parts of the United States. The analysis of homicide trends in Chicago, Los Angeles and New York illustrate these different dynamics.

National homicide rate, United States, 2001–2017
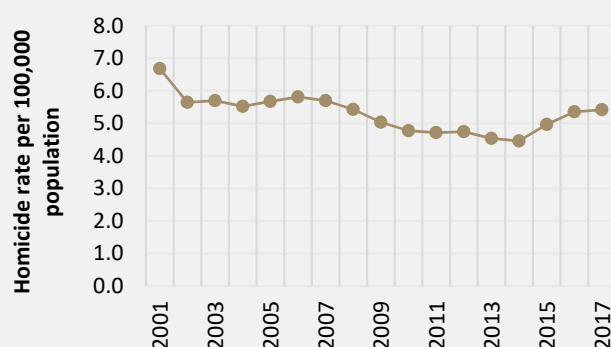
Source: UNODC homicide statistics.

Chicago, Los Angeles and New York experienced high homicide rates before the 1990s, but by the beginning of that decade the patterns started to diverge, with homicidal violence decreasing at a faster rate in New York and Los Angeles than in Chicago. While in the last few years the level of homicide has stabilized in New York and Los Angeles at rates below 5 and 10 per 100,000 population, respectively, the homicide rate in Chicago continues to experience dramatic fluctuations. Chicago's substantially higher level of gun violence accounted for the large difference between the city's homicide rate and those of New York and Los Angeles in 2017.

Factors that drove the high level of violence in the 1990s in the three cities have both common and distinct characteristics. In New York, social factors such as the "crack" cocaine epidemic and socioeconomic conditions related to poverty, unemployment and homelessness caused by reduced welfare spending, were the main drivers of the high level of violence. Poverty and marginalization, coupled with a lucrative illicit economy driven by an expanding cocaine market, and the availability of firearms, led to a 63 per cent increase in the homicide rate between 1985 and 1990.[f] In Chicago and Los Angeles, gang violence was the main factor. Analysis of National Youth Gang Surveys carried out in the United States in 1996, 1997 and 1998 showed that Los Angeles and Chicago were the cities with the highest rates of gang-related homicide at that time.[c] The increased presence of gang violence in Chicago started to be recorded by the Chicago Police Department in the late 1970s, when an upward trend in gang-related homicide also became apparent.[k] In the first half of the 1990s, law enforcement agencies classified 35 to 45 per cent of all homicides perpetrated in Los Angeles County as gang-related.[q]

Different policies implemented to reduce violence have yielded different results in the three cities. In New York, rather than a single policy, a combination of different factors and programmes ("carrots, sticks and broken windows"), together with the Neighbouring Police approach adopted more recently by the New York police,

have probably contributed to the drastic reduction in violence and the declining trend still being experienced today. The "carrots" contributing to declining homicide rates include the economic boom, which reduced unemployment by 39 per cent between 1992 and 1999. The "sticks" and the "broken windows" policies relate to the "get-tough" policy, which increased the size of the police force by 35 per cent during the 1990s and targeted lower-level crimes.g The Neighbouring Policing adopted by the New York Police Department (NYPD) is "a comprehensive crime-fighting strategy built on improved communication and collaboration between local police officers and community residents". According to NYPD, Neighborhood Policing greatly increases connectivity and engagement with the community and actually improves rather than diminishes the crime-fighting capabilities of NYPD.[h]

A similar combination of factors has driven homicide rates down in Los Angeles. Socioeconomic development, a stronger economy and a smaller youth population, together with stricter sentencing laws, an increase in the size of the police force and increased community-police problem solving efforts have reduced the level of violence in the city.[i] The Community Policing approach adopted by the Los Angeles Police Department (LAPD) "is based upon a partnership between the police and the community whereby the police and the community share responsibility for identifying, reducing, eliminating and preventing problems that impact community safety and order. By working together, the police and the community can reduce the fear and incidence of crime and improve the quality of life in neighborhoods citywide".[j] From 1991 to 2009, public approval of LAPD increased from 40 to almost 80 per cent. Over the same period, the homicide rate in Los Angeles decreased from almost 30 to under 10 per 100,000.[u]

Crime prevention interventions aimed at preventing youth involvement in gangs, have also contributed to the decline of homicide in Los Angeles since adolescent victims of homicide were more likely to have been killed in gang-related violence than adult victims.[r] The City of Los Angeles Mayor's Office of Gang Reduction and Youth Development was established in 2007 to tackle gang violence throughout the city. The strategy started to focus on community-based service provision in 2009, seeking to strengthen the resilience of youth, families and communities to the influence of gangs. The office's interventions were aimed at reducing gang retaliations in the context of homicide and aggravated assault. An evaluation report showed that the Office's interventions did have a significant impact on reducing retaliations; however, the impact was not uniformly distributed across the area, since the likelihood of retaliation for gang-related violent crime varied across neighbourhoods.[t]

In Chicago, police interventions that tackled the high level of lethal violence associated with gangs placed significant pressure both on those groups and on drug dealers. This, however, failed to dismantle the gangs, many of which had existed for several decades, and instead fragmented them. As a result, violent outbursts that had previously been perpetrated between rival gangs started to occur within the same gang.[l]

The level of investments and their effectiveness in addressing the socioeconomic root causes of homicide and strengthened law enforcement in terms of resources and community involvement in Chicago do not seem to be at the same level as in the New York and Los Angeles.[v]

Analyses of the drivers of homicide in urban spaces have rarely considered the impact of housing policy. Nevertheless, in Chicago's case, criminologists have argued that housing policy may have played an important part in the fluctuation of homicide rates.[m] In New York City, housing programmes were aimed at creating affordable housing in vacant areas located in the South Bronx. In Los Angeles, housing policy in the 1990s led to the exodus of the more affluent population to the edges of the city. Areas in the city that were traditionally inhabited by Latin Americans and African Americans deteriorated until some began to be transformed by gentrification, leading to the displacement of their traditional, low-income residents.[n] Housing policy in Chicago took yet another path: instead of rebuilding houses in socially deprived neighbourhoods, housing complexes built in the 1960s in more deprived neighbourhoods were demolished, leading to the displacement of a significant group of people.[o] These actions had a disproportionate effect on African American neighbourhoods. In Chicago, homicide continues to be clustered in impoverished areas and racially segregated neighbourhoods.[p]

City homicide rates in New York, Los Angeles and Chicago, 1889–2017
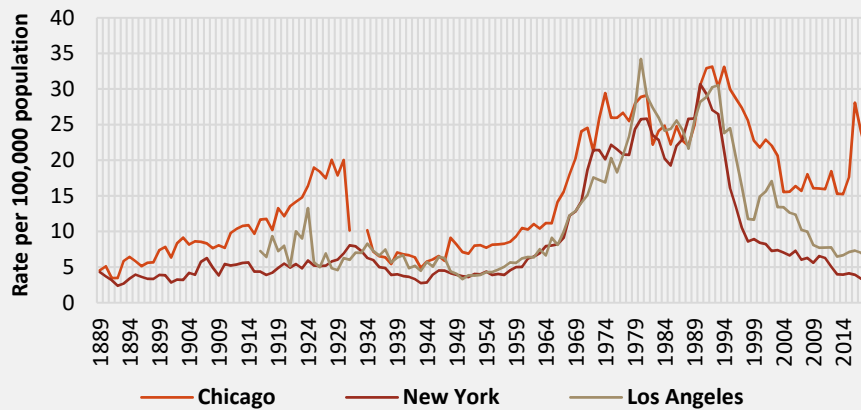
Source: Jens Ludwig, University of Chicago Crime Lab.

Gun and non-gun homicide rate in New York, Los Angeles and Chicago
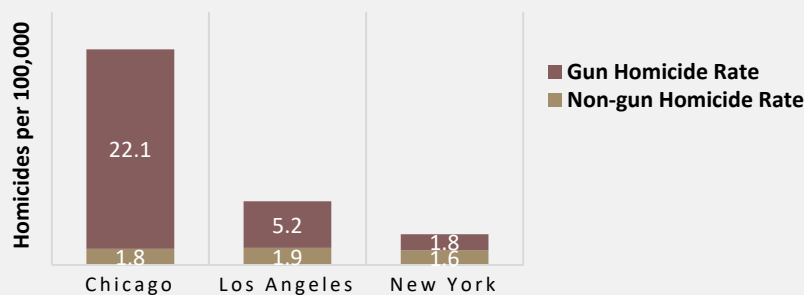
Source: Jens Ludwig, University of Chicago Crime Lab.

[a] Blau, J. R. and Blau, P. M., "The cost of inequality: metropolitan structure and violent crime", *American Sociological Review*, Vol. 47, No. 1 (February 1982), pp. 114–129; Messner, S. F. and Tardiff, K., "Economic inequality and levels of homicide: an analysis of urban neighbourhoods", *Criminology*, vol. 24, No. 2 (May 1986), pp. 297–317.

[b] Patterson, E. B., "Poverty, income inequality, and community crime rates", *Criminology*, vol. 29, No. 4 (November 1991), pp. 755–776.

[c] Curry, G. D., Maxon, C. L. and Howell, J. C., "Youth gang homicides in the 1990s", OJJDP Fact Sheet, No. 3 (Washington, D.C., Office of Juvenile Justice and Delinquency Prevention, 2001).

[d] Ousey, G. C. and Lee, M. R., "Examining the conditional nature of the illicit drug market-homicide relationship: a partial test of the theory of contingent causation", *Criminology*, vol. 40, No. 1 (February 2002), pp. 73–102.

[e] Davis, A., "In U.S., concern about crime climbs to 15-year high", Gallup, 6 April 2016.

[f] Bowling, B., "The rise and fall of New York murder: zero tolerance or crack's decline", *British Journal of Criminology*, vol. 39, No. 4 (September 1999), pp. 531–554.

[g] Corman, H. and Mocan N., "Carrots, sticks and broken windows, National Bureau of Economic Research working paper, No. 9061 (July 2002)

[h] New York Police Department, "Neighbourhood policing". Available at www1.nyc.gov/site/nypd/bureaus/patrol/neighborhood-coordination-officers.page.

[i] Los Angeles Police Department, "Analysis of violent crimes in the city of Los Angeles from 1990 to 1997" (February1998) Available at http://assets.lapdonline.org/assets/pdf/violent_crimes_in_la.pdf.

[j] Los Angeles Police Department Community Policing Unit. Available at: http://www.lapdonline.org/support_lapd/content_basic_view/731.

[k] Spergel, I. A., "The violent gang problem in Chicago: a local community approach", *Social Service Review*, vol. 60, No. 1 (March 1986), pp. 94–131.

[l] Hagedorn and Rauch, "Housing, gangs and homicide".

[m] Ibid.

[n] Davis, M., *City of Quartz: Excavating the Future in Los Angeles* (New York, Vintage, 1990).

[o] Hagedorn and Rauch, "Housing, gangs and homicide".

[p] Acs, G. et. al., *The Cost of Segregation: National Trends and the Case of Chicago, 1990–2010* (Urban Institute, 2017).

[q] Maxson, C. L., Klein, M. W. and Sternheimer, K., *Adolescent Homicides in Los Angeles: Are They Different from Other Homicides? Summary* (United States Department of Justice, 2002).

[r] Ibid., p. 5.

[t] Brantingham, P. J. et.al., *GRYD Intervention Incident Response and Gang Crime: 2017 Evaluation Report* (City of Los Angeles Mayor's Office of Gang Reduction and Youth Development, 2007).

[u] Ludwig, J., University of Chicago Urban Crime Lab. Available at https://urbanlabs.uchicago.edu/labs/crime).

[v] Ibid.

The demographics of homicide victims

The total homicide rate provides an initial indication of the overall level of lethal violence in a country, but it only provides limited information on the nature of homicide in that country. In order to improve understanding of the context of homicide and the underlying reasons for fluctuations in rates, and also to inform public policy adequately, there is a need to disaggregate homicide rates, such as by the nature and type of homicide. This allows for a meaningful description of the violence involved and helps in the interpretation of cross-national differences and similarities.[52] Over the past decade, important advances have been made in the collection of comparable disaggregated data on homicide, yet detailed data on categories such as prevalent types of homicide, situational contexts and victim-perpetrator relationships are still scarce in many countries (see booklet 3 of this study).[53]

A first step towards broadening the information base on the nature of homicide is the disaggregation of data by sex and age. It is well documented that both sex and age play a crucial role in homicide, and they are also the two demographic characteristics that are most readily available on a global scale.[54] Furthermore, not all prevention policies have an equal impact on subpopulation groups. Policies aimed at decreasing the overall homicide rate – for example, through economic reforms, combating organized crime and fighting corruption, to name but a few – may not have a particular impact on reducing female homicide or the killing of children. All of this goes to emphasize how important it is to take a closer look at homicide from both an age and gender perspective.

Globally, 81 per cent of homicide victims are male and the male global homicide rate (9.1 per 100,000 males) is roughly four times the female global homicide rate (2.0).[55] As in other aspects of homicide, the picture varies greatly between and within regions around the world, particularly so in the case of male victimization. The highest male homicide rates can be observed in the Americas and Africa (31.2 and 21.5 per 100,000 males, respectively), while the lowest can be observed in Asia (3.1), Europe (4.3) and Oceania (3.9). By contrast, female homicide rates stay within a narrower range of between 4.5 per 100,000 females in Africa and 1.5 in Asia. Accordingly, the ratio between male and female homicide rates varies between 2.0 and 4.8 in all regions, except the Americas, where the male rate is over eight times the female rate.

Figure 19: Homicide rate, by region and by sex, 2017
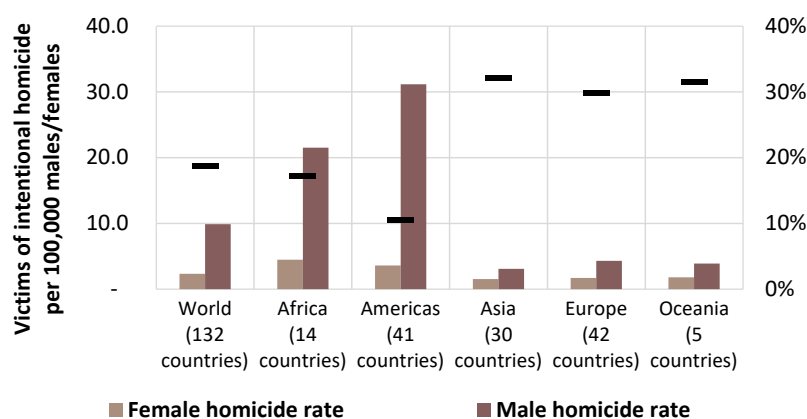
Source: UNODC homicide statistics.

52 Marshall and Summers, "Contemporary differences in rates and trends of homicide among European nations".

53 UNODC started to collect detailed disaggregated data on homicide from Member States as part of the annual United Nations Survey on Crime Trends and Operations of Criminal Justice Systems (UN-CTS) in 2011 (covering the years 2005–2010). Since 2017, the revised UN-CTS collects data on homicide offences; homicide victims; victims by victim-perpetrator relationship, by situational context and by mechanism; homicide characteristics in the three largest cities; as well as data on homicide offenders. At the national and regional levels, detailed data collection on homicide includes, for example, initiatives in the United States such as the Supplementary Homicide Reports and the National Violent Death Reporting System, and European initiatives such as the European Homicide Monitor, all of which allow for the recording and uniform comparison of detailed homicide (case, victim and perpetrator) characteristics.

54 Marshall and Summers, "Contemporary differences in rates and trends of homicide among European nations".

55 The global total is based on data for 132 countries, for which at least one year of sex-disaggregated data were available. Data for countries with no sex-disaggregated data are estimated on the basis of the regional average and used to calculate the world total.

Analysis of data for 132 countries around the world indicates that the male homicide rate is substantially higher than the female homicide rate in almost every country and subregion. The greatest disparity between male and female homicide rates is found in South America, Central America and the Caribbean, where male homicide rates are 8 to 11 times the female rates. Large disparities also exist in Central, South-East and Western Asia, and in Eastern Europe (figure 20).

Figure 20: Homicide rate, by subregion and by sex, 2017
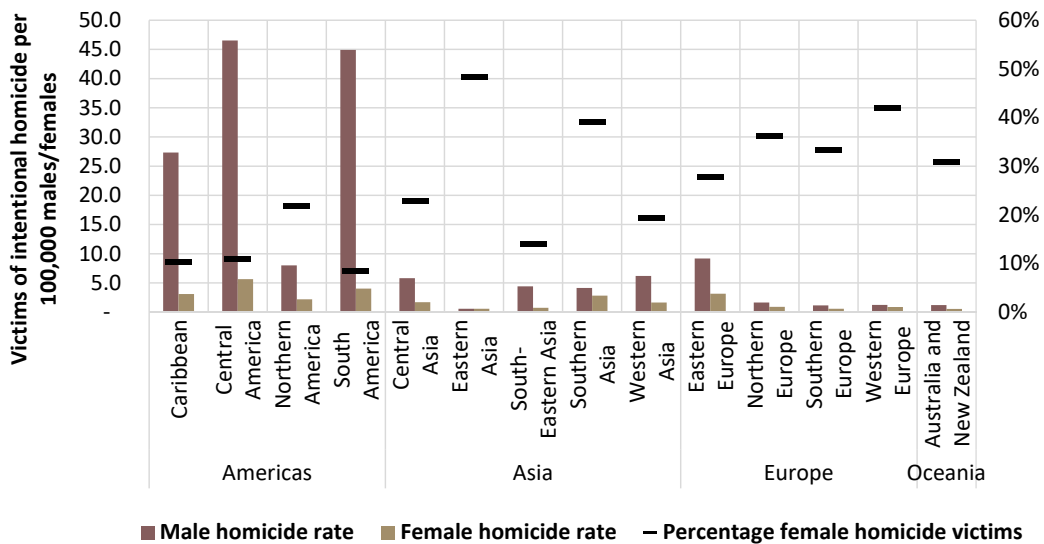
Source: UNODC homicide statistics.

In general, the higher the homicide rate of a specific country, the greater the difference between the male and female homicide rates tends to be. This also means that the share of male homicide victims tends to increase in line with the total homicide rate and, conversely, that the share of female homicide victims is larger in countries with comparatively lower total homicide rates. This relationship holds true at the global level and in each of the five regions (figure 21). In fact, in some countries in Asia (e.g. Japan and the Republic of Korea) and Europe (e.g. Austria) with a total homicide rate under 1 per 100,000, women make up the majority of homicide victims.

Figure 21: Share of male homicide victims versus total homicide rates, 2017

N = 128

$y = 0.0731\ln(x) + 0.654$

$R^2 = 0.3842$
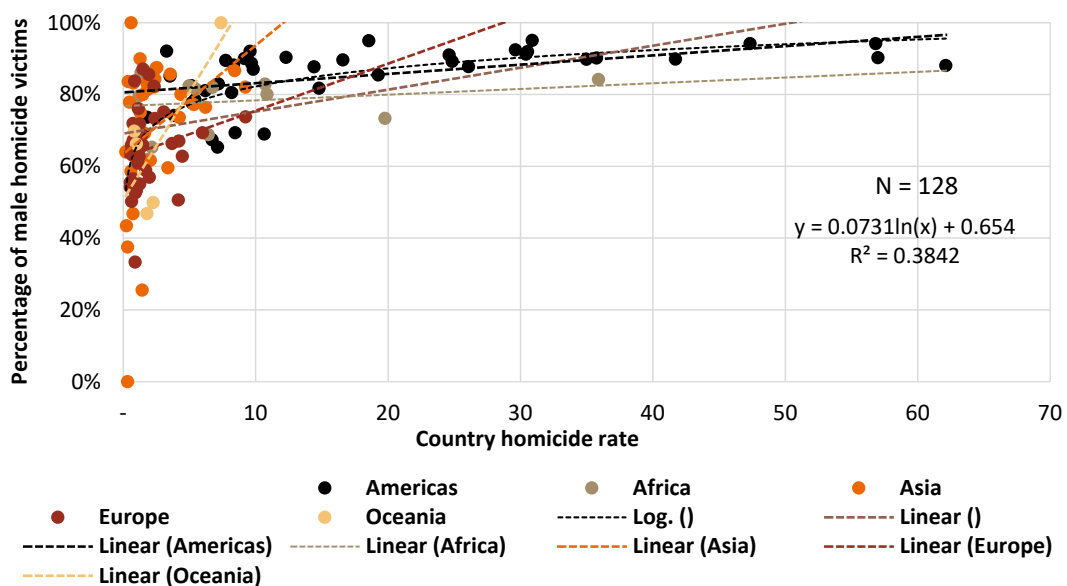
Source: UNODC homicide statistics.
Note: Countries with a total population below 100,000 and countries with only a single homicide in the reference year have been omitted in the calculation, since the share of male and female homicides tends to fluctuate strongly from year to year.

The reason for these discrepancies in the demographics of homicide is that the predominant type of homicide changes depending on whether countries have high or low homicide rates. While the former group is dominated by male-to-male lethal violence, often between gang members, the latter group experiences much lower levels of male-to-male violence. On the other hand, intimate partner/family-related homicide, which is predominantly male-to-female violence, is at a relatively stable level across countries and regions. Thus, as the overall homicide level declines, this type of homicide accounts for a relatively larger share of the total.

This observation is not a new one: the Finnish scholar Veli Verkko formulated several laws in the 1920s to predict homicide rates and patterns.[56] Verkko's "static law" states that in countries with a high homicide rate, the proportion of female offenders and victims is small, whereas when the homicide rate is low, the proportion of female offenders and victims is larger. Verkko's "dynamic law" refers to change: when the overall homicide rate is on the decrease, the change is driven by the decrease in male offending and victimization.[57] In other words, the key to understanding overall trends in homicide is to focus on male-to-male homicides and on young males specifically.[58]

Age profile of homicide victims

Globally, young men aged 15–29 years face the highest risk of homicide, with a rate of 16.6 per 100,000 males in that age group, while men aged 30–44 years face the second-highest risk, at 14.7 per 100,000. The homicide risk decreases for men aged 45–59 years (10.7) and 60+ years (5.6). At 1.2 per 100,000, the homicide risk is lowest for boys under 15 years of age (see figure 22). By contrast, women face a much lower homicide risk across all age groups.

Figure 22: Global homicide rate, by sex and age group, 2017
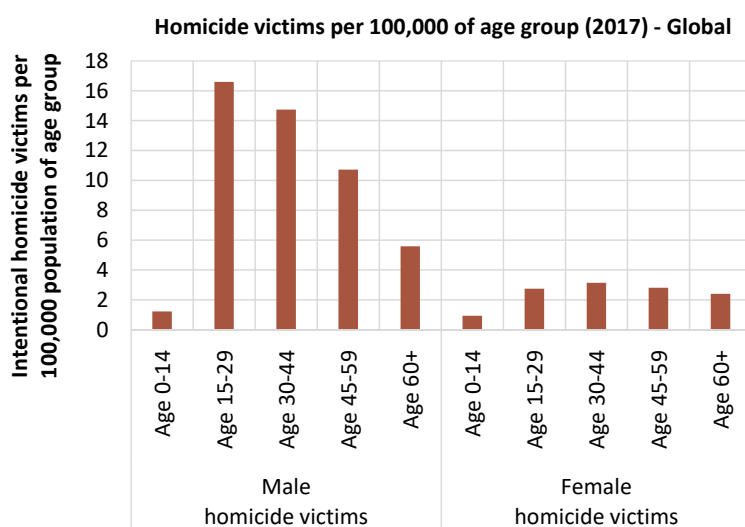
Source: UNODC homicide statistics.
Note: Global age-specific homicide rates are based on a sample of 94 countries worldwide for which age-specific homicide data are available. The global rates have been population-weighted using regional age-specific rates.

Differences in age-specific homicide rates are particularly pronounced at the regional and national level. The type of homicidal violence that occurs in the Americas predominantly affects young males and is perpetrated by young males, but that is not the case in other regions. In Asia and Europe, the highest

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56 Kivivuori, J., "Veli Verkko as an early criminologist: a case study in scientific conflict and paradigm shift", *Scandinavian Journal of History*, vol. 42, No. 2 (2017), pp. 144–165.

57 Verkko, V., "Homicides and suicides in Finland and their dependence on national character", Scandinavian Studies in Sociology, No. 3 (Copenhagen, G. E. C. Gads Forlag, 1951).

58 Booklet 3 of this study addresses the drivers and typologies of homicide, including violence against women, while booklet 5 focuses exclusively on gender-related killings of women and girls.

homicide risk is faced by men aged 30–44 years, while in African countries for which data are available[59] men aged 45–59 years face the highest risk of homicide.

Although women generally face a much lower homicide risk than men, there is remarkable similarity in relative age-specific homicide risks faced by women and men: women in the Americas aged 15–29 years also face the highest homicide risk, while in Asia and Europe this is the case for women aged 30–44 years, as well as for women aged 45–59 years in some African countries. Like sex-specific homicide rates, age-specific homicide rates by sex show less variation between countries for women than for men.

Figure 23: **Homicide rate, by sex and age group, selected regions, 2017**
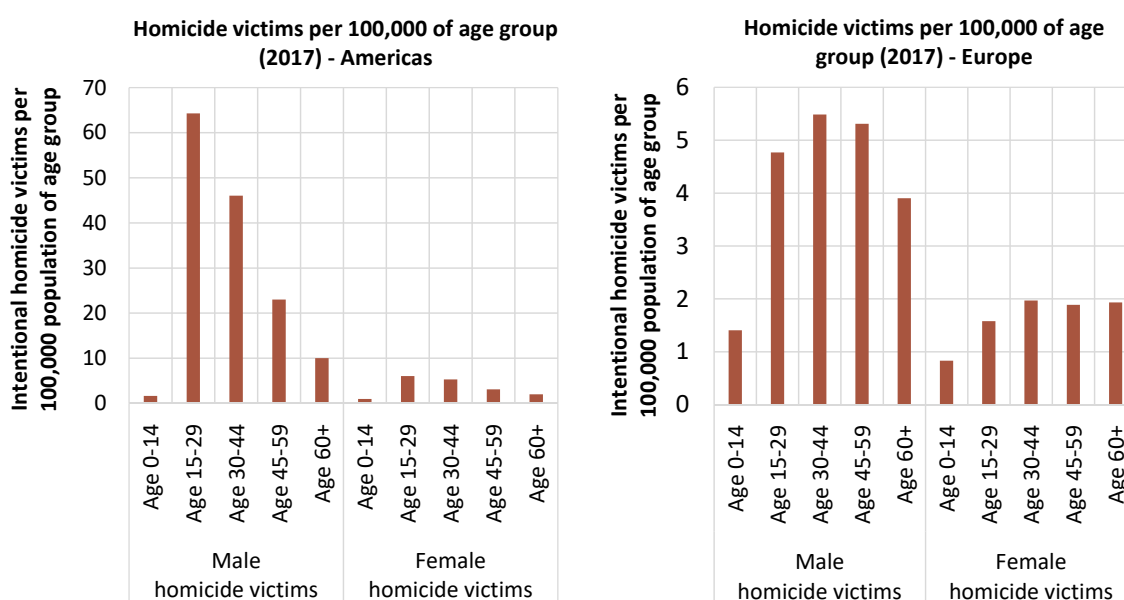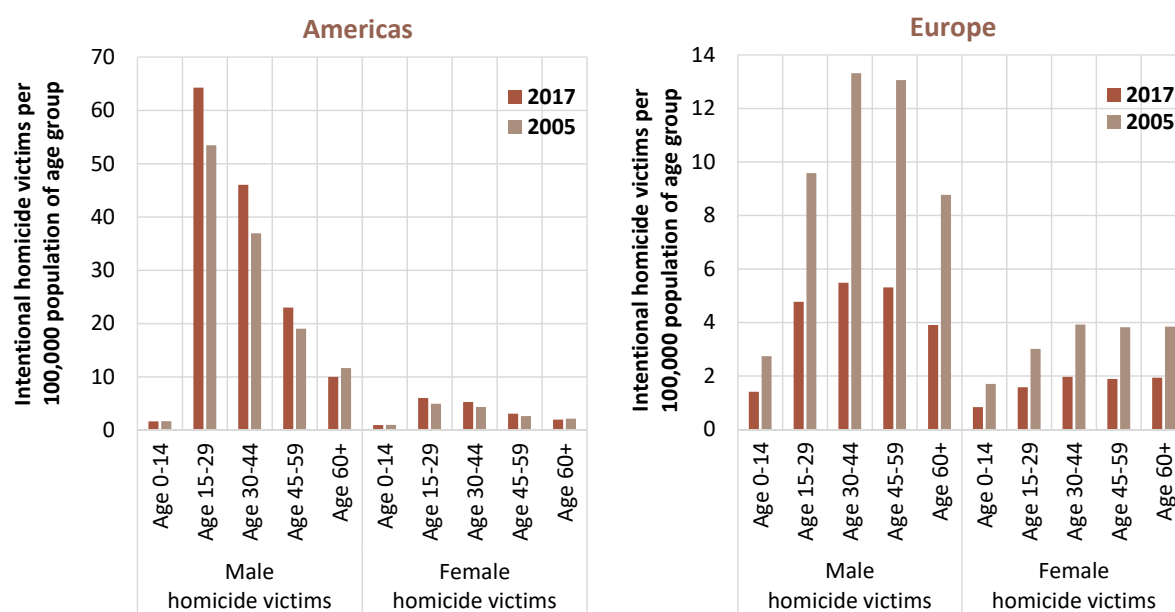

Source: UNODC homicide statistics.
Note: Regional age-specific homicide rates are calculated on the basis of a sample of countries for which age-specific homicide data are available. Age-specific homicide rates are available for 34 countries in the Americas and 34 countries in Europe. In the computation of the regional age-specific rate, countries with no data are assigned the average age-specific homicide rates of their region, which are then applied to their total homicide count.

Available data on the age profile of homicide victims since 2005 demonstrate that regional age patterns remain fairly stable over time, with the elevated homicide risk of young men in the Americas persisting and the more evenly spread homicide risk by age group remaining a stable feature in Europe. It is still instructive to study changes in age-specific homicide rates over time, though, because the changing age patterns point to shifting age-specific risk prevention priorities.

Between 2005 and 2017 the total homicide rate decreased by 3 per cent worldwide (from 6.31 to 6.14 per 100,000 population) but with large variations in regional patterns: while homicide decreased by 54 per cent in Europe, it increased by 19 per cent in the Americas. As shown in figure 24, in the Americas, the homicide rate over that period increased the most among males aged 15–59 years and females aged 15–59 years, but decreased among males under 15 years of age, males aged 60+ years and females aged 60+ years. By contrast, the homicide rate in Europe decreased almost uniformly, by between 50 and 60 per cent, among all age groups.

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59   Age-specific homicide rates for Africa are based on age-specific data for Algeria, Cabo Verde, Egypt, Mauritius, Morocco and the island of Réunion (France).

Figure 24: Homicide rate, by sex and age group, selected regions, 2005 and 2017
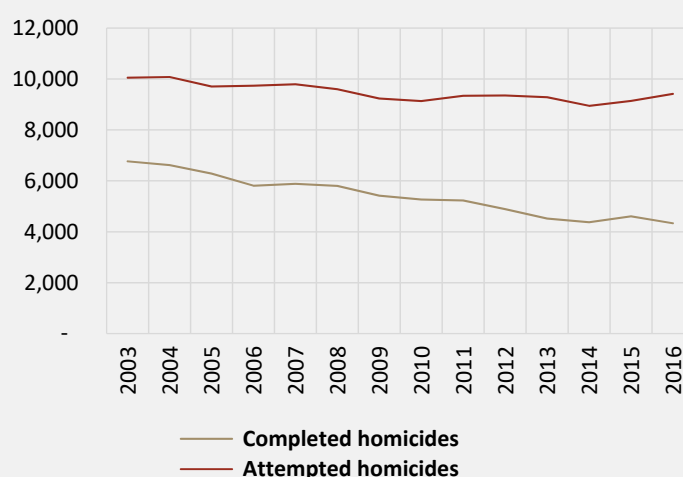

Source: UNODC homicide statistics.
Note: Regional age-specific homicide rates are calculated on the basis of a sample of countries for which age-specific homicide data are available. Age-specific homicide rates are available for 34 countries in the Americas and 34 countries in Europe. In the computation of the regional age-specific rate, countries with no data are assigned the average age-specific homicide rates of their region, which are then applied to their total homicide count.

BOX 13: What data on attempted homicides can teach about trends in lethal violence

It has long been argued that the decrease in homicide in recent decades, in the Western world at least, is partly due to improved emergency medical services being able to save a higher share of victims of violent assaults.[a] While this argument seems plausible at first, it cannot be taken for granted, since the nature and mechanisms of homicide may also change over time and improved health-care services may be counterbalanced by the use of technically advanced weapons and new methods of killing. In fact, historical homicide trends suggest that changes in medical care alone are not able to explain the long-term decrease in lethal violence: advances in medical technology, particularly in terms of emergency medical response time, trauma surgery and the development of medicine, mostly took place in the second half of the twentieth century, whereas the tremendous historical decline in homicide rates mostly occurred before then.[b]

One way of looking at whether better medical care has contributed to the decreasing homicide trends in Western countries in more recent years is by comparing data on completed homicides with data on homicide attempts that were not successful. Data on homicide attempts are not as widely available as data on completed homicides because the chance of not reporting a completed homicide is lower given that there is concrete evidence in the form of a corpse.c Moreover, to a greater extent than completed homicides, data on homicide attempts are subject to most of the complications affecting statistics on other forms of crime, such as underreporting, underrecording and significant differences in definitions and counting rules.

In countries that tend to have good records for the offence of attempted homicide, the recorded number of homicide attempts tends to be much higher than the actual number of completed homicide offences that succeed in killing at least one victim, and the gap is becoming wider. In 32 European countries with available trend data, the number of completed homicide offences fell by 2,432 victims (or by 36 per cent) over the period 2003–2016, while the number of attempted homicides fell by 632 victims (or by 6 per cent).

Completed and attempted homicide offences in 25 European countries, 2003–2016

Source: UNODC homicide statistics.

While differences in recording practices for completed and attempted homicide may partially explain the different trends, overall these trends do give credence to the argument that the decrease in homicide can to some extent be explained by improvements in health care.

Data on attempted homicide in other regions are scarce and tend to be less conclusive. In many countries, the recorded number of attempted homicides is considerably lower than the number of completed homicides, which is probably due to the misclassification and widespread underrecording of such offences (e.g. as aggravated assault).

Available trend data from 63 countries for the period 2011–2016 show no consistent patterns of change in the recorded numbers of completed and attempted homicides. In total, the number of homicide offences in those 63 (including 33 in Europe) countries decreased by 20 per cent over the period 2011–2016, while the number of homicide attempts decreased by just 4 per cent. However, at the global level, owing to widespread underrecording, the number of homicide attempts was considerably lower than the number of completed homicides and, consequently, the recorded decrease in completed homicides cannot be explained by a larger share of homicide attempts that were unsuccessful. For a definitive assessment of the impact of better emergency medical services on the number of homicide victims, it would be necessary to have more and better data not only on completed but also on attempted homicides, as well as on other factors related to the capacity of health-care systems to respond to violence.

[a] See e.g. Lattimore, P.K. et al., *Homicide in Eight U.S. Cities: Trends, Context, and Policy Implications* (Washington, D.C., United States Department of Justice, 1997).
[b] Eisner, M., "Modernization, self-control and lethal violence: the long-term dynamics of European homicide rates in theoretical perspective", *British Journal of Criminology*, vol. 41, No. 4 (September 2001), pp. 618–638.
[c] Some countries, such as the United States, do not even keep records of attempted homicides, but rather record them as serious assaults.
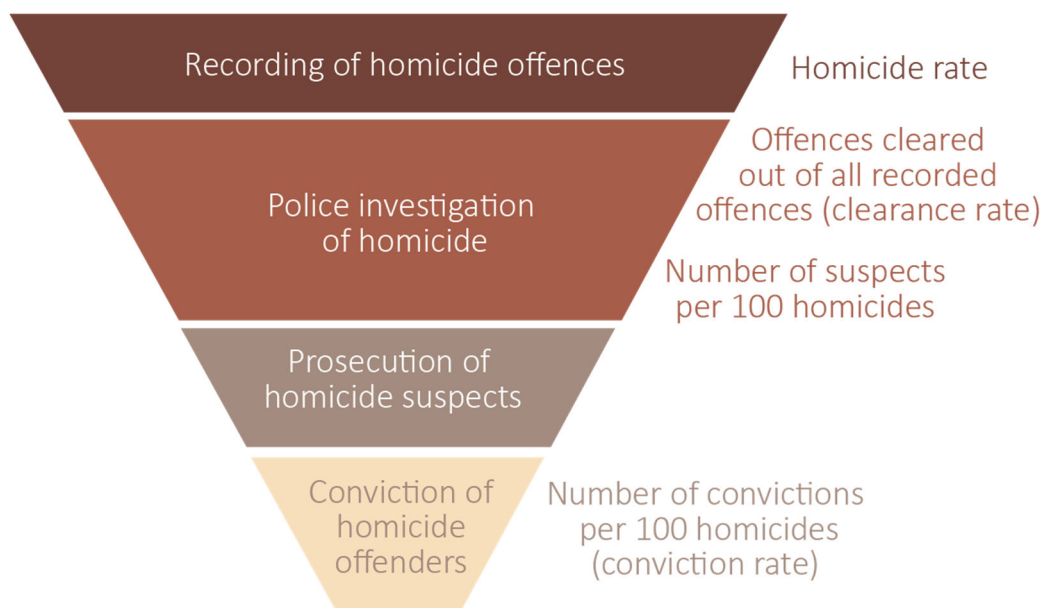
CRIMINAL JUSTICE RESPONSE TO HOMICIDE

Given that it is the responsibility of the criminal justice system both to bring justice to the victims and to sanction and punish the perpetrators of homicide, the focus in this booklet now turns to the criminal justice response to homicide.

A first indicator of the criminal justice response to homicide is the extent to which resources for combating impunity are available; a second is the performance of institutions within the criminal justice system. Measuring criminal justice responses to homicide can be done at various stages of the criminal justice process. Typically, a homicide case enters the criminal justice system once the police starts a homicide investigation. Once a homicide is recorded by the police, law enforcement authorities conduct investigations that can eventually lead to identification of the homicide suspect. Figure 25 provides an overview of the various stages of the process, including associated statistical indicators.

Attempting empirically to study the flow of homicide cases through the criminal justice system is quite challenging. Ideally, data should be collected at each stage of the criminal justice process and then pooled. However, both globally and regionally, data are scattered over separate institutions.[60] Moreover, aggregated data on the separate stages can only give a broad idea of the scale of the criminal justice response. Tracking individual cases enables monitoring of the flow of cases through the system in terms of how many homicide suspects are ultimately convicted.

Figure 25: Statistical indicators relating to four phases in the criminal justice process

Recording of homicide offences — Homicide rate

Police investigation of homicide — Offences cleared out of all recorded offences (clearance rate); Number of suspects per 100 homicides

Prosecution of homicide suspects

Conviction of homicide offenders — Number of convictions per 100 homicides (conviction rate)

When studying the flow of homicide cases through the system, questions may arise as to whether some victims and perpetrators are subject to more scrutiny by the law than others; in other words, whether some homicides are solved at a higher rate than others. Studies have looked at different aspects that may determine this difference. Some have shown that the police and political factors, such as choices made in the investigative process, workload or organizational policies, play a decisive role in the clearance rates of specific crimes.[61] Heavy crime investigation workloads are thought to be associated with lower clearance

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[60] Liem, M. et al., "Homicide clearance in Western Europe", *European Journal of Criminology*, vol. 16, No. 1 (January 2019), pp. 81–101.

[61] Black, D. J., "Production of crime rates"; *American Sociological Review*, vol. 35, No. 4 (August 1970), pp. 733–748.

rates, suggesting that a high homicide rate goes hand in hand with low clearance rates, although empirical findings for this hypothesis are mixed.[62, 63]

Other studies have considered extralegal factors, such as the attention paid to certain victims and offenders,[64] as key factors that determine homicide clearance. The scientific literature has documented that, in some cultures, cases that involve female victims, white victims and younger victims are thought to be more likely to be cleared than cases that involve victims to whom comparatively less attention is paid, such as victims with a prior record of arrest. In terms of age, the literature has indicated that child homicides have a high likelihood of being solved.[65] In terms of ethnic background, some studies have found that cases with ethnic minority victims are more likely to be cleared than those with ethnic majority victims,[66] while other studies have identified cases involving ethnic minority victims as being less likely to be cleared.[67, 68]

A recent study suggested that the likelihood of a homicide being cleared in Western Europe depended on the characteristics of the most prevalent types of homicide in a given country.[69] Research indicates that domestic homicide is more likely to be solved than other types. As a result, States with high shares of domestic homicide may have comparatively higher clearance rates. Since most research on this subject stems from developed countries, less is known about which factors, and to what extent, are associated with homicide clearance rates in developing countries.

While statistical indicators can provide an initial assessment of the capacity of legal systems to respond to homicidal violence, they do not give information on the fundamental qualitative aspects involved in the actual process of executing criminal justice, such as the quality of investigations, access to legal aid, procedural fairness and duration of trials.[70] As the number of homicide cases has an impact on the capacity of the criminal justice system to solve them, for criminal justice to be effective and efficient, adequate human and financial resources need to be made available to the police and prosecution services, courts and prisons.[71] In regions where violent crime rates are high, if adequate resources are not made available for the proper handling of all cases, there will be high rates of impunity and perhaps a lack of due diligence in the system. Strain on the system may arise if resources do not keep up with the growing influx of persons brought into formal contact with the criminal justice system. As a result, more suspects are kept in pre-trial detention, police and prosecution services are overburdened and the number of pending court cases rises. Ultimately, once suspects are convicted, prisons become overcrowded, especially in countries that have a large share of prisoners held in pre-trial detention, which may raise concerns about the human rights of those detained. Taken together, these problems affect the functioning of the entire criminal justice system.

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[62] Litwin, K. J., "A multilevel multivariate analysis of factors affecting homicide clearances", *Journal of Research in Crime and Delinquency*, vol. 41, No. 4 (November 2004), pp. 327–351.

[63] Litwin, K. J. and Xu, Y., "The dynamic nature of homicide clearances: a multilevel model comparison of three time periods", *Homicide Studies*, vol. 11, No. 2 (May 2007), pp. 94–114.

[64] Gottfredson, M. R. and Hindelang, M. J., "A study of the behavior of law", *American Sociological Review*, vol. 44, No. 1 (February 1979), pp. 3–18; Roberts, A. and Lyons, C., "Victim-offender racial dyads and clearance of lethal and nonlethal assault", *Journal of Research in Crime and Delinquency*, vol. 46, No. 3 (August 2009), pp. 301–326; Roberts, A. and Lyons, C. J., "Hispanic victims and homicide clearance by arrest", *Homicide Studies*, vol. 15, No. 1 (2011), pp. 48–73; Sturup, J., Karlberg, D. and Kristiansson, M., "Unsolved homicides in Sweden: a population-based study of 264 homicides", *Forensic Science International*, vol. 257 (December 2015), pp. 106–113; Taylor, T.J., Holleran, D. and Topalli, V., "Racial bias in case processing: does victim race affect police clearance of violent crime incidents?", *Justice Quarterly*, vol. 26, No. 3 (2009) pp. 562–591.

[65] Regoeczi, W. C., Jarvis, J. and Riedel, M., "Clearing murders: is it about time?", *Journal of Research in Crime and Delinquency*, vol. 45, No. 2 (May 2008), pp. 142–162.

[66] Regoeczi, W. C., Kennedy, L. W. and Silverman, R. A., "Uncleared homicides: a Canada/United States comparison", *Homicide Studies*, vol. 4, No. 2 (May 2000), pp. 135–161.

[67] Litwin, "A multilevel multivariate analysis of factors affecting homicide clearances".

[68] Roberts and Lyons, "Hispanic victims and homicide clearance by arrest".

[69] Liem et al., "Homicide clearance in Western Europe".

[70] UNODC, *Global Study on Homicide 2013*.

[71] United Nations Principles and Guidelines on Access to Legal Aid in Criminal Justice Systems (para. 15).

[72] Suspects brought into formal contact with the police may include persons suspected of, or arrested and cautioned for, a criminal offence by the police, at the national level.

BOX 14: Undetected homicide

The homicide rate is generally considered to be one of the most valid and reliable cross-national indicators for measuring crime.[a] In terms of ensuring comparability across countries, homicide is a useful measurement tool, as it is easily quantifiable in terms of the number of victims resulting from intentional killings. Given the violent nature of homicide, incidents that end a person's life are generally reported to the police and the fatalities are recorded by criminal justice authorities. While that is the usual state of affairs, situations in which homicides are neither reported nor recorded as such may occur. Also referred to as the "dark figure" of homicide,[b] undetected homicides are those that are never reported or otherwise detected by authorities or the public.

It is in the very nature of the concept that the exact number of undetected homicides remains unknown. Undetected homicides are first and foremost a criminal justice problem, because wherever homicide remains undetected, justice cannot be served, yet this also poses a data problem:[c] the fact that the number of undetected homicides remains unknown means that the entirety of homicides perpetrated during a given time period remains unknown.

There are several reasons why homicides can remain undetected and never make it to the known figure, depending on location and time. While undetected homicide leads to the underestimation of homicide rates, other factors can influence the accuracy of homicide rates in one direction or another. These include unsystematic counting errors, inconsistent counting standards, flawed population data and data tampering. Non-criminal deaths may sometimes also be falsely classified as homicides, but there is no indication that this happens on a scale anywhere similar to undetected homicide.

Improvements in policing,[d] forensics and criminalistics have led to more accurate homicide reporting and counting, but the quality of investigations and the subsequent homicide reporting still vary considerably between countries.[e]

Some homicide cases are more likely to be cleared and reported than others. Certain circumstances such as spontaneous confessions, specific injuries, traceable weapons and contextual knowledge (e.g. a known history of violence among intimate partners or the discovery of missing valuables belonging to the victim) may raise immediate suspicion and quickly lead to a homicide investigation.[f] Even when forensic standards are low, such circumstances enable the police to detect and report the homicide. If, however, the circumstances are more opaque, homicides may falsely be considered natural deaths, accidents or suicides, or declared to be suspicious, and yet remain unresolved.

The problem of undetected homicide relates to a combination of forensic challenges, investigative police capacity, and the complexity of homicide cases. Standards in cause-of-death investigations, along with high-quality crime scene appraisals and skilled detective work, are decisive factors in detecting homicides that may otherwise remain undetected.[g] To improve homicide detection, some jurisdictions have adopted standard procedures that require every death to be examined medico-legally, regardless of whether the death occurred under suspicious circumstances or not. In other jurisdictions, however, gaps remain in the examination of suspicious cases, with forensic examiners other than doctors responsible for determining the cause of death, or with no examination taking place at all.

The body of research into the extent of undetected homicide is limited. Rather than contributing to the quantification of the "dark figure", existing studies contribute to a "grey figure" in the sense that they seek to illuminate what is unknown about homicide. A large-scale study pointed to specific types of homicide that may be more likely than others to remain undetected,[h] which included the serial killing of hospital patients by a health practitioner. Intentional killings of vulnerable patients by health-care professionals detected through post-mortem investigations or post-exhumation toxicological studies are still a poorly understood phenomenon; however, the prosecution of nurses for serial killings perpetrated in technologically advanced health-care settings has been documented in the literature.[i] Such killings are, presumably, very rare, but they often account for exceptionally high numbers of victims killed by the same perpetrator.

Homicide within the family, especially child homicide (i.e. infanticide and neonaticide), has also been described as a category of homicide that may be susceptible to misclassification.[j] This is because child homicides may be hidden and disguised as natural deaths, particularly in countries with poor forensic capacities.[k] There are indications that a considerable portion of deaths attributed to sudden infant death syndrome (SIDS) are in fact covert homicides.[l] In England and Wales, for example, it has been suggested that 10 per cent of deaths

categorized as SIDS may actually be covert homicides and that the percentage of covert homicides among undetermined child deaths may be even higher.

Furthermore, homicides with victims from marginalized populations, such as the elderly,[m] unregistered immigrants, homeless people and sex workers,[n] are more likely to remain unsolved or undetected. It has been suggested that societies pay less attention and consequently dedicate fewer resources to marginalized homicide victims;[o] in addition, specific forms of marginalization may also translate into investigative obstacles, because situational contexts may be less obvious, victim-offender relationships may be harder to establish and suitable witnesses may be less likely to be available. In the case of people who do not live in stable social contexts and whose usual place of residence is unknown, specific challenges may emerge, as their disappearance may go unnoticed and cannot therefore be investigated. At the same time, the fate of many missing homicide victims, marginalized or not marginalized, may never be established if their bodies are never found.[p]

The percentage of homicide victims among missing persons is hard to establish and varies between countries. The number of homicide victims among missing persons is likely to be highest in contexts of organized violence and large-scale human rights violations, such as forced disappearances.[q]

[a]Neapolitan, J. L., "Cross-national variation in homicides: the case of Latin America", International Criminal Justice Review, vol. 4, No. 1 (May 1994), pp. 4–22.

[b]Ganpat, S. M. et al., Homicide in Finland, the Netherlands and Sweden: A First Study on the European Homicide Monitor Data (Swedish National Council for Crime Prevention, 2011), p. 36. c   Drake, D. S. and Shulka, J., "Clandestine homicide victims: exploring for missing persons, lost bodies and dead spaces – a work-in-progress", in Homicide Research: Past, Present and Future – Proceedings of the 2005 Homicide Research Working Group Annual Symposium (Homicide Research Working Group, 2005), pp. 119–125.

[c]Drake, D. S. and Shulka, J., "Clandestine homicide victims: exploring for missing persons, lost bodies and dead spaces – a work-in-progress", Homicide Research: Past, Present and Future – Proceedings of the 2005 Homicide Research Working Group Annual Symposium (Homicide Research Working Group, 2005), pp. 119–125.

[d] Williams, R. and Weetman, J., "Enacting forensics in homicide investigations", Policing and Society, vol. 23, No. 3 (September 2013), pp. 376–389.

[e] Maguire, E. R. and King, W. R., "Transferring criminal investigation methods from developed to developing nations", Policing and Society, vol. 23, No. 3 (September 2013), pp. 346–361.

[f]Riedel, M., "Counting stranger homicides: a case study of statistical prestidigitation", Homicide Studies, vol. 2, No. 2 (May 1998), pp. 206–219.

[g]Geberth, V. J., Schimpff, J. and Senn, H.-J., Practical Homicide Investigation: Tactics, Procedures, and Forensic Techniques, 4th ed. (Boca Raton, Florida, CRC Press, 2006).

[h] Karger, B. et al., "Analysis of 155 consecutive forensic exhumations with emphasis on undetected homicides", International Journal of Legal Medicine, vol. 118, No. 2 (April 2004), pp. 90–94.

[i]Yorker, B. C. et.al., "Serial murder by healthcare professionals", Journal of Forensic Sciences, vol. 51, No. 6 (November 2006), pp. 1362–1371.

[j]Gartner, R. and McCarthy, B., "Killing one's children: maternal infanticide and the dark figure of homicide", in Gender and Crime: Patterns in Victimization and Offending (New York, New York University Press, 2006).

[k]Abrahams, N. et al., "Gender differences in homicide of neonates, infants, and children under 5 y in South Africa: results from the cross-sectional 2009 national child homicide study", PLOS Medicine, vol. 13, No. 4 (2016).

[l]Goldenberg, C. L., "Sudden infant death syndrome as a mask for murder: investigating and prosecuting infanticide", Southwestern University Law Review, vol. 28 (1998–1999), pp. 599–611.

[m]Abrams, R. C. et al., "'Gray murder': characteristics of elderly compared with nonelderly homicide victims in New York City", American Journal of Public Health, vol. 97, No. 9 (September 2007), pp. 1666–1670.

[n]Brewer, D. D. et al., "Extent, trends, and perpetrators of prostitution-related homicide in the United States", Journal of Forensic Sciences, vol. 51, No. 5 (September 2006), pp. 1101–1108.

[o]Quinet, K., "The missing missing: toward a quantification of serial murder victimization in the United States", Homicide Studies, vol. 11, No. 4 (November 2007), pp. 319–339.

[p]Newiss, G., "Estimating the risk faced by missing persons: a study of homicide victims as an example of an outcome-based approach", International Journal of Police Science and Management, vol. 6, No. 1 (March 2004), pp. 27–36.

[q] McCrory, S., "The International Convention for the Protection of All Persons from Enforced Disappearance", Human Rights Law Review, vol. 7, No. 3 (June 2007), pp. 545–566.

Perpetrators of homicide

## Sex of perpetrators of homicide

Men are not only more likely than women to be victims of homicide, but are also even more likely to be the perpetrators of homicide. This is especially true in the countries with the highest homicide rates, such as those in Latin America and the Caribbean. When looking at the sex of homicide suspects brought into formal contact with the law, more than three quarters of the global total are male. Figure 26 shows that out of all persons brought into formal contact for intentional homicide worldwide, over 90 per cent were males and under 10 per cent were female, these proportions remaining stable throughout 2014, 2015 and 2016. Of just over 133,500 people brought into formal contact for homicide in 49 countries and territories reporting in 2016, 10 per cent were female and 90 per cent were male; the convictions of male and female suspects of homicide in that year were also similar – 9 per cent female and 91 per cent male. Since the identity of the perpetrator is more likely to be known in situations of family violence, where women are more likely to be victims, these numbers may actually understate the predominance of men as perpetrators of homicide. The significant overrepresentation of men as perpetrators can be seen in all age groups.

Figure 26: **Share of male and female suspects brought into formal contact with the police for intentional homicide, worldwide, 2014–2016**
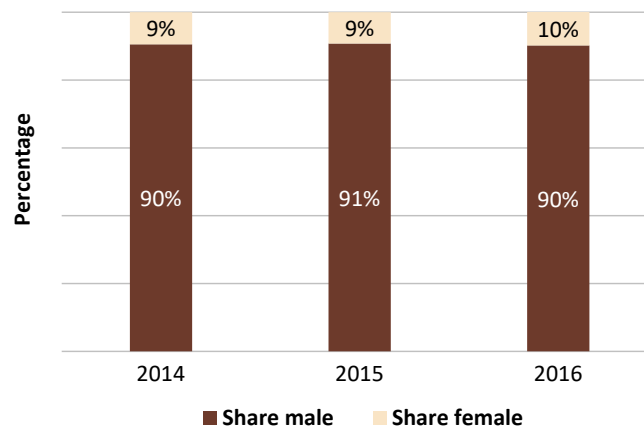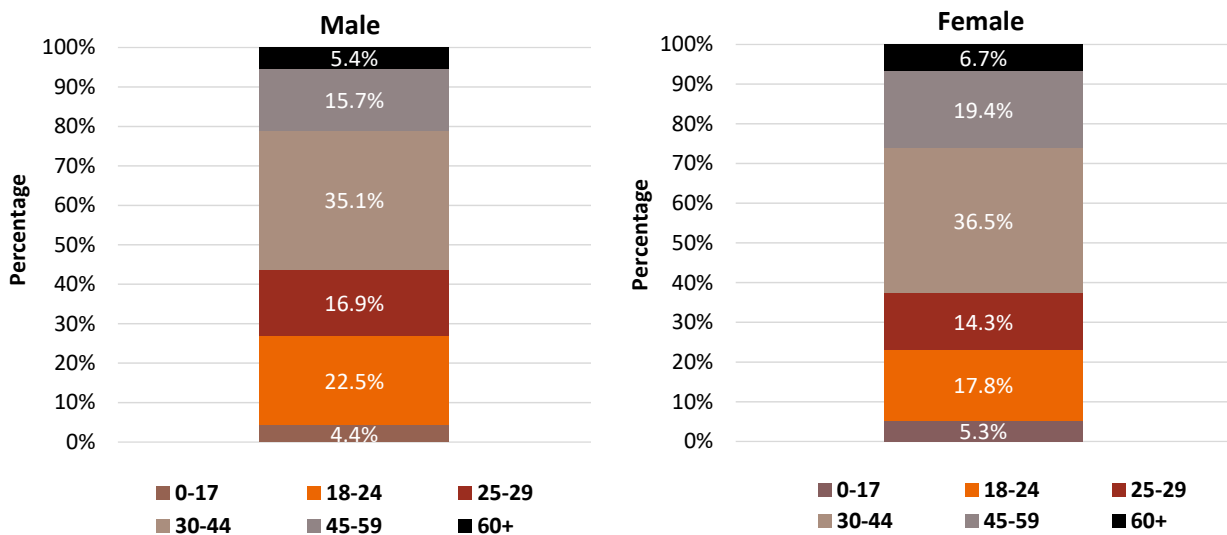

Source: UNODC homicide statistics.

Figure 27: **Share of intentional homicide suspects,[72] male and female, selected countries, 2016**
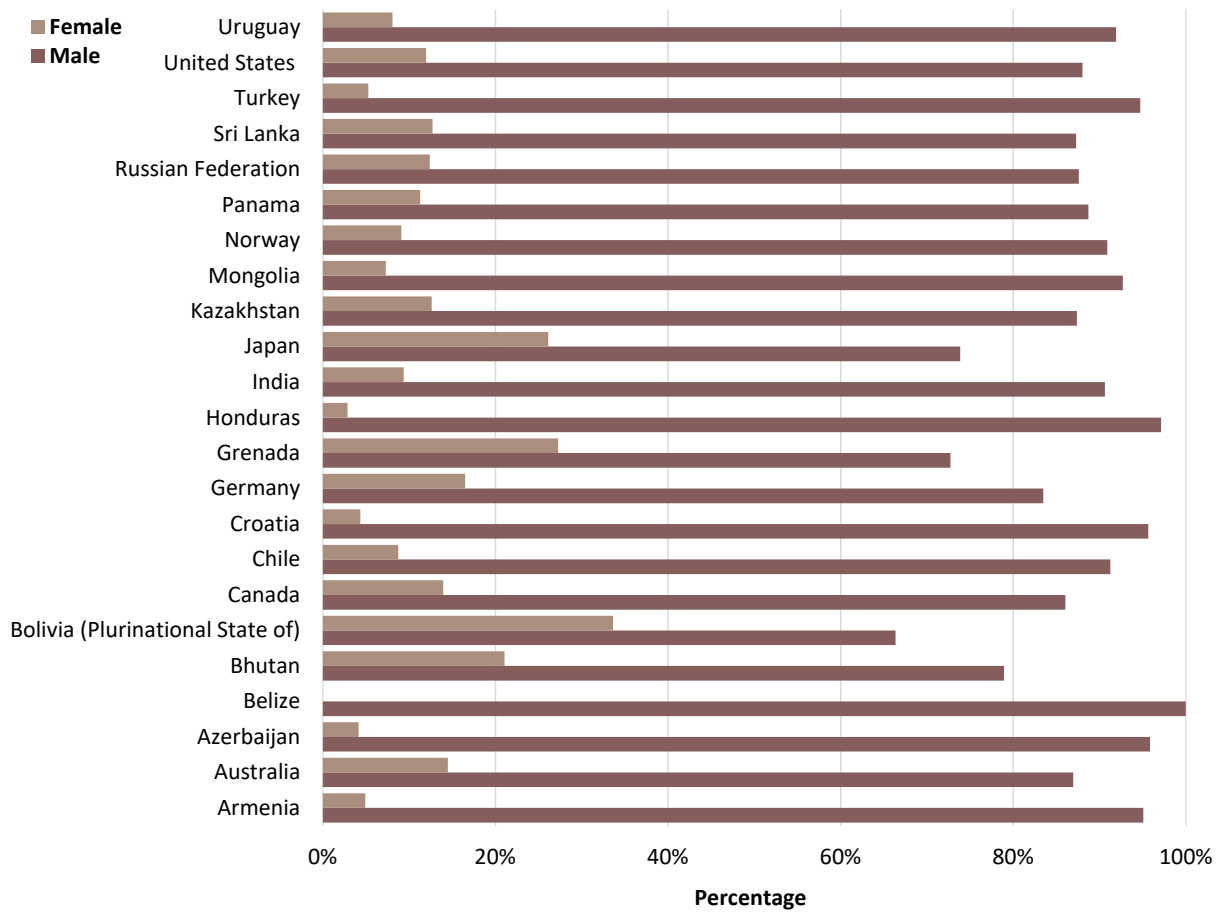
Source: UNODC homicide statistics.

Figure 28: **Shares of male and female suspects brought into formal contact with the criminal justice system for intentional homicide in 2016, by age**

Source: UNODC homicide statistics.

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[72] Suspects brought into formal contact with the police may include persons suspected of, or arrested and cautioned for, a criminal offence by the police, at the national level.

BOX 15 Killings involving law enforcement agents as victims or perpetrators

Like members of the public, law enforcement agents can justifiably use lethal force in the defence of their own lives and of others.[a]

Although comparatively more violent societies may require more frequent use of defensive lethal force than others, law enforcement agents are always called upon to act with discretion and restraint.[b] This is not always the case, however,[c] since some individuals or agencies may act with excessive force, or even engage in what are effectively summary executions, both on and off duty. These unjustified killings are defined as a form of homicide.[d]

Understanding homicide and other killings by law enforcement agents is challenging. In some countries, killings by the police are not recorded in the official crime statistics unless charges are brought, which is different from the procedure for recording other homicides.[e] When charges are brought, killings by police are generally a subset of overall homicide statistics.

As well as a significant source of lethal violence, law enforcement agents often also account for a disproportionately large share of its victims. The limited available data indicate that the rate at which police officers are intentionally killed during the performance of their duties varies greatly by country. In some countries, the share of police officers murdered each year is greater than the homicide rate among members of the public, while in others the opposite is true. In other words, in some countries, being a police officer greatly increases the risk of being killed relative to the general public, while in others it appears to provide a protective effect.

Homicide rates per 100,000 police officers and per 100,000 general population, selected countries, 2015
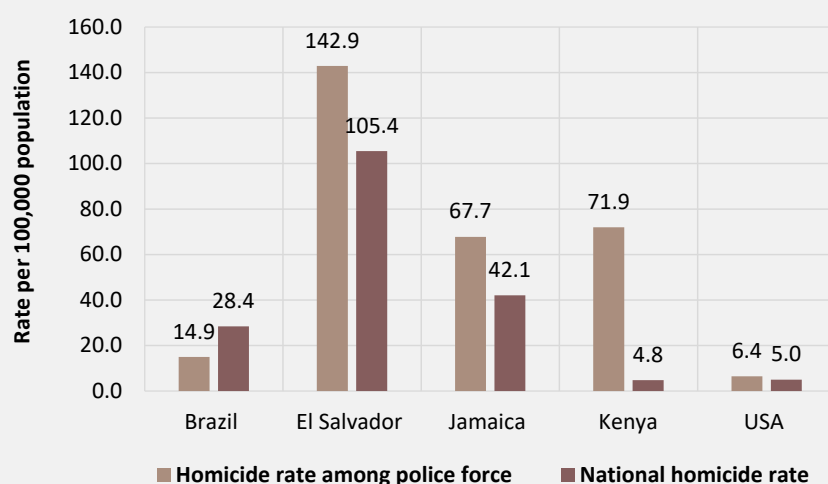
Source: UNODC homicide statistics and national sources.[f]

In some countries, for every killing of a police officer there are fewer than 10 killings by police, while in others the ratio can be three or four times as high. It would be extremely problematic to compare those ratios with an ideal ratio, but since killings by the police are meant to be defensive, these numbers should be considered in relation to a sense of proportion between the threat faced and the number of lives that the police are compelled to take.

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Intentional killings by police officers compared with intentional killings of police officers, selected countries, 2015
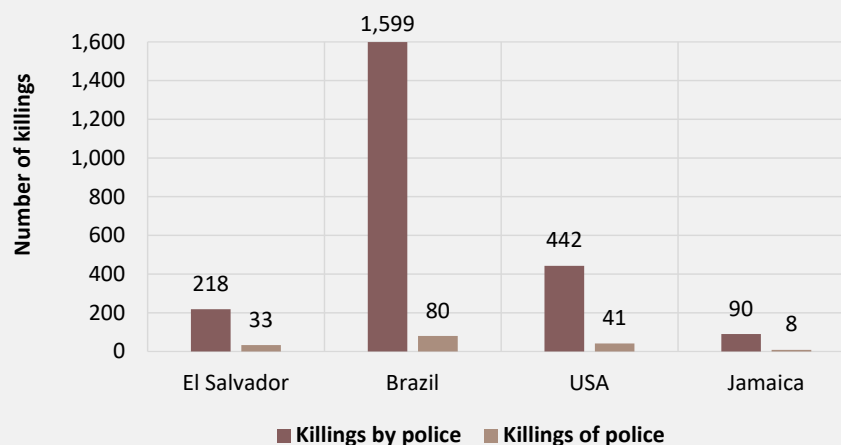
Source: National sources.[g]

[a] Section 38 of the United Nations Standards and Norms in Crime Prevention and Criminal Justice lays down "Basic Principles on the Use of Force and Firearms by Law Enforcement Officials", as approved at the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders in Havana in 1990. Principle 9 there reads: "Law enforcement officials shall not use firearms against persons except in self-defence or defence of others against the imminent threat of death or serious injury, to prevent the perpetration of a particularly serious crime involving grave threat to life, to arrest a person presenting such a danger and resisting their authority, or to prevent his or her escape, and only when less extreme means are insufficient to achieve these objectives. In any event, intentional lethal use of firearms may only be made when strictly unavoidable in order to protect life."

[b] Ibid.

[c] See, for example, the various reports issued by the United Nations Special Rapporteur on extrajudicial, summary or arbitrary executions.

[d] UNODC, *International Classification of Crime for Statistical Purposes* (ICCS): Version 1.0 (Vienna, 2015).

[e] In the United Kingdom, for example, no crimes allegedly committed by the police are recorded unless charges are eventually brought. See: *Home Office Counting Rules for Recorded Crime*, "Crime Recording General Rules", section I ("Other Investigating Authorities").

[f] Data for Jamaica come from the Jamaica Constabulary Force's Annual Report 2013. Data for Mexico come from the Mexican Federal Police and refer only to federal police officers. Data for Brazil come from official statistics cited by the Brazilian Public Security Forum. Data for El Salvador come from the statistics of the National Civilian Police. Data for the United States come from the Uniform Crime Reports of the Federal Bureau of Investigation. "Killings by police" refer only to justifiable killings, which are not included in the homicide figures of the United States. The programme generating these figures was suspended in 2014, "because of challenges that resulted in a significant underestimate of the number of annual arrest-related deaths". See Banks, D. et al., *Arrest-Related Deaths Program Redesign Study 2015–16: Preliminary Findings* (Washington, D.C., United States Department of Justice, Bureau of Justice Statistics, 2016).

[g] Ibid.

BOX 16 Recording killings committed by police in the United States

In response to the Death in Custody Reporting Act of 2000, the United States Bureau of Justice Statistics launched a programme in 2004 to count arrest-related deaths (ARDs). The programme focuses on a specific type of killings by police and serves as an example of the challenges that a country may face in counting and reporting different forms of killings by police. The programme sought to count all deaths that occurred during the process of arrest or during an attempt at apprehension by a state or local law enforcement agency in the United States.

At first the programme relied on official reporting of deaths by state reporting coordinators who were located in state criminal justice statistical analysis centres (funded by the Bureau of Justice Statistics to support ARD-related work), in state law enforcement agencies and in other state agencies. The state reporting coordinators used a variety of techniques to identify deaths, including passive case identification (i.e. relying solely on voluntary reporting by law enforcement agencies and medical examiners) and active case identification (i.e. surveying law enforcement agencies, conducting regular open-source searches, querying existing databases and using information provided to the National Violent Death Reporting System at the National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention). Among the 45 participating states with known case identification methodologies in 2011, 26 state reporting coordinators used media and open-source searches as their primary means of identifying ARDs.

In 2013, the Bureau of Justice Statistics undertook a technical review of the ARD methodology and an assessment of its coverage of law enforcement homicides in relation to those reported in the Supplementary Homicide Reports. Maintained by the Federal Bureau of Investigation, Supplementary Homicide Reports rely on the voluntary reporting by state and local law enforcement agencies. Using capture-recapture methods, the Bureau of Justice Statistics determined that the existing ARD programme captured only half (49 per cent) of all law enforcement homicides across all years over the period 2003–2009 and in 2011), while Supplementary Homicide Reports captured 46 per cent. Over a quarter (28 per cent) of law enforcement homicides were not captured by either system. The incomplete coverage was partly due to the lack of standardized reporting across states.

After further assessment and testing the use of open source information, the Bureau of Justice Statistics launched a pilot study to identify deaths occurring in June, July and August 2015. The redesigned methodology involves two phases: during the first phase, the Bureau of Justice Statistics reviews open-source information and identifies possible ARDs using a data pipeline that processes a large volume of data returned through media alerts (this processing is done through a combination of machine learning classifiers and manual coding). In the second phase, the Bureau of Justice Statistics asks state and local agencies to review and verify the information, and to report any other deaths that meet ARD criteria. Media reviews and agency surveys together identified a total of 425 ARDs during June–August 2015. Some 12 per cent of the deaths were not initially identified through media searches.

The Deaths in Custody Reporting Act of 2013, passed in December 2014, mandated direct reporting by states, with potential financial sanctions for non-compliance. As a result, data collection responsibilities were transferred to another agency within the Department of Justice.
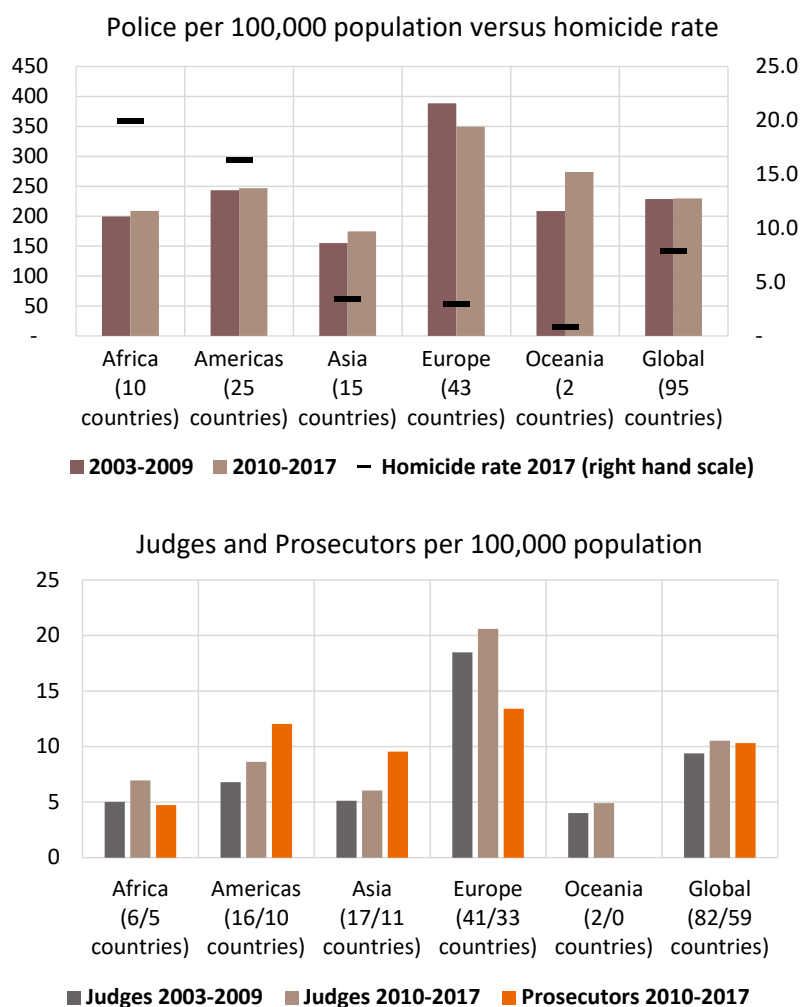
Source: Banks, D. et al., Arrest-Related Deaths Program Redesign Study 2015–16: Preliminary Findings (Washington, D.C., United States Department of Justice, Bureau of Justice Statistics, 2016).

Criminal justice resources

Establishing links between criminal justice resources and homicide is challenging at the global level. Resources are difficult to compare. In terms of human resources, there are no uniform standards for the definition of police, prosecutors and judges, who often have different profiles and roles in different legal systems and cultural practices. Simple personnel counting also hides differences in their performance and the real resources that are in the system, which are often a result of the educational system, training opportunities and internal hiring and promotion practices.

When linking data collected globally on police, prosecutors and judges, and on homicide, the rates per 100,000 population actually show weak associations. There are regional differences in the allocation of criminal justice personnel, which in some cases are associated with distinct homicide levels, but there are no clear patterns. Europe, for example, has the highest share of police, prosecutors and judges and a below-average homicide rate, while countries in Africa and the Americas have roughly average allocations of police personnel and a below-average rate of prosecution personnel, and register homicide rates far above the average. Asia, on the other hand, has low rates of police personnel and judges, average rates of prosecutors, but homicide rates far below average.

Figure 29: **Rates of police personnel, prosecution officers and professional judges per 100,000 population and homicide rate per 100,000 population, 2003–2009 and 2010–2017**

Police per 100,000 population versus homicide rate

■ **2003-2009** ■ **2010-2017** — **Homicide rate 2017 (right hand scale)**

Judges and Prosecutors per 100,000 population

■ **Judges 2003-2009** ■ **Judges 2010-2017** ■ **Prosecutors 2010-2017**

Source: UNODC data based on United Nations Survey of Crime Trends and Operations of Criminal Justice Systems.

Note: Data available for two periods (2003–2009 and 2010–2017) for Africa, the Americas, Asia, Europe and Oceania, respectively: police personnel (10, 25, 15, 43 and 2 countries) and professional judges (6, 16, 17, 41 and 2 countries). Data for prosecution personnel are available for the period 2010–2017 for Africa, the Americas, Asia and Europe (5, 9, 11 and 33 countries, respectively).

Criminal justice performance

Several indicators provide indications of the efficiency of criminal justice performance. Processing cases by identifying, arresting, prosecuting and convicting those responsible is one of many indicators of performance, with each stage of the process[73] – clearance, arrest, prosecution and conviction – having an associated rate that allows the performance of each sector to be measured.[74] For all these indicators, it is important to note that counts or percentages may be underestimated or overestimated, and that differences in the data to some extent reflect recording practices rather than actual differences in performance.

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[73] Through the successive stages of the criminal justice process, the counting unit shifts from victims and offences to persons brought into formal contact with law enforcement. The number of suspects may be higher or lower than the total number of homicides – higher when multiple persons are suspected in one homicide case, or lower when the police do not identify a suspect, but generally the number of convictions is substantially lower than the number of homicide suspects.

[74] The share of unsentenced detainees in pre-trial detention in a prison is also an indication of the efficiency of the criminal justice system. Overburdened and inefficient justice systems may result in a considerable backlog of cases resulting in more suspects detained who are awaiting trial.

Some attrition is noticeable at every stage between the occurrence of a homicide and the sentencing of a perpetrator. For example, a case may be cleared at police level as a result of exceptional causes: the suspect may have died from suicide or natural causes; or a suspect may be known but has become untraceable or can otherwise not be prosecuted.

In terms of the demographics of the first stage of the criminal justice response, available data (2016 or latest available year) show that the vast majority (90 per cent) of individuals brought into formal contact with the police for intentional homicide were male and that 6 per cent of individuals brought into formal contact were registered as foreign nationals.[75] The share of foreign national suspects was highest in Europe (16 per cent), although that may be a reflection of recording practices rather than actual percentages. In terms of age, at the global level about 90 per cent all perpetrators of homicide were aged under 30 years, with considerably smaller shares for those aged 15–17 years and 60 years or over. In Europe and Asia, 60 to 80 per cent of homicide perpetrators were under the age of 30 years. By contrast, nearly all homicide perpetrators in the Americas were below that age.

Figure 30: Percentage of homicides cleared by police, by region, 2016 or latest available year
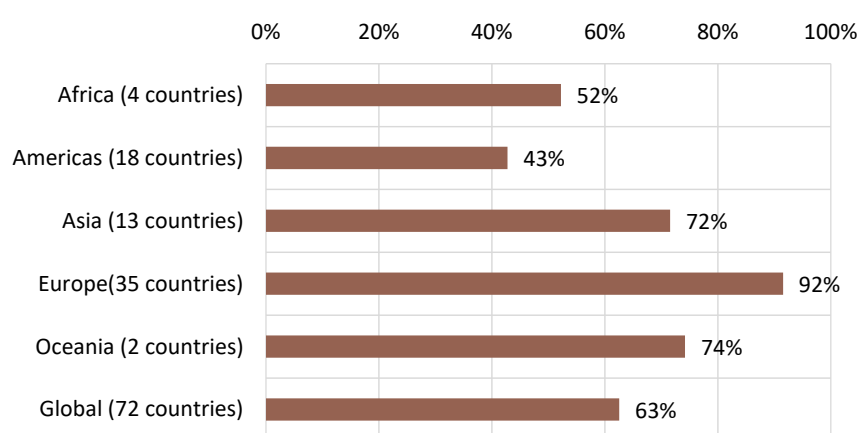
Source: UNODC homicide statistics.

Globally, police were able, on average, to identify at least one suspect in 63 per cent of all homicides brought to their attention (see figure 30) in 2016, but there was great regional variation. In most countries in Africa and Oceania, data on impunity were scarce and the regional aggregate is only based on a few countries. In Europe, impunity in the first stage of the criminal justice response was low, with 92 per cent of homicides being cleared by the police. In America, impunity was much higher, with no suspect identified by the police in more than half of homicides. While these numbers are considered at aggregated levels and are affected by different reporting practices, they broadly highlight where impunity is a bigger concern; indeed, similar regional differences were pointed out in a previous study on impunity that used the Global Impunity Index.[76] It should be noted that in both Asia and Europe, where homicide rates are relatively low, the rate of suspects per 100,000 population was higher than, or almost equal to, the homicide rate, suggesting that multiple suspects were arrested for one homicide.

Once suspects are identified by the police, the case goes through other stages in the criminal justice process, in which a perpetrator may or may not be convicted. Aggregated numbers of the total number of suspects and convictions give an overall picture of the effectiveness of prosecutions and courts in bringing homicide perpetrators to justice. Available data for 43 countries worldwide (2016 or latest available year) indicate that the number of persons convicted for homicide was less than half (47 per cent) the number suspected (see figure 31). Since not all homicide suspects are convicted of homicide, suspect rates were higher than conviction rates in all regions. However, in Asia and Oceania, more suspects were recorded for

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[75]   See the section on migration in booklet 4 of this study.

[76]   Global Impunity Index 2017.

homicide offences than there were homicides, which was probably a result of recording practices.[77] This means that the gap between those suspected and those ultimately convicted of homicide in those two regions was wider than in Europe and the Americas, where a larger share of suspects was also convicted. In the Americas, the homicide rate was higher than the rate of suspects brought into formal contact for homicide (16.1 versus 6.8).

The attrition in the criminal justice system means that, globally, for every 100 homicide victims recorded, a total of 53 persons were convicted of homicide. In the 14 countries in the Americas for which recent data were available, only 35 persons were convicted of homicide for every 100 homicide victims recorded, while in 10 countries in Asia and Oceania, 61 persons were convicted of homicide for every 100 homicides recorded, and in 21 countries in Europe, 66 persons were convicted of homicide for every 100 homicide victims recorded.

Figure 31: Rates of homicide, persons suspected, persons convicted of homicide per 100,000 population, by region, 2016 or latest available year
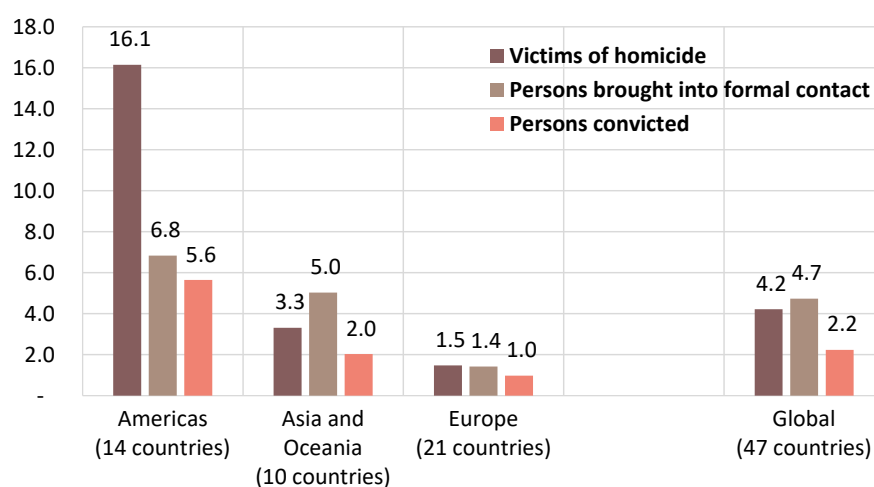
Source: UNODC homicide statistics.

Homicides that do not lead to the arrest of a suspect, a prosecution or a conviction fuel impunity. Overall, impunity was highest in the Americas, given the fact that homicide often remains unsolved in that region, while in the countries in Asia and Europe for which data were available, impunity was lower. Several underlying reasons may account for these regional differences, such as the possibility that the higher homicide rates recorded in the Americas compared with Europe and Asia may stretch the capacity of overburdened law enforcement agencies to investigate each case thoroughly. The ability of law enforcement agencies to clear cases is also influenced by the type or context of a particular homicide, since certain typologies, such as those perpetrated by gangs and organized crime groups, tend to be more challenging to investigate than others,[78] leading to a lower clearance rate. Homicides in the Americas are often connected to organized crime or gang-related violence and are often perpetrated with firearms,[79] which may lead to lower clearance and conviction rates than intimate partner/family-related homicides.[80] In Europe, the low level of impunity and high level of clearance may be a reflection of sufficient law enforcement and criminal justice resources, and also of the comparatively larger proportion of intimate partner/family-related homicides in that region.

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[77] In the countries in Asia included in the analysis here, the gap between the number of suspects and the relatively low conviction rate could be interpreted in different ways. The gap may reflect insufficiently rigorous recording practices or it may be due to a large number of suspects arrested without serious grounds, resulting in large numbers of suspects for whom there were no grounds for prosecution.

[78] Van Dijk, J. J. M., *The World of Crime: Breaking the Silence on Problems of Security, Justice and Development across the World* (Thousand Oaks, California, Sage Publications, 2008), pp. 157–158.

[79] See the section on homicide and organized crime in booklet 3 of this study.

[80] Liem et al., "Homicide clearance in Western Europe".

There are also regional variations in trends in homicide and persons suspected and convicted of homicide. In 43 countries worldwide, both the homicide rate and the conviction rate have decreased since 2007. In terms of homicide and persons convicted by region, the gap is widest in the Americas and lowest in Asia. (see figure 32).

Figure 32: **Rates of homicide and persons convicted of homicide, worldwide and by region, 2007–2016**
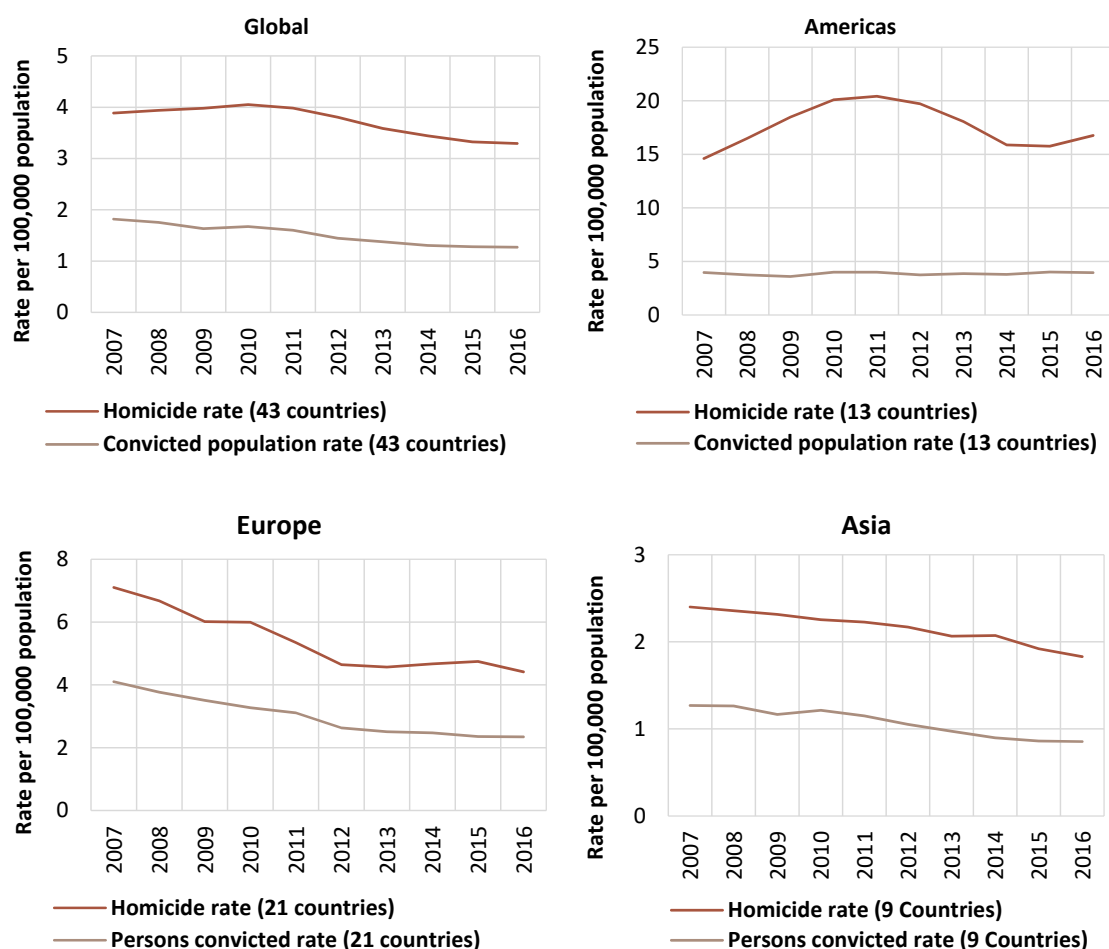
Source: UNODC homicide statistics.

In terms of trends in criminal justice performance, measured as the number of convictions per 100 homicide victims (conviction rate), there were some noticeable changes in the 10-year period 2007–2016, in particular an overall decrease in efficiency (see figure 33). In fact, in the 43 countries for which data were available, the number of persons convicted per 100 homicides decreased over that period, from 47 to 39. The conviction rate in Europe decreased from around 58 per 100 victims in 2007 to 49 in 2015, followed by an increase to 53 per 100 victims in 2016. In Asia, after a decline from 2010 to 2014 there was an increase from 43 to 47 convictions per 100 homicide victims in 2016. In the Americas, the conviction rate per 100 homicide victims was the lowest out of all the regions and showed a further decrease from 27 to 19 from 2007 to 2012, followed by a moderate increase to 24 in 2016. Given the paucity of data, conviction rates could not be calculated for Africa and Oceania.

Figure 33: **Homicide conviction rate per 100 homicide victims, by region and worldwide, 2007–2016**
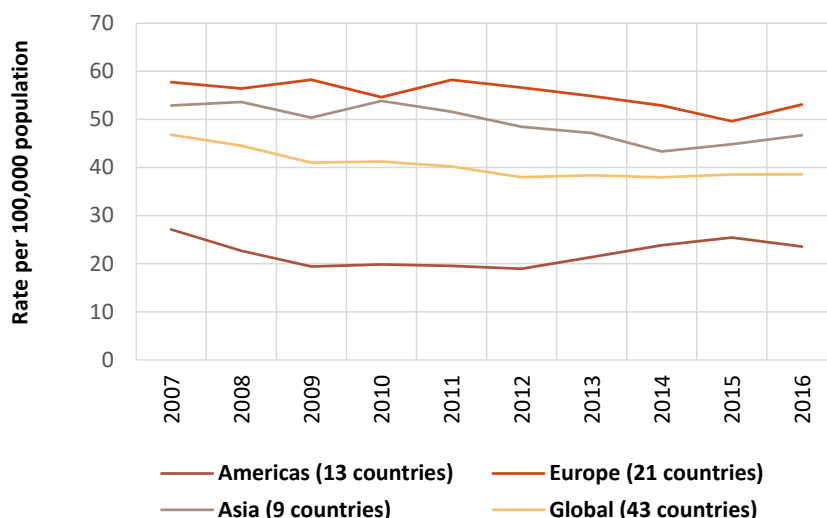
Source: UNODC homicide statistics.

Differences in the efficiency of the criminal justice system as suggested by the widely varying clearance rates for both police investigations and convictions can also be seen in terms of pre-trial detention rates. Pre-trial detention in relation to the overall prison population is considered a performance indicator and is used to monitor the rule of law globally.[81] A high share of unsentenced (pre-trial) detainees among all prisoners points to problems in bringing those accused of a crime to justice within a reasonable period of time. This is one of the indicators used to measure progress towards target 16.3 under Sustainable Development Goal 16 and, like all other rule-of-law indicators, it shows regional differences. As can be seen in figure 34, some countries still have very high shares of unsentenced prisoners (Africa and Asia), while others have below-average but increasing shares of unsentenced prisoners (Americas and Oceania).

Figure 34: **Proportion of unsentenced detainees in the overall prison population, by region and worldwide, 2007 and 2016**
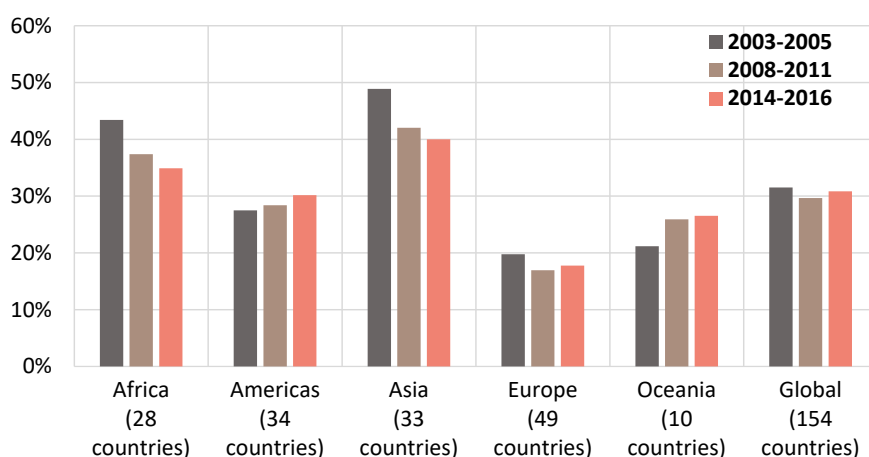
Source: United Nations Survey of Crime Trends and Operations of Criminal Justice Systems.

81 This is a general Sustainable Development Goal indicator of access to justice, and not homicide-specific. Penal Reform International, *Global Prison Trends 2018* (2018).

82 Van Zyl Smit, D. and Ashworth, A., "Disproportionate sentences as human rights violations", Modern Law Review, vol 67, No. 4 (July 2004), pp. 541–560.

BOX 17: Mortality in prisons

It is the State's responsibility to provide a physically and mentally safe and healthy environment for people detained in prisons and other correctional facilities. Analysis of the extent and types of deaths occurring in prisons provides an overview of how safe correctional facilities are. Mortality in prisons includes accidental deaths, deaths from natural causes (such as old age or disease) and deaths from intentional homicide and suicide. The availability of data that would enable international comparisons is still limited, however. Based on 72 countries that submitted comprehensive data on prison deaths, the overall prison mortality rate in 2016 was 252 per 100,000 inmates, and the suicide rate was 25 per 100,000 inmates.[a]

Total deaths and rates of homicide and suicide per 100,000 prisoners, by region, 2016 or latest available year
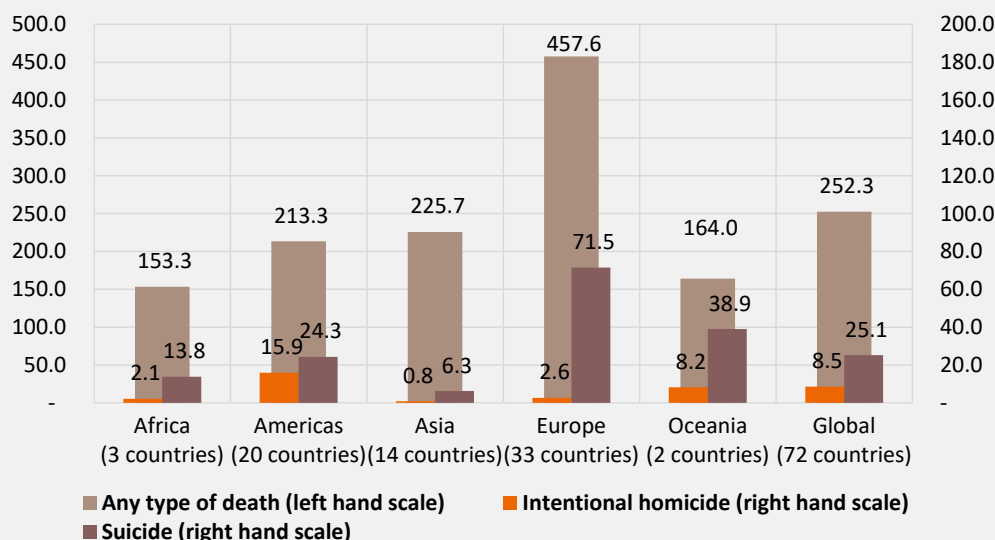
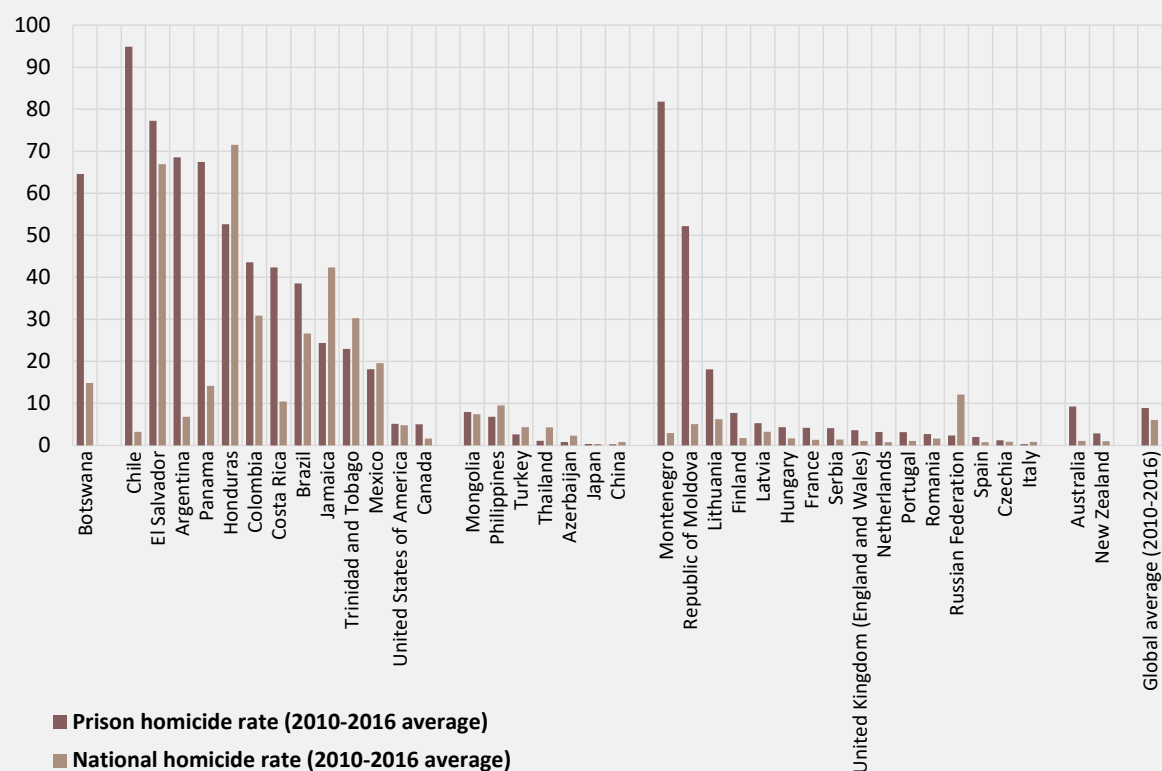Source: UNODC homicide statistics.

Share of natural deaths, intentional homicide and suicide per 100,000 prisoners, by region, 2016 or latest available year
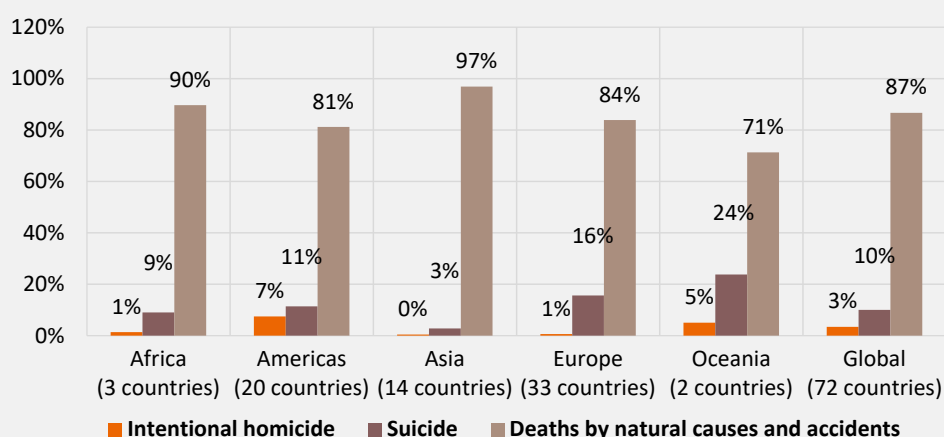
Source: UNODC homicide statistics.

Globally, around 8.5 per 100,000 inmates fell victim to intentional homicide in prison, a rate higher than that of total homicide. This was almost entirely due to extremely high homicide rates in prisons in Latin America, including countries such as Argentina where the overall homicide rate is comparatively moderate. In some countries, prison deaths can comprise a significant share of the total number of homicides at the national level; for example, in Chile in 2016, 57 of the 612 homicides reported nationally occurred in prison, corresponding to roughly 9 per cent of all homicides.

Homicides in prison per 100,000 prisoners, selected countries (average for 2010–2016)

Source: UNODC homicide statistics.
Note: Excluding countries that reported no homicides in prison over the reporting period, or for which data on homicide in prison were not available.

In most countries, including some countries with above-average national homicide rates, such as Belize, Guyana, Jamaica, Mexico and the Russian Federation, from a statistical point of view it is safer to be in prison than outside prison. In other countries, however, many of which are countries in Latin America with high homicide rates, including El Salvador, Brazil and Colombia, prisons are considerably more dangerous. In some countries, including Argentina, Chile, Costa Rica, Montenegro, Panama and the Republic of Moldova, the homicide rate in prison is several times higher than the national homicide rate. Yet, it appears that prisons in countries where institutionalized prison gangs are known to operate are actually safer than those where that is not the case. This resonates with the findings of a study on prison gangs in the United States, which argued that prison gangs may create order and that they usually have to authorize the use of violence because spontaneous, unplanned violence causes problems for other inmates who are gang members. Public acts of violence attract the attention of prison staff, which hinders the ability of inmates to engage in contraband.[b]

Beyond homicide, the highest overall death rates in prison in 2016 were reported in Europe (458 deaths per 100,000 prisoners) and in Asia (226 deaths per 100,000 prisoners). This may be related to the age structure of the prison population or to specific policies of releasing prisoners before their imminent death from natural causes, but there are no reliable data to test that assumption. It is also remarkable that, according to available data, the suicide rate was highest in Europe and Oceania, at 75 and 39 per 100,000 inmates, respectively. In the absence of reliable data it cannot be ascertained whether this reflects a real difference in the propensity to commit suicide in prison or differences in recording suicide (which is often stigmatized) across regions. Overall, the higher rates in Europe may be explained by better coverage in the data.

[a] UNODC homicide statistics.

[b] Skarbek, D., *The Social Order of the Underworld: How* Prison *Gangs Govern the American Penal System* (New York, Oxford University Press, 2014), pp. 82–86.

Imprisonment for homicide

Different countries have different conviction laws and practices that have an impact on imprisonment rates. For some crimes, the likelihood of a perpetrator being imprisoned may change from country to country, but in the case of intentional homicide, imprisonment of the perpetrator is almost universal. Sentencing for homicide can either be short or long term. The most severe prison sentences for homicide in some countries include capital punishment (death penalty), life imprisonment and life imprisonment without parole; however, not all homicide perpetrators are sentenced to indeterminate sentences. Emerging trends indicate an increase in the number of offences carrying the sentence of life imprisonment and a lengthening of prison terms in general. The abolition of the death penalty in recent years in some countries may have played a role in an increase in the use of long-term imprisonment of perpetrators.[82]

While homicides may only account for a marginal share of all crimes committed in a country, the combination of the relative levity of sentences for less serious crimes and the long duration of prison sentences for homicide offenders means that, at any given point in time, homicide offenders can make up a significant share of the total prison population.

Data also show that in 2016 around 10.5 million people were held in penal institutions worldwide.[83] This represents an increase of 15 per cent from 2004,[84] since when the global population has increased by 16 per cent, meaning that the global rate of imprisonment decreased slightly from 142 to 141 per 100,000 population. However, the rate of imprisonment varies substantially across different regions and time. From 2003 to 2016, the total imprisonment rate of Oceania increased by 26 per cent, while that of the Americas increased by 7 per cent and that of Asia by 9 per cent. Europe, by contrast, saw a 20 per cent drop in its imprisonment rate. Despite an absolute rise in the total prison population from 940,000 to 1.1 million, the rise in population implies that imprisonment rates in Africa decreased by 14 per cent.

Figure 35: **Rate of prisoners per 100,000 population, by region and worldwide, 2016 or latest available year**
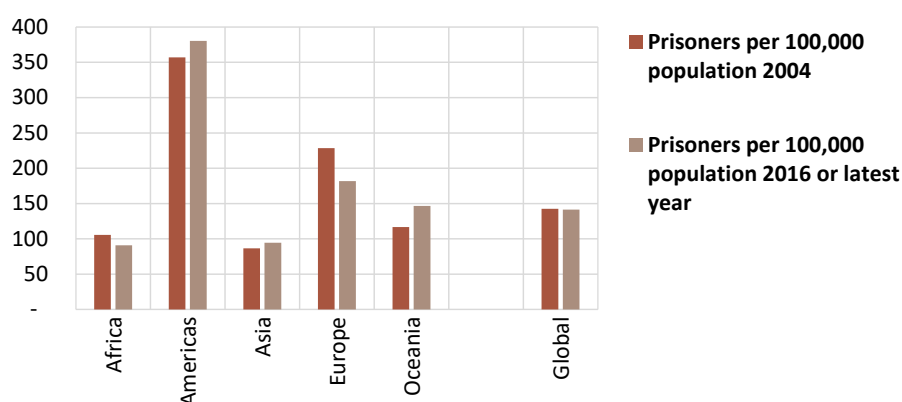
Source: UNODC homicide statistics; Institute for Criminal Policy Research, World Prison Brief database.
Note: Data are based on 224 countries and territories worldwide.

Data on the number and share of prison inmates convicted of homicide should be read in conjunction with overall imprisonment rates. Considering only the countries for which data are available on prisoners convicted of homicide (93 countries), the overall rate of prisoners per 100,000 population in 2016 was 196, while the rate of prisoners convicted of homicide was 13.8 per 100,000, or roughly 1 out of every 14 prisoners (7 per cent) worldwide.[85] Europe has the highest percentage of persons held in prison for

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[82] Van Zyl Smit, D. and Ashworth, A., "Disproportionate sentences as human rights violations", Modern Law Review, vol 67, No. 4 (July 2004), pp. 541–560.

[83] Global prison data are collected in the United Nations Survey of Crime Trends and Operations of Criminal Justice Systems. Additional data are obtained from the World Prison Brief database maintained by the Institute for Criminal Policy Research, which is available at www.prisonstudies.org.

[84] Data for 2004 represent the average of 2003–2005 or the next available year.

[85] This share is calculated out of total prisoners, which includes unsentenced prisoners.

homicide out of total inmates, but the region has a lower imprisonment rate than the Americas, which has a lower percentage of persons in prison for homicide but a much higher total imprisonment rate.

Although the female prison population is rising, female prison inmates remain in the minority. According to UNODC data, in 2016 or the latest available year, globally (data available for 74 countries), the share of women held in prison for homicide was 6.3 per cent. The share of women held for homicide in the Americas and Asia was close to this global average (at 6 and 7 per cent, respectively), while in Europe the share of female prisoners held for homicide was 9 per cent.

Figure 36: **Rate of prisoners detained per 100,000 population, rate of prisoners detained for homicide per 100,000 population and percentage of prisoners convicted of homicide, as a percentage of total prisoners, by region and worldwide (2017 or latest available year)**
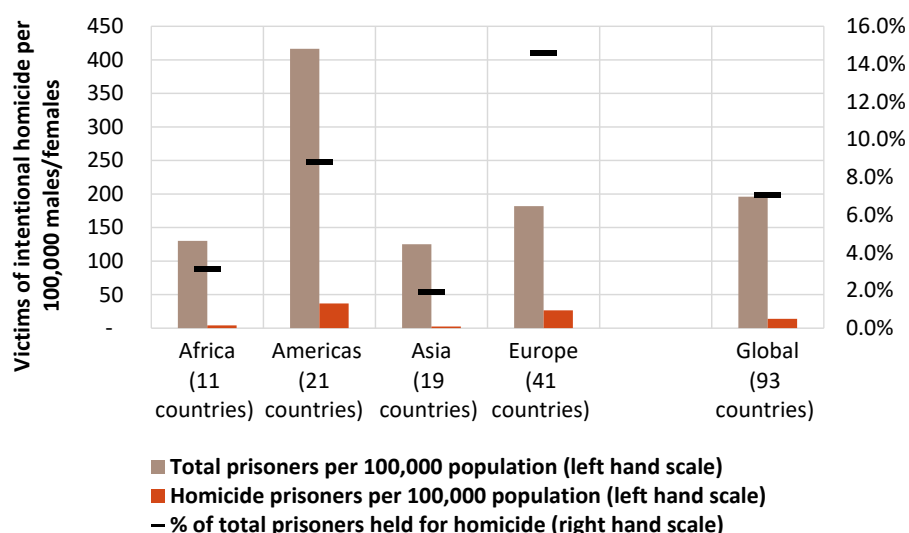
Source: UNODC homicide statistics. United Nations Survey of Crime Trends and Operations of Criminal Justice Systems.
Note: The global total includes one country from Oceania.

Not all homicide perpetrators are sentenced to indeterminate sentences. As of 2018, some 170 States had abolished or introduced a moratorium on the death penalty, either in law or in practice.[86] Moreover, the use of life imprisonment, with and without the possibility of parole, has increased in recent years.[87]

Law enforcement and criminal justice responses to homicide

Examples of criminal justice responses aimed at strengthening the rule of law and fighting impunity can be roughly divided into the following areas: implementing laws and protocols to strengthen the rule of law, improving access to justice, improving resources and improving criminal justice processes.

Criminal justice responses and policy responses to strengthen the rule of law

Many countries have adopted special legal provisions to reduce one very specific and prevalent form of homicide: gender-related killing of women and girls. An extensive list of examples of laws and programmes applied by countries for that purpose is presented in booklet 5 of this study.

Numerous police programmes have been designed and implemented to reduce violence and homicide, but not all have been successful. A key priority for reducing homicide involves strengthening the criminal investigation system. Strategies that yield positive results include: units specialized in homicide investigation; and the creation of coordination mechanisms involving the public prosecutor's office, police forces and civil authorities to oversee investigations.

Dedicated interventions for enhancing law enforcement, justice and penal institutions include the strengthening of police force capacity and improving relations between the police and local communities.

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[86] "Question of the death penalty" – Report of the United Nations Secretary General, General Assembly A/HRC/39/19.

[87] Penal Reform International (2007), "Alternatives to the death penalty: the problems with life imprisonment", Penal Reform Briefing, No. 1 (2007).

A key strategy involves police forces declaring homicide reduction a priority for relevant precincts and personnel. This means setting targets and establishing hard metrics and definitions of success. It also requires the implementation of policies that emphasize homicide prevention and the deterrence of individuals and behaviours that are associated with violent crime. Effective implementation of such strategies requires a well-trained and professional police force that can also forge positive relationships with affected communities.[88]

An example of a programme that has effectively improved homicide investigations is the Smart Policing Initiative in Boston, Massachusetts, which helped the Boston Police Department (BPD) to strengthen homicide investigations and improve clearance rates. In 2011, the BPD homicide clearance rate was, at 30 per cent, well below the national average. This reflected many problems with the BPD homicide investigation process, including a lack of clear policies and protocols and few formal training opportunities for homicide investigators. The then BPD commissioner recognized the need to strengthen investigations and improve clearance rates and, in 2011, with the support of funding from the Bureau of Justice Assistance under its Strategies for Policing Innovation programme, BPD launched a "problem-oriented policing enterprise to understand the underlying nature of their homicide clearance problem, develop appropriate responses to enhance their investigations of homicide victimization, and evaluate the impact of the implemented intervention".[89] The project team, which included practitioners from BPD and researchers from Northeastern University, began by reviewing available research and best practices to determine which factors under police control had an impact on homicide clearance rates. The team then completed a statistical analysis of BPD homicide cases between 2007 and 2011, with a focus on data related to investigative practices and their impact on case clearance.

Using this information, BPD identified and implemented a multitude of reforms to its homicide investigation processes. The department made significant investments as part of this effort, expanding its investigative personnel by more than 35 per cent, purchasing additional forensic equipment, strengthening investigation training, hiring a civilian crime analyst and developing case documentation tools. BPD also addressed a critical gap by developing a standard set of protocols to guide each step of the homicide investigation process. Homicide clearance rates immediately began to rise following implementation of these reforms and, by 2015, the BPD clearance rate had reached 61 per cent – its highest rate in five years.[90]

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[88]   Weisburd, D. et al., "Is problem-oriented policing effective in reducing crime and disorder?", *Criminology and Public Policy*, vol. 9, No. 1 (February 2010), pp. 139–172; Mazerolle, L. et al., *Legitimacy in Policing: A Systematic Review* (Campbell Collaboration, 2013).

[89]   Braga, A. A. and Dusseault, D., "Can police improve homicide clearance rates?", Rappaport Institute Policy Briefs (Harvard Kennedy School, Rappaport Institute for Greater Boston, 2017).

[90]   Ibid.

Since the publication of the previous edition in 2014, the *Global Study on Homicide* has been expanded into a special six-booklet format, five of which are dedicated to thematic areas relevant to the study of the ultimate crime.

Booklet 1 of the *Global Study on Homicide 2019* summarizes the content of the five subsequent substantive booklets by reviewing their key findings and highlighting a set of policy implications derived from the analyses presented in them. Booklet 2 provides an overview of international homicide counts, rates, trends and patterns, and of criminal justice responses to homicide. Booklet 3 examines drivers and mechanisms of, and contributors to, homicide, and looks at the different homicide typologies. The latter is done in an effort to improve understanding of the contexts in which homicide is perpetrated, as this can inform more effective policymaking. Booklet 4 analyses the relationship between homicide and development with reference to the Sustainable Development Goals by looking in detail at the main pillars of development and their reciprocal relationship with homicide and violence. Booklet 5 gives an overview of the scope of gender-related killings of women and girls. It contains an in-depth analysis of killings perpetrated within the family sphere and also examines forms of gender-related killings perpetrated outside the family sphere. Booklet 6 deals with the homicide of children, adolescents and young adults, and covers different types of child killings within and outside the family.

As in previous years, the *Global Study on Homicide 2019* is aimed at improving understanding of this complex phenomenon and at providing policymakers with an updated dataset of cross-national data that evaluates the scale of homicide globally.

The statistical annex is published on the UNODC website: https://www.unodc.org/gsh/