



Report

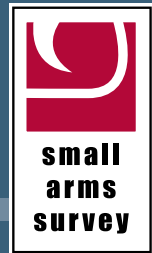
April 2023



WEAPONS COMPASS

The Caribbean Firearms Study

Anne-S everine Fabre, Nicolas Florquin, Aaron Karp,
and Matt Schroeder





WEAPONS COMPASS

The Caribbean Firearms Study

Anne-S everine Fabre, Nicolas Florquin, Aaron Karp,
and Matt Schroeder



A joint report by CARICOM IMPACS and the Small Arms Survey, with financial support from the German Federal Foreign Office, and contributions from the George Alleyne Chronic Disease Research Centre at the University of the West Indies, the Anton de Kom University of Suriname, and Arquebus Solutions.

Credits

Published in Switzerland by the Small Arms Survey

© Caribbean Community (CARICOM) Implementation Agency for Crime and Security (IMPACS) and Small Arms Survey, Graduate Institute of International and Development Studies, Geneva, 2023

First published in April 2023

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without prior permission in writing of CARICOM IMPACS and the Small Arms Survey, or as expressly permitted by law, or under terms agreed with the appropriate reprographics rights organization. Enquiries concerning reproduction outside the scope of the above should be sent to the addresses below.

CARICOM IMPACS, 19 Keate Street, Port of Spain, Trinidad and Tobago

Small Arms Survey, Graduate Institute of International and Development Studies
Maison de la Paix, Chemin Eugène-Rigot 2E, 1202 Geneva, Switzerland

Project coordinator for the Small Arms Survey: Nicolas Florquin

CARICOM IMPACS coordinator: Callixtus Joseph

Production and communications coordination: Olivia Denonville, Katie Lazaro, and Lionel Kosirnik

Fact-checker: François Fabry

Copy-editors: Alessandra Allen and Alex Potter

Proofreader: Stephanie Huitson

Design and layout: Rick Jones

Cartography: Jillian Luff, *MAPgrafix*

Infographics: Daly Design

ISBN 978-2-940747-02-3

CARICOM IMPACS and the Small Arms Survey take no position regarding the status or name of countries or territories mentioned in this publication.

The conclusions put forward in this report are the authors' and do not necessarily reflect the official policy or position of the donor, the Government of Germany.

Cover photo credits: see page 175.

About the authors

Anne-Séverine Fabre is a researcher at the Small Arms Survey, where she mostly works on armed violence and arms trafficking research. Before joining the Survey, she worked in a Swiss penitentiary on the reintegration of offenders through sentence planning and case management. She holds an MLaw in Criminology and Security from the University of Lausanne and a BA in International Relations from the University of Geneva.

Nicolas Florquin is the Small Arms Survey's head of data and analytics, as well as a senior researcher. He oversees projects and undertakes research on armed actors and illicit flows of arms and ammunition, including in Africa, the Caribbean, and Europe. He previously worked for Geneva Call, an organization specializing in engaging with non-state armed groups on humanitarian issues. He holds a PhD from the University of Brighton and an MPA from the Middlebury Institute of International Studies at Monterey.

Aaron Karp is a senior consultant at the Small Arms Survey and a senior lecturer in Political Science at Old Dominion University in Norfolk, Virginia. At the Survey since 1999, he is responsible for estimates of country totals and the global distribution of small arms. His research helped lead to the creation of the Missile Technology Control Regime, the African Nuclear-Weapon-Free Zone, and the first UN General Assembly resolution on small arms. He has an MA and MPhil from Columbia University.

Matt Schroeder is a senior researcher at the Small Arms Survey, where he studies the illicit proliferation of small arms and light weapons, and strategies for mitigating the threat from illicit weapons. He previously served as the director of the Arms Sales Monitoring Project at the Federation of American Scientists. He is the co-author of *The Small Arms Trade* and has written articles for numerous publications, including *Arms Control Today*, *Defense News*, *Defense Technology International*, *Disarmament Forum*, *Foreign Policy*, and *Jane's Intelligence Review*. He holds a bachelor's degree in History from Wittenberg University and a master's in International Security Policy from Columbia University's School of International and Public Affairs.

About the Small Arms Survey

The Small Arms Survey is a global centre of excellence whose mandate is to generate impartial, evidence-based, and policy-relevant knowledge on all aspects of small arms and armed violence. It is the principal international source of expertise, information, and analysis on small arms and armed violence issues, and acts as a resource for governments, policymakers, researchers, and civil society. It is located in Geneva, Switzerland, and is an associated programme of the Graduate Institute of International and Development Studies.

The Survey has an international staff with expertise in security studies, political science, law, economics, development studies, sociology, and criminology, and collaborates with a network of researchers, partner institutions, non-governmental organizations, and governments in more than 50 countries.

The Survey's activities and outputs are made possible through core support as well as project funding. A full list of current donors can be accessed via the Small Arms Survey website.

About CARICOM IMPACS

The Caribbean Community (CARICOM) Implementation Agency for Crime and Security (IMPACS) was established by the Twenty-Seventh Meeting of the Conference of Heads of Government of CARICOM in July 2006, in Bird Rock, St Kitts and Nevis, as the implementation arm of a new regional architecture to manage CARICOM's action agenda on crime and security.

At this meeting, the heads of government signed an Inter-Governmental Agreement establishing IMPACS as a legal entity, with direct responsibility for research, monitoring and evaluation, analysis, and the preparation of background documents and reports, as well as project development and implementation of the regional crime and security agenda.

Foreword

CARICOM IMPACS is honoured to have partnered with the Small Arms Survey to undertake this groundbreaking Report, which is the first Regional Caribbean Firearms Study. Up to this point, previous international assessments often grouped Caribbean states with Latin America. Furthermore, the representative data for the Caribbean was usually inconsistent since some member states were not represented or the data available was not from the same time period. The dynamics of firearm-related crimes in the Caribbean—whether specific or nuanced—were therefore often lost within broader conclusions and recommendations.

This research is timely as the region continues to grapple with and respond to pervasive gun violence. The use and trafficking of illicit firearms by criminals is a serious national and regional problem. It impacts almost every Caribbean jurisdiction and affects the safety of our communities.

This study will help close critical information gaps surrounding firearm-related crimes. It provides a detailed regional picture of firearms holdings and trafficking, the criminal use of ammunition, emerging firearm-related threats, and the socio-economic costs of gun violence. I believe this research will contribute significantly to a better understanding of the problem; help to inform responses to firearm-related crimes; and ultimately reduce firearm-related injuries and deaths, and associated gun crimes.

The best policies are based on accurate and reliable data, and so I am eternally grateful to the Caribbean participating states, our law enforcement partners and experts, and the numerous stakeholders who have contributed to this study. Without their support, it would not have been possible to conduct this research. Special thanks go to members of the Advisory Committee of Regional Experts, who gave their time freely and provided advice and oversaw the study. Special thanks are also due to the George Alleyne Chronic Disease Research Centre (GA-CDRC) at the University of the West Indies, which supported our innovative work on the medical costs of firearm-related crimes in this region.

The study has been over two years in the making and is being published at a time when firearm-related crime is increasing in several countries. I sincerely hope that it provides a comprehensive insight into firearm-related crimes and supports the achievement of positive outcomes in reducing firearm-related crimes. We are honoured to have completed the task and to be able to present its findings.

Lt. Col. Michael Jones

Executive Director

CARICOM IMPACS

Acknowledgements

This study would not have been possible without the assistance and support of numerous individuals and institutions. The authors are indebted to:

- CARICOM IMPACS members for their expert contribution, advice, tireless political and coordination support, and collaborative spirit. We especially want to thank Executive Director Lt. Col. Michael Jones, Callixtus Joseph, Rufus Ferdinand, Keithan Brown and Danielle Jemmott.
- Officials of CARICOM member states; associate members; and other countries, territories, and international organizations (including the International Criminal Police Organization (INTERPOL), the Regional Centre for Peace, Disarmament and Development in Latin America and the Caribbean, and the UN Office on Drugs and Crime) that took the time to respond to our questions and data requests.
- Members of the Advisory Committee of regional experts who provided guidance and feedback to the project in their personal capacities: Graham Archer, Tiffany Barry, Miguel Bernard, Elburt Ferguson, Delton Gordon, Stephen King, Virgilio Murillo, Folade Mutota, Gale Prescod, Randy Seepersad, Errington R. Shurland, Joy St John, and Gregory Williams.
- The GA-CDRC at the University of the West Indies—and especially Joeleita Agard, Simon Anderson, Tanya Martelly, and Natasha Sobers—for coordinating the research on the costs of violence in the Bahamas, Barbados, and Jamaica. Additional thanks to Madeleine Joseph who led the research in the Bahamas, Reginald King who did so in Barbados, and Georgiana Gordon-Strachan, Hugh Wong, and Jason Toppin in Jamaica.
- Mark Antrobus, Randy Seepersad, and the Research Institute for Social Sciences at Anton de Kom University (through Sabine de Vries) for coordinating and undertaking interviews with prison inmates in Belize, Trinidad and Tobago, and Suriname, respectively.

- The Kolbe Foundation for facilitating the research with prison inmates in Belize.
- Glenn Lawrence at Arquebus Solutions and Ramon Sierra at ULTRA Forensic Technology for assistance with the processing of data on illicit ammunition.
- Roberto Codesal, Bill Kullman, Ivaylo Stefanov, and Elizabeth Ward for their reviews of sections of the draft manuscript.
- Nic Marsh of the Peace Research Institute Oslo for his support in retrieving authorised trade data.

At the Small Arms Survey we would like to thank Darine Atwaa, Gianluca Boo, Aurélie Cailleaud, Olivia Denonville, André Desmarais, Emilia Dungal, Lionel Kosirnik, Katie Lazaro, Elise Lebret, Marion Maadoune, Florentina Pircher, Aline Shaban, and Callum Watson for their support at various stages of the project. This study was made possible thanks to the financial support of the German Federal Foreign Office.

Contents

List of boxes, figures, maps, and tables	12
List of abbreviations and acronyms	16
Executive summary	17
Key findings	18
Policy observations	19
Gun violence	19
Firearms holdings	19
Trafficking	20
Illicit ammunition	22
Costs of gun violence	22
Introduction	25
Data collection and methodology	28
1. The regional context of firearm violence	33
Overview	35
Violent deaths	35
Homicides	36
Homicides by firearm	38
2. Firearms holdings	43
Overview	45
Legal civilian firearms	47

Legal ownership and imports	50
What public surveys reveal	54
Illicit ownership	58
3. Illicit firearms	65
Overview	67
Types of illicit firearms	67
Domestic sources	74
Foreign sources	75
The mechanics of firearms trafficking to and within the Caribbean	79
4. Privately made firearms and conversion devices	89
Overview	91
Ghost guns	91
3D-printed firearms and accessories	97
Conversion devices	99
5. Ammunition used in violent crime	101
Overview	103
Main calibres	103
Countries of manufacture and makes	108
Main varieties of headstamps	116
Sources of illicit ammunition	120
6. The costs of gun violence	125
Overview	127
Approaches to estimating the costs of violence	127
The costs of gun violence in the Bahamas, Barbados, and Jamaica	131
Understanding the burden of gun violence on society	139
Conclusion	147
Annexes	149
Endnotes	154
References	165

List of boxes, figures, maps, and tables

Boxes

1	Key terms	29
2	Violence-related terminology	35
3	Insights on gun violence from prison inmates serving firearm-related sentences	40
4	CARICOM responses to firearm questionnaires	45
5	Main reported exporters of ammunition to the seven CARICOM member states and associate members under review	110

Figures

1	Caribbean, CARICOM, and global violent death rates per 100,000 population, 2016–20	36
2	Homicide rates per 100,000 population in CARICOM member states, 2016–20	37
3	Motives for acquiring an illicit firearm, based on interviews with 77 inmates in Belize, Suriname, and Trinidad and Tobago	41
4	Small arms and ammunition exports vs. import reports for CARICOM member states, 2010–19	51
5	Annual firearm imports received by CARICOM member states, 2010–19	52
6	Top ten exporters of firearms and supplies to CARICOM member states, 2010–19	54
7	Legal firearm exports from Caribbean and neighbouring littoral countries to CARICOM member states, 2010–19	55

8	Top ten makes of pistols seized in the Caribbean, 2015–21	72
9	Top makes of seized pistols submitted for tracing by states in different subregions of the Caribbean, 2015–21	73
10	Modes of transport used for trafficking firearms and ammunition from the United States to the Caribbean, 2010–21	80
11a	Calibre distribution of 1,429 cartridges used in incidents of violent crime in the ten Caribbean countries and territories under review, by subregion, 2016–21	104
11b	Calibre distribution of 3,109 cartridges used in incidents of violent crime in Jamaica, 2016–21	105
12	Top five calibres among 1,429 cartridges documented in the ten Caribbean countries and territories under review, by year of criminal incident	107
13a	Top ten identified countries of manufacture of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by subregion, 2016–21	109
13b	Top ten identified countries of manufacture of 3,109 cartridges used in violent crime incidents in Jamaica, 2016–21	110
14	Top five identified countries of manufacture of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by year of criminal incident	111
15	Value of reported small arms ammunition exports to seven CARICOM member states and associate members, by subregion, 2011–20	112
16a	Top ten identified manufacturers of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by subregion, 2016–21	113
16b	Top ten manufacturers of 3,109 cartridges used in violent crime incidents in Jamaica, 2016–21	114
17	Top five identified manufacturers of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by year of criminal incident	115
18	Top ten ammunition headstamps of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by subregion, 2016–21	117
19	Top five ammunition headstamps among 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by year	121

20	Percentage of intentional homicides by mechanism for the Bahamas, Barbados, and Jamaica, 2019	132
21	Percentage of violent injuries in study sample, by mechanism and severity	134
22	The medical costs inflicted by different types of firearm injuries, and how they affect work and productivity	140
23	Current health expenditure per capita and average medical cost of a gunshot wound (USD)	144
A.1	Distribution of 1,429 cartridges used in violent crime incidents in ten Caribbean countries and territories, by year of criminal incident	150

Maps

1	CARICOM member states and associate members, and subregional groupings used in this Report	30
2	Reported firearm registration in CARICOM member states and associate members	62
3	Rifles as a percentage of firearms submitted for tracing to US ATF for selected countries, 2016–20	68
4	Top five cartridge headstamps among the sample of ammunition used in violent crime under review, by subregion, 2016–21	118

Tables

1	International and regional small arms control instruments adopted by CARICOM member states	27
2	Number of homicides and homicides by firearm in CARICOM member states, 2019–21	39
3	Firearms data collected through the Survey’s National Small Arms Questionnaire, by category	46
4	Reported firearm licences and registrations	48
5	Rates of firearm licences and registrations per 100 residents	49
6	Firearm ownership surveys in the Caribbean	56
7	Firearm surveys and registered firearms	57
8	Surveys of legal and illegal firearm ownership	59
9	Expert and professional estimates of total civilian firearms in Haiti	60
10	Types of firearms seized in (or intended for) the Caribbean, 2015–21	70

11	Select firearms with Guatemalan markings seized by Belizean authorities, 2018–21	77
12	Firearms seized and traced by Curaçaoan authorities, 2017 to May 2022	78
13	Location of seizures in Jamaica, 2016–21	81
14	Examples of concealment methods used to smuggle arms and ammunition to the Caribbean, 2010–22	84
15	PMFs, receivers and frames, and related kits bound for the Caribbean and seized by US customs officials, 2020–21	92
16	Conversion devices seized by the Trinidad and Tobago Police Service, 2020–21	100
17	Ammunition varieties with a time-to-crime value of five years or less encountered at violent crime scenes in the ten Caribbean countries and territories under review, 2016–21	123
18	Examples of costs of interpersonal violence in existing literature	128
19	Minimum data requirements based on the severity of the injury (WHO model)	130
20	Impact by type of weapon on fatally and non-fatally wounded patient (outcomes and use of hospital services)	135
21	Average medical costs per non-fatal injury, by mechanism and service type (USD)	136
22	Average productivity losses per injury, by severity and mechanism (USD)	138
23	Estimated total medical costs and productivity losses from gun violence in 2019	143
A.1	Distribution of the illicit ammunition data set, by subregion and country or territory	150

List of abbreviations and acronyms

ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
BVI	Royal Virgin Islands Police Force
CARICOM	Caribbean Community
DCIS	Direction de la Coopération Internationale de Sécurité
ED	Emergency department
Firearms Roadmap	Roadmap for Addressing Caribbean Priority Actions on the Illicit Proliferation of Firearms and Ammunition across the Caribbean in a Sustainable Manner by 2030
GA-CDRC	George Alleyne Chronic Disease Research Centre
GDP	Gross domestic product
ICU	Intensive care unit
IMPACS	Implementation Agency for Crime and Security
INTERPOL	International Criminal Police Organization
IRCGN	Institut de Recherche Criminelle de la Gendarmerie Nationale
NGO	Non-governmental organization
PMF	Privately made firearm
UN	United Nations
UN Comtrade	UN Commodity Trade Statistics Database
USD	United States dollar
UWI	University of the West Indies
WHO	World Health Organization

Executive summary

The Caribbean region suffers from some of the world's highest rates of violent deaths, with firearms used in the majority of these crimes. Although most homicide victims are men, the Caribbean as a region also faces one of the world's highest rates of violent deaths among women. While much emphasis has been placed on firearms control at both the political and operational levels, illicit firearms and the dynamics of illicit arms markets in this region have received little research attention. In response, the Caribbean Community (CARICOM) Implementation Agency for Crime and Security (IMPACS) partnered with the Small Arms Survey to carry out a comprehensive evidence-based study of illicit arms trafficking to and within the Caribbean, and the socio-economic costs of firearm-related violence in the region. This Report examines these issues by drawing on data and information collected from 13 of the 15 CARICOM member states and from 22 Caribbean states in total. The study also incorporates the results of original fieldwork undertaken by regional partners, including interviews with prison inmates serving firearm-related sentences, and research in selected hospitals related to gunshot wounds and the associated medical costs and productivity losses for patients.

Key findings

- The rate of violent deaths in CARICOM member states is almost three times the global average. Firearms are used in more than half of all homicides in the whole Caribbean region, and in some countries this proportion reaches 90 per cent.
- Case study research in the Bahamas, Barbados, and Jamaica reveals that firearm-related violence imposes significant public health and economic burdens on Caribbean communities and societies. In these countries, the average medical expenditures for treating a single gunshot wound exceed the annual health spending per capita by ratios ranging from 2:1 to 11:1.
- Legal civilian firearm ownership is tightly regulated in the region. As a result, firearms licensing and registration data is relatively available, and suggests a low rate of legal civilian firearm ownership in the region compared with the global average.
- Based on seizure and trace data, the vast majority of illicit firearms circulating in the Caribbean are handguns. While illicit rifles and rifle ammunition are emerging concerns for law enforcement officials, their use by criminals in the Caribbean remains limited.
- The US domestic market is a major source of illicit firearms and ammunition in the Caribbean, and is likely the largest source in some states and territories. That said, data gaps and ambiguities preclude a definitive assessment, and available evidence indicates that firearms are also sourced from other countries.
- Firearms and ammunition are trafficked from the United States to the Caribbean via commercial airliners, postal and fast parcel services, and maritime shipping companies. Although the primary transport mode varies from country to country, firearms trafficking via maritime cargo shipments is particularly common in much of the Caribbean.
- While available evidence suggests that privately made firearms (PMFs) currently represent only a small percentage of illicit firearms in the region, the true extent of their proliferation is unknown due to under-reporting and other data limitations.

Policy observations

The following policy observations draw on the Report’s research findings and are based on in-depth discussions and consultations with the Advisory Committee of regional experts. They are organized based on the Report’s main substantive sections, and according to whether they relate to regional policies or national-level operations. Regional policy observations refer to legislative and regulatory reforms that concern all CARICOM member states and associate members. Operational recommendations are suggested as national- or subnational-level actions to be implemented by specific government agencies and NGOs.

Gun violence

Policy level (regional)

- Implement interventions to address the factors that contribute to the regional demand for illicit firearms, including youth involvement in gangs, drug use, and drug trafficking.
- Review lessons learned on the effectiveness of, and consider promoting, community development programmes such as skills development, sports, the reform of school curriculums, and other initiatives to positively engage with young people and provide platforms to educate them on gun violence prevention and other social issues.

Operational level (national)

- Develop comprehensive programmes to address the recidivism of gun crime offenders by helping them to reintegrate into society successfully and pursue reintegration efforts in their communities through measures such as job training and placement, peer-support programmes, and housing-support initiatives.
- Assess the impact of urban planning and design—especially at the community level—on the prevalence of firearms trafficking and gun violence.
- Undertake research in female prisons to better understand the gendered dimensions and effects of firearms misuse and trafficking.

Firearms holdings

Policy level (regional)

- Standardize digital firearm registration systems throughout the Caribbean to facilitate record-keeping, the tracing of seized firearms, and criminal investigations.

- Promote regional transparency on firearms holdings data, including the firearms of government agencies, in order to promote firearms security and facilitate information sharing, and to rapidly detect firearms losses.
- Establish a digital mechanism for the regular reporting of data on national firearm licensing, registration, seizures, and destruction, possibly managed by CARICOM IMPACS. This reporting mechanism could be made available to other countries in the region.
- Develop surge capacity in customs, policing, medical, and social services to address sudden increases in firearms availability and be ready to respond to the violent consequences of such increases. Surge capacity might be built through multinational cooperation among CARICOM member states and other neighbouring countries.

Operational level (national)

- Implement firearm amnesties and buy-backs to reduce the pool of unregistered and unwanted firearms, and promote the role of all citizens in reducing firearm violence. These activities should be based on regional and international best practices regarding their legal implications, incentive mechanisms, the types of eligible firearms, and recent technological trends (such as whether to include inexpensive PMFs in these schemes).
- Ensure consistent, transparent, accountable firearm licensing procedures by ensuring that they are run by inter-agency bodies and committees rather than individual officials, and are regularly reviewed for effectiveness.
- Consider technological improvements to enhance the record-keeping of state-owned firearms.

Trafficking

Policy level (regional)

- Establish a high-level, multi-agency joint committee on illicit firearms and ammunition with the United States to address the flow of illicit firearms to the Caribbean.
- Work with supplier countries of firearms, ammunition, and their parts to ensure that exports of firearms to the region are robustly and systematically screened, and are subject to rigorous end-use monitoring.
- Support Haiti to stop the illegal import and export of firearms, ammunition, and their parts, with the goal of addressing that country's current crisis of armed violence and firearms trafficking.

- Promote and allocate resources for a CARICOM regional and multisector response to firearms trafficking and violence through cooperation and intelligence sharing among the police, forensic, customs, tourism, maritime, and public health sectors.
- Develop a CARICOM regional forensic strategy that promotes a consistent scientific approach to combating firearm crime, facilitates the sharing of operational forensic evidence on illicit firearms, and supports investigations.
- Establish a skilled regional forensic team for analysing and processing significant firearms seizures in contributing states.
- Proactively adopt policies and legal frameworks aimed at addressing emerging threats (for example, the illicit proliferation of 3D-printed firearms, components, and accessories, and ghost guns).

Operational level (national)

- Establish more stringent and standardized firearms controls for pleasure craft, including laws and regulations on the declaration and storage of firearms on visiting pleasure craft.
- Use the available rules-based targeting and risk analysis tools and approaches for identifying high-risk cargo and intercepting firearms and ammunition trafficking. Such tools utilize data on cargo origins and destinations, transport modes, concealment methods, and smuggling techniques used by traffickers in the region to flag at-risk shipments and cargo.
- Ensure that the units and personnel assigned to identify, document, and trace seized weapons and ammunition have the requisite skills and regular training. When appropriate, shift these responsibilities from armourers to crime scene investigators and other specialized units.
- Identify and assess the costs and benefits of promising procedural and technical solutions for improving the scanning of cargo containers, vehicles, and other objects used by traffickers to conceal illicit firearms and ammunition.
- Engage with post offices and parcel shipment companies in source countries to ensure the scanning of outgoing parcels for illicit firearms, ammunition, and their parts is more systematic.
- Prioritize the training of customs and law enforcement officials on PMFs and their utility to criminals, with a particular focus on identifying emerging trends in technology and proliferation, including new types of PMFs and production techniques.
- Consider the use of drones for enhancing monitoring at borders, ports, and customs facilities.

Illicit ammunition

Policy level (regional)

- Standardize and formalize the regional sharing of data on firearm crimes and seizures to facilitate the querying and sharing of information regarding fired bullets and cartridge cases nationally, regionally, and internationally using the automated firearm identification systems available (such as the National Integrated Ballistic Information Network or CARICOM Regional Integrated Ballistic Information Network).
- Enhance controls on legally imported and sold ammunition, including controls on legal dealers, shooting clubs, and private security companies.
- Enhance capacities to identify and interdict the smuggling of ammunition at borders and points of entry.
- Consider marking officially issued and imported ammunition for state security agencies and their personnel to reduce diversion risks and facilitate the identification of the authorized importer, batch number, and end user.

Operational level (national)

- Integrate the recording and analysis of seized ammunition data into the standard operating procedures of forensic, customs, and other relevant institutions.
- Where appropriate, initiate tracing requests on seized ammunition, especially recently produced ammunition that is seized in its original packaging (which typically indicates the relevant lot or batch number).
- Ensure that firearm-crime-related training for the relevant authorities and law enforcement agencies always includes developing their capacity to detect and seize illicit ammunition.

Costs of gun violence

Policy level (regional)

- Create a multisectoral, multi-institutional regional crime laboratory hosted by regional research centres to support data-driven research, the implementation of the recommendations of this regional study, the coordination of data collection, and the sharing of findings and lessons learned in the various sectors (for example, drawing on the experience of the Covid-19 coordination group).
- Design self-assessment tools and increase the use of computerized procedures and tools for the collection of public health, police, and legal records to facilitate regional information exchange and research.

- Promote model legislation that establishes legal requirements for hospitals and mortuaries to report firearm injuries to the police. Where such legislation and requirements are already in place, ensure the consistent implementation of these requirements.

Operational level (national)

- Strengthen national violence and injury data collection systems in hospitals and mortuaries to improve the recording of data on armed violence, and ensure sustained funding.
- Encourage and support research on the impact of the Covid-19 pandemic on gun violence and its societal costs as a first step towards better anticipating and responding to future pandemics.
- Streamline ethical review processes for firearm-related research.

“Overall, the project received inputs from 13 of the 15 CARICOM member states, and from 22 Caribbean states in total.”

Introduction

The Caribbean region suffers from some of the world's highest rates of violent deaths, with firearms used in the majority of homicides. Although most homicide victims are men, the Caribbean as a region also faces high rates of violent deaths among women (Small Arms Survey, n.d.b). These realities have multiple impacts on the region, including human consequences, socio-economic implications, and security challenges.

CARICOM and its member states have sought to address the issue of firearm violence through a series of regional initiatives over the past two decades, and notably through the establishment of IMPACS in 2006 (Berman and Maze, 2016, pp. 74–75). CARICOM member states have since almost universally adopted the principal international and regional small arms control instruments (see Table 1). In 2020 CARICOM member states and the Dominican Republic adopted the Roadmap for Addressing Caribbean Priority Actions on the Illicit Proliferation of Firearms and Ammunition across the Caribbean in a Sustainable Manner by 2030 (Firearms Roadmap) (CARICOM IMPACS and UNLIREC, 2020).

While much effort has been put into firearms control at both the political and operational levels, firearms trafficking in the Caribbean and the specific characteristics of the markets fuelled by this trade have received little research attention. Crucially, a region-specific assessment of illicit small arms in the Caribbean is lacking, because existing research often lumps the region together with Latin America, obscuring the specific dynamics of illicit transfers, possession, and firearms use in the Caribbean (UNODC, 2020). A critical information gap surrounds the mechanics of small arms trafficking both within the region itself and from source countries in other regions.

Filling these gaps is essential for maximizing the use of scarce resources, anticipating and responding to relevant technological changes, setting regionally relevant targets for the Firearms Roadmap, and monitoring progress towards the achievement of these targets. At the global level, a better understanding of regional firearms trafficking supports Caribbean implementation of Sustainable Development Goal (SDG) 16.4 ('reduce illicit . . . arms flows') and SDG 16.1 ('reduce all forms of violence and related death rates') (UN Caribbean, 2022).

In order to tackle these critical issues, CARICOM IMPACS partnered with the Small Arms Survey to carry out a comprehensive, evidence-based study of illicit firearms in the region. The project was undertaken between January 2021 and December 2022, and was supported financially by the German Federal Foreign Office.

This Report aims to provide CARICOM member states with data-driven, policy-relevant analysis of the scope and scale of firearms holdings in the region, illicit arms and ammunition flows, and the costs of firearm violence. Specifically, the Report seeks to address the following questions in the context of the Caribbean region:

Table 1 International and regional small arms control instruments adopted by CARICOM member states*

CARICOM member states ^a	Caribbean Firearms Roadmap (adopted) ^b	CIFTA (ratified) ^c	Arms Trade Treaty (ratified) ^d	UN Firearms Protocol (ratification or accession) ^e	UN Programme of Action (most recent national report submitted) ^f
Antigua and Barbuda	Yes	Yes	Yes	Yes (accession)	2020
Bahamas	Yes	Yes	Yes	Yes (accession)	–
Barbados	Yes	Yes	Yes	Yes (ratification)	2003
Belize	Yes	Yes	Yes	No	2020
Dominica	Yes	Yes	Yes	Yes (accession)	–
Grenada	Yes	Yes	Yes	Yes (accession)	2022
Guyana	Yes	Yes	Yes	Yes (accession)	2010
Haiti	Yes	Yes	No	Yes (accession)	2003
Jamaica	Yes	No	Yes	Yes (ratification)	2020
Montserrat	Yes	N/A	N/A	N/A	N/A
St Kitts and Nevis	Yes	Yes	Yes	Yes (accession)	–
St Lucia	Yes	Yes	Yes	No	–
St Vincent and the Grenadines	Yes	Yes	Yes	Yes (accession)	2018
Suriname	Yes	Yes	Yes	No	2020
Trinidad and Tobago	Yes	Yes	Yes	Yes (accession)	2016

Notes: * As of 20 October 2022. N/A = not applicable. ^a All are independent states except Montserrat, which is a British Overseas Territory. ^b UNLIREC (2022). ^c OAS (n.d.).

^d ATT (2022). ^e UN (n.d.a). ^f UNODA (2022).

- What is the scale of—and main trends in—licit and illicit firearms holdings (see Box 1 on terminology)?
- What are the main types, models, and sources of—as well as the modes of transport, concealment methods, and smuggling techniques for—firearms and their parts, accessories, and ammunition?
- How are emerging trends in the production of PMFs affecting the region?
- What are the direct and indirect costs of gun violence in the region? How do the costs of firearm-related violence compare to those of other types of violence?

The Report is divided into six main sections. Section 1 provides a brief overview of gun violence in the region, including key contextual issues. Section 2 assesses civilian firearms holdings in the region. Section 3 identifies the main types of illicit firearms in circulation, their domestic and foreign sources, and the mechanics of trafficking to and within the Caribbean, including the modes of transport, concealment methods, and smuggling techniques used by traffickers. Section 4 assesses emerging challenges related to the proliferation of ghost guns, 3D-printed firearms and accessories, and conversion devices, while Section 5 reviews the specific types of ammunition retrieved at the scenes of violent crimes. Section 6 examines the costs of gun violence, including a presentation of new case study research on direct medical costs and productivity losses suffered in the Bahamas, Barbados, and Jamaica.

Data collection and methodology

This study is the result of a unique partnership between CARICOM IMPACS and the Small Arms Survey. This collaboration made it possible to secure access to and permission to cite a range of officials and statistics from the region's state security services. Overall, the project received inputs from 13 of the 15 CARICOM member states, and from 22 Caribbean states in total, as well as from government agencies in France and the United States. These inputs include:

- national statistics on fatal and non-fatal violent injuries, often disaggregated by weapon type, intent, and gender and age of the victim;
- official responses to a questionnaire on holdings and seizures of specific types of firearms sent to all CARICOM member states and associate members;
- data on weapons seized by authorities in Caribbean states, including firearms and ammunition retrieved at crime scenes and processed by forensic and ballistics services (see Annexe 1);
- documentation prepared by national authorities;
- key informant interviews with customs, defence, and police officials;

- data from national governments and international partners (such as the International Criminal Police Organization, INTERPOL) on seizures of shipments of firearms and ammunition at ports of exit and on firearms submitted for tracing; and
- court documents generated during the prosecution of arms trafficking networks based in the United States.

In parallel, CARICOM IMPACS and the Small Arms Survey engaged with regional experts to benefit from their support, guidance, expertise, and networks. To that end, they established a 12-member Advisory Committee of regional experts in criminology, gender, forensic ballistics, law, public health, research methods, and firearms investigations with diverse geographical perspectives. The virtual inaugural meeting of the Advisory Committee took place in June 2021, during which its members reviewed the outcomes of the project’s inception phase. Among its recommendations, the Advisory Committee suggested partnering with regional research institutions and experts for the following activities, which served to supplement the official sources listed above:

Box 1 Key terms

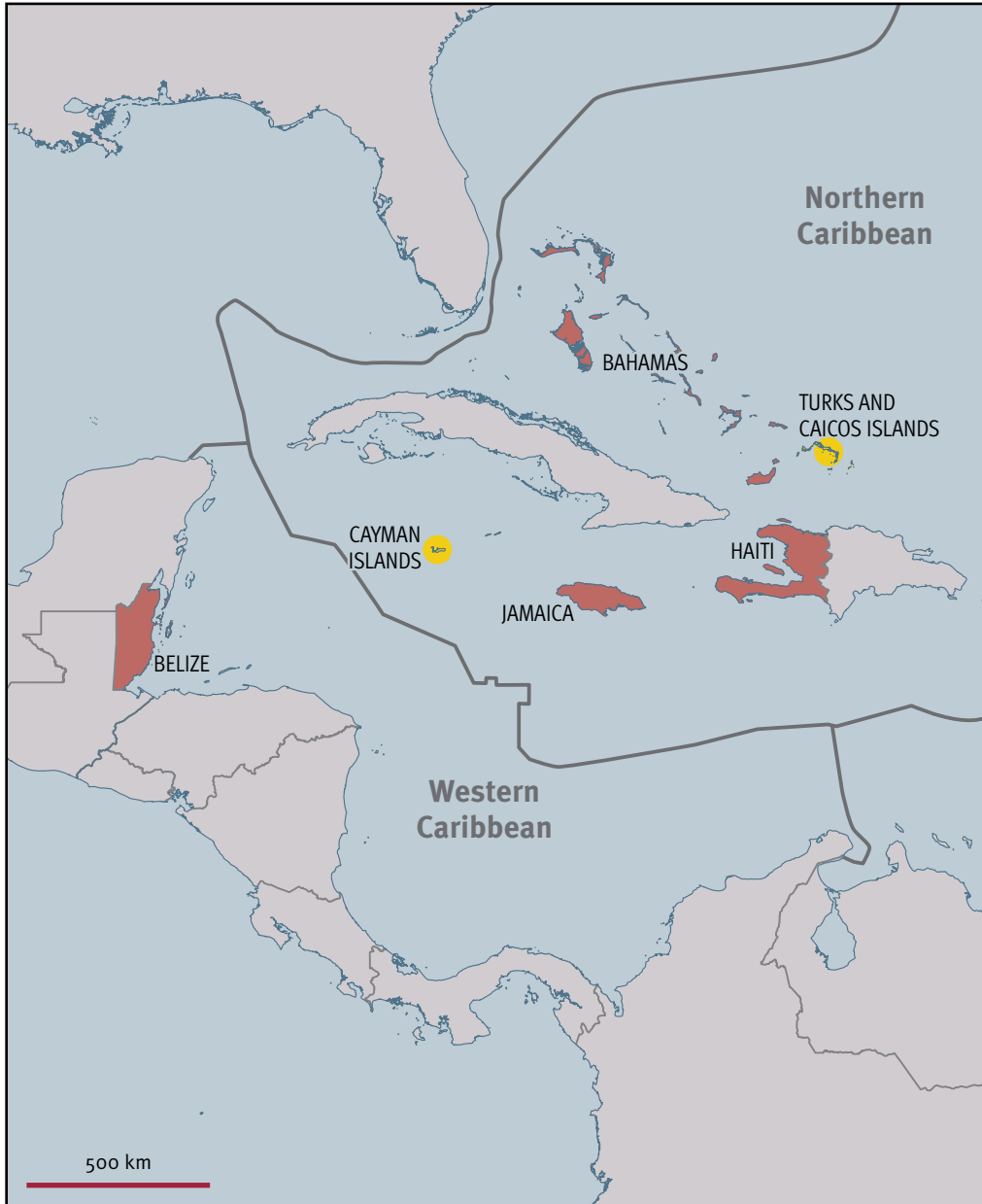
The scope of the assessment is limited to firearms and their parts, accessories, and ammunition. The term ‘firearms’ refers to weapons belonging to the following categories only: revolvers and self-loading pistols; rifles and carbines; shotguns; sub-machine guns; and light and heavy machine guns. The terms ‘arms and ammunition’ and ‘weapons’ are used interchangeably and refer to firearms and their ammunition, parts, and accessories.

The term ‘accessory’ refers to an item that physically attaches to a weapon and increases its effectiveness or usefulness but, generally speaking, is not essential for the basic intended use of the weapon (Grzybowski, Marsh, and Schroeder, 2012, p. 245).

The term ‘illicit weapons and ammunition’ refers to weapons and ammunition that are held, modified, produced, transferred, or used in violation of national or international law. The Survey uses the term ‘illicit’ rather than ‘illegal’ to account for cases of unclear or contested legality (Schroeder, 2014, p. 246). ‘Trafficking’ and ‘smuggling’ are also used interchangeably and refer to the illicit transfer of weapons within or across national borders, usually involving a change in ownership.

The assessment focuses primarily, but not exclusively, on the 15 CARICOM member states and five associate members. When referring more broadly to the Caribbean and other regions, the Report generally uses the regional groupings as defined by the UN Statistical Division (UNSD, n.d.). In some sections data is aggregated at the subregional level based on WRI (n.d.), with the northern Caribbean encompassing the Greater Antilles, Bahamian, Florida, and Bermuda subregions; the western Caribbean comprising the western and south-western Caribbean subregions; and the south-eastern Caribbean including the southern and eastern Caribbean (see Map 1).

Map 1 CARICOM member states and associate members, and subregional groupings used in this Report



Source: WRI (n.d.)



- qualitative interviews with prison inmates serving firearm-related sentences in Belize, Suriname, and Trinidad and Tobago—undertaken by national research teams (see Annexe 2); and
- fieldwork in selected hospitals in the Bahamas, Barbados, and Jamaica to collect data on gunshot wounds and associated medical costs and productivity losses for patients—coordinated by the George Alleyne Chronic Disease Research Centre at the University of the West Indies (see Section 6).

In August 2022 the Advisory Committee met with CARICOM IMPACS and the Small Arms Survey research team in Barbados to review the draft regional study and discuss its policy implications during a two-day workshop. ●



On average, more than half of the homicides committed in the Caribbean region involve the use of a firearm.”

1. The regional context of firearm violence

Section findings

- The rate of violent deaths in CARICOM member states is almost three times the global average. Firearms are used in more than half of all homicides on average in the whole Caribbean region, and in some countries this proportion reaches 90 per cent.
- While lethal violence decreased slightly in the region in the period 2016–20, the picture varies from country to country. Available figures for 2021–22 suggest that the current trend may reverse and therefore start to rise again.
- Firearm-related violence in the region is closely intertwined with the availability of illicit firearms and gang violence (although the latter does not affect all Caribbean countries to the same extent).

Overview

The Caribbean region is mostly composed of small islands and is located between two larger regions—North and South America. It faces a multitude of security challenges, including trafficking and organized crime. The geographical configuration of many Caribbean territories, such as the archipelagos, adds another layer of complexity in implementing border controls and fighting illicit trafficking activities.

The following section provides an analysis of violent death rates in the Caribbean and presents trends in homicide rates, focusing in particular on those committed with firearms. It goes on to briefly discuss victims and perpetrators of armed violence in the region, and to explore the gendered impacts of this violence.

It also reviews some of the factors that underlie gun violence in the Caribbean, including gang violence, drug trafficking, and access to illicit firearms. The section concludes by drawing on interviews undertaken with prison inmates in Belize, Suriname, and Trinidad and Tobago, which shed light on the illicit acquisition of firearms in the Caribbean.

Violent deaths

Although CARICOM states and territories do not manufacture firearms and ammunition, their wide availability in the region has contributed to high levels of violence and a generalized insecurity. According to the Small Arms Survey’s Global Violent Deaths database (Small Arms Survey, n.d.b), between 2016 and 2020 nearly 31,500 people

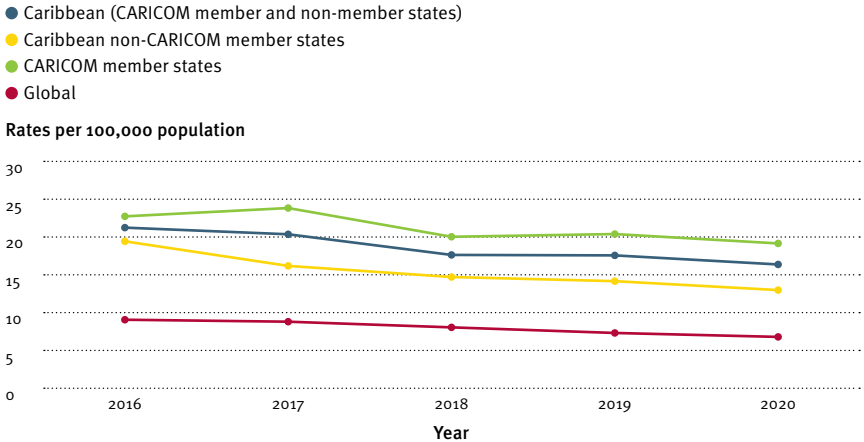
Box 2 Violence-related terminology

The term ‘interpersonal violence’ covers violence ‘inflicted by another individual or by a small group of individuals’ (Butchart et al., 2008, pp. 4–5). This differs from ‘self-directed violence’ (that is, self-abuse and suicide) and ‘collective violence’ (that is, ‘violence inflicted by larger groups such as states, organized political groups, militias and terrorist organizations’) (p. 4).

The term ‘violent deaths’ includes intentional and unintentional homicides, direct conflict deaths (for countries and territories in armed conflict), and killings during legal interventions (Small Arms Survey, n.d.b). In this study, direct conflict deaths are only included in the global violent deaths figures, since there is no country or territory experiencing an armed conflict—as defined in the Global Violent Deaths database—in the Caribbean.

Unless stated otherwise, the term ‘homicide’ refers to ‘intentional homicide’, defined as ‘unlawful death inflicted upon a person with the intent to cause death or serious injury’ (UNODC, 2019a).

Figure 1 Caribbean, CARICOM, and global violent death rates per 100,000 population, 2016–20



Note: Non-CARICOM member states include Anguilla, Aruba, Bermuda, the British Virgin Islands, the Cayman Islands, Curaçao, Dominican Republic, French Guiana, Guadeloupe, Martinique, Puerto Rico, Turks and Caicos Islands, and the US Virgin Islands.

Source: Small Arms Survey (n.d.b)

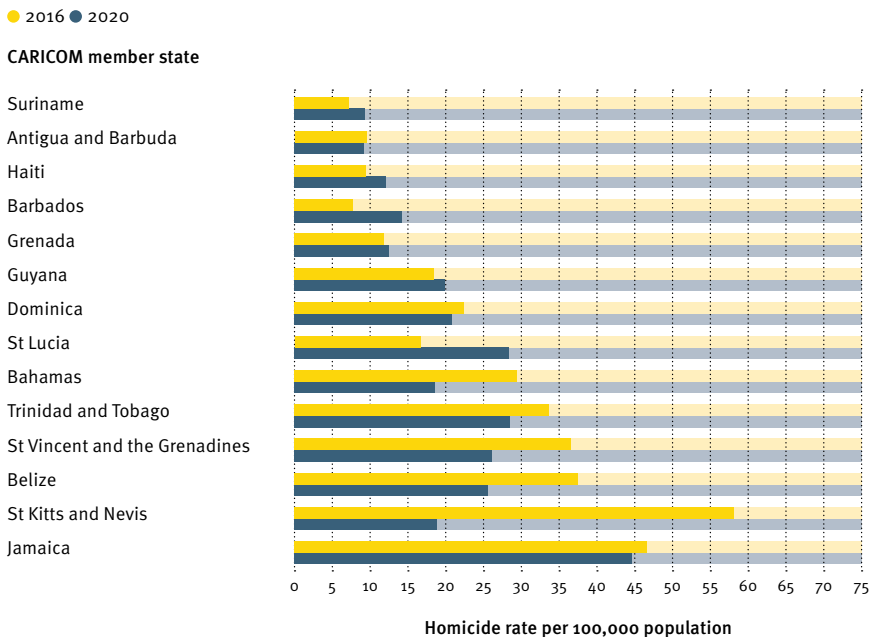
lost their lives from interpersonal violence in the Caribbean region (see Box 2).¹ More than 60 per cent of these deaths occurred in CARICOM member states and associate members, a significant figure given that most countries and territories in the region are small islands with fewer than 500,000 people, with only three countries—Haiti, Jamaica, and Trinidad and Tobago—having more than a million inhabitants. In this sense, the rate of lethal violence in the Caribbean—which corresponds to the number of violent deaths in relation to the population—was 16.4 victims per 100,000 population in 2020. If only CARICOM member states are considered, this rate was 17 per cent higher at 19.2 victims per 100,000 population. This was almost three times the global rate (6.8) for the same year (see Figure 1).

Homicides

While the overall violent death rate in the Caribbean remains high, the situation varies greatly over time and between countries in terms of homicides. The aggregated homicide rate for CARICOM member states and the Caribbean more generally has in fact decreased overall during the 2016–20 period, including in the six most affected countries.² A few countries with relatively lower homicide rates—such as Antigua and Barbuda and Dominica—have experienced either a steady decrease in homicide rates

between 2016 and 2020, or varying rates throughout this period but ultimately no significant change. On the other hand, Barbados’s homicide rate has increased by 85 per cent since 2016 to 14.27 victims per 100,000 population in 2020. Figure 2 shows the average homicide rates for 2016 and 2020. In 2020 the homicide rates in Grenada, Guyana, and Haiti also exceeded their 2016 levels (see Figure 2).³ Belize (25.7 victims per 100,000 population), Jamaica (44.7), St Lucia (28.3), St Vincent and the Grenadines (26.1), and Trinidad and Tobago (28.5) are the CARICOM member states that experienced the highest levels of homicides in 2020. It should be noted that rates may be very volatile in less-populated countries because minimal changes in the annual number of homicides could result in large differences in homicide rates from year to year. The impact of violence in these countries, however, should not be understated. As of summer 2022, several officials in the Caribbean region have reported a substantial rise in violence, which led them to declare gun violence a public health issue or a priority (CARICOM IMPACS, 2022; Gonzalez, 2022; Rollock, 2022; Salmon, 2022).

Figure 2 Homicide rates per 100,000 population in CARICOM member states, 2016–20



Notes: Montserrat is not shown on the graph because no homicides occurred between 2016 and 2020. For Haiti, data may be incomplete given the security situation in the country, and the rate for 2019–20 is based on the UN Integrated Office in Haiti data retrieved from UNSC (2020; 2021).

Sources: Small Arms Survey (n.d.b); UNODC (n.d.); UNSC (2020; 2021)

Homicides by firearm

On average, more than half of the homicides committed in the Caribbean region involve the use of a firearm (Small Arms Survey, n.d.b). Jamaica, Haiti, Trinidad and Tobago, and the Bahamas are among the countries with the highest percentages of firearms-related homicides at 90,⁴ 84, 78, and 75 per cent of total homicides, respectively,⁵ while the figure for Belize reaches 66 per cent (BCO, 2020, p. 7) (see Table 2). Guyana is on the other end of the spectrum, with 17 per cent of firearm-related homicides.⁶ In some countries, such as the Bahamas, the use of firearms is also prevalent in other violent crimes, such as armed robberies (RBPF, 2022, p. 1).⁷

Similar to trends observed globally, young men under 30 years of age are both the most common victims and perpetrators of gun violence, as well as of lethal violence overall in the region.⁸ Estimates for 2020 show that on average 90 per cent of the victims of lethal violence in CARICOM member states were men, which is more than the global figure of 83 per cent (Small Arms Survey, n.d.b). This high proportion of male victims is closely associated with gang-related conflict in the region, where men are more likely to be casualties (UNODC, 2019b, pp. 10, 44). This phenomenon appears to be also related to the expressions of masculinity connected with gun use and possession (Baird, Bishop, and Kerigan, 2021, pp. 13–15; Myrntinen, 2019, p. 67). It is worth noting, however, that the proportion of male victims varies across Caribbean countries. For example, in 2020 men represented 75 per cent of homicide victims in Guyana and Suriname, while they accounted for more than 90 per cent in the Bahamas, Dominica, Grenada, Haiti, and Trinidad and Tobago.

Although they represent a small percentage of fatalities from violence in the Caribbean, women living in CARICOM areas are nevertheless more likely to be victims of firearm killings than women worldwide, with a rate of 1.7 per 100,000 population in CARICOM countries, compared with 0.54 globally in 2020. Still, women in the region remain less exposed to such violence than those living in Central America (Small Arms Survey, n.d.b). The proliferation of firearms in the Caribbean region is arguably a catalyst for a more violent and, in turn, increasingly dangerous environment for women (Boodram, 2022). Regarding the use of firearms in violence against women, a study in Grenada, Guyana, Jamaica, Suriname, and Trinidad and Tobago found that at least one out of 14 women surveyed who had ever been in a relationship had been threatened with or had had a weapon (gun or knife) used against them by their intimate male partner (CDB, CARICOM, and UN Women, n.d.).

Gun violence in the Caribbean is often associated with the three intertwined factors of gang violence, drug trafficking, and access to illicit firearms.⁹ Research has shown an increase in the number of gangs of various sizes and levels of influence in the region, largely as a result of existing gangs splitting into smaller groups. Haiti, Jamaica, and

Table 2 Number of homicides and homicides by firearm in CARICOM member states, 2019–21 (as of December 2022)

	2019		2020		2021	
	Homicide	Homicide by firearm	Homicide	Homicide by firearm	Homicide	Homicide by firearm
Antigua and Barbuda	3	2	9	3	–	–
Bahamas	95	71	73	58	119	104
Barbados	48	30	41	26	32	17
Belize	134	89	102	79	125	89
Dominica	14	4	14	7	–	–
Grenada	16	0	16	2	–	–
Guyana	136	33	157	27	131	24
Haiti	1,081	–	1,380	–	1,615	–
Jamaica	1,339	1,119	1,323	–	1,463	–
Montserrat	0	0	0	0	–	–
St Kitts and Nevis	12	9	10	6	–	–
St Lucia	53	31	52	40	–	–
St Vincent and the Grenadines	19	10	29	–	–	–
Suriname	30	10	55	13	18	–
Trinidad and Tobago	538	433	398	309	448	–

Sources: BCO (2020; 2021; 2022); BCO and Infosegura (2022); CBC (2022); Central Statistical Office of Saint Lucia (n.d.); DPI (2022); Jamaica Constabulary Force (n.d.); Korps Politie Suriname (2021); RBPF (2020; 2022); Small Arms Survey (n.d.b); Suriname Ministry of Justice and Police (2022); TTPS (n.d.b; n.d.c); UNODC (n.d.); UNSC (2020, p. 4; 2021, p. 4; 2022a, p. 4); written correspondence with Ms Jasmin Louisy, research officer, focal point SALW-Q, Guyana Ministry of Home Affairs, 22 July 2022; written correspondence with the Bahamas Ministry of National Security, 6 March 2023

Box 3 Insights on gun violence from prison inmates serving firearm-related sentences

Interviews undertaken with prison inmates in Belize, Suriname, and Trinidad and Tobago shed further light on the illicit acquisition of firearms in the Caribbean (see Annexe 2 for more information on the methodology used). Among 77 interviewed men serving firearm-related sentences in penitentiaries in these countries, nearly half reported being adolescents (between 12 and 19 years of age) when they first accessed an illegal firearm, with the majority being 14 years of age. The youngest was six years old and made the following statement when asked about how he first gained access to a firearm: 'I found a gun in the neighbourhood and I hid it in the house and I was playing with it every day'. Only five per cent of the interviewees indicated first getting access to firearms above the age of 30. The particular vulnerability of youth to violence and illicit firearms is also acknowledged elsewhere in the region, as illustrated by the 2019 Caribbean Summit on Youth Violence Prevention (CARICOM, 2019) and the SALIENT project, which includes a component on youth and gun violence prevention led by the Jamaican government and the UN (UNDP, 2022; UNDP and JIS, 2022).¹⁰ In addition, most of the inmates (three out of five) reported having completed only primary school, which echoes other research that found that school drop-outs are at particular risk of becoming involved in gun violence and crime (St. Bernard, 2022, p. 62).

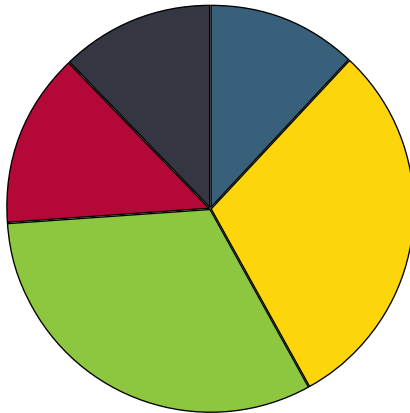
When asked about the reasons for acquiring (or taking possession of) an illicit firearm, many inmates indicated self-protection—a reason that was also prevalent in other research in the region (Wells, Katz, and Kim, 2010, pp. 2–3)—as well as family and peers as being important drivers of firearm possession (see Figure 3). Others indicated that the environment they lived in, including the existence of local criminality in their neighbourhoods, structural issues in their communities, or difficult living conditions linked to poverty (social deprivation), were also reasons for acquiring illicit firearms. In this sense, and linked also to self-protection, an inmate stated: 'It's just what's happening, it's what's around, it's just the environment, and you can't punch a bullet, so when you have enemies who [are] throwing bullets at you, you have to be able to throw bullets back'.

Similarly, community members, family, friends, and the 'street' were recurrently mentioned as sources or ways in which to acquire a firearm. Other Caribbean prison studies found similar results (CELIV and National University of Tres de Febrero, 2020). The respondents also pointed to international criminality as a source of firearms (see Section 3). Less than a quarter of the interviewees reported acquiring a firearm while being affiliated to a gang, and less than 20 per cent reported doing so for gang-related reasons. These responses seem to suggest that, even though illicit firearm ownership is often linked to gangs, there are other means of and motives for obtaining illicit firearms. Most respondents also indicated that illicit firearms tend to be shared among multiple users.

Finally, more than a third of the interviewees experienced multiple arrests or convictions related to the illicit possession of firearms, while nearly half had previously been arrested or convicted for other offences. These high levels of recidivism among the inmates suggest the need to re-examine current reintegration processes and initiatives to maintain a crime-free lifestyle, an issue that was also highlighted in previous research (CELIV and National University of Tres de Febrero, 2020).

Figure 3 Motives for acquiring an illicit firearm, based on interviews with 77 inmates in Belize, Suriname, and Trinidad and Tobago

- Personal protection (32%)
- Family and peers (30%)
- Criminal activities (14%)
- Social deprivations (12%)
- Financial considerations (12%)



Source: Small Arms Survey (2022b)

Trinidad and Tobago reportedly have more than 100 gangs each,¹¹ many of which are engaged in the trafficking and misuse of firearms. Furthermore, Jamaican authorities have reported that gangs are responsible for 70 per cent of homicides in the country (Murphy, 2022).¹²

Spikes in gang violence, which are often linked to territorial disputes and rivalries, have led governments to declare states of emergency in some cities.¹³ In Haiti heavily armed gangs play a major role in the high levels of insecurity and violence in the country:¹⁴ gang members committed most of the 934 murders that took place in Port-au-Prince during the first semester of 2022 (UN, 2022a). As a result of past and recent gang warfare, gang violence and the climate of fear that surrounds it not only claims the lives of residents of low-income neighbourhoods, but also limits their ability to leave their homes and deprives them of access to basic services (UN, 2022a). Most gang violence occurs in urban settings,¹⁵ and does not affect all Caribbean countries to the same extent (Sutton, Alvarez, and Godinez, 2017, pp. 112–14). Social inequalities and unemployment are additional factors that underlie violence and crime (UNODC and World Bank, 2007, p. 68).

The three intertwined factors of gang violence, drug trafficking, and access to illicit firearms also have a direct impact on younger people, because both access to drugs and guns and the presence of gangs appear to result in increased school violence (Gentle-Genitty et al., 2017, p. 747). In its 2018 report on the health of adolescents and youth in the Americas, the Pan American Health Organization highlighted that evidence-based interventions to prevent adolescent suicide and violence necessarily include restricting access to firearms (PAHO, 2018, pp. 261, 264).

Interviews with prison inmates conducted for this study provide additional background on the motivations and drivers underlying illicit firearms acquisition in three case study countries (see Box 3). The links between young people and firearms acquisition and use are apparent from these interviews. ●

“CARICOM gun ownership is not exceptionally high, but the possible dangers posed by these guns, especially illegally owned guns, are significant.”

2. Firearms holdings

Section findings

- Legal civilian firearm ownership is tightly regulated in the region. Licensing and registration data shows a regional average of 1.63 registered firearms per 100 residents—a low rate of legal civilian firearm ownership compared with most other countries around the world.
- Illicit firearms holdings are difficult to assess, but data from surveys and professional estimates suggests that they greatly outnumber legal firearms in several countries in the region.
- Unlike larger importing states, Caribbean countries cannot plan for a consistent flow of legal and illicit firearms. Instead, they should prepare to cope with surges, mobilizing regulatory resources to deal with the sudden influxes that often define their situation.

Overview

This section includes the most comprehensive data ever collected on firearm ownership in the Caribbean, focusing on legal and illegal civilian ownership in the 20 member states and associate members of CARICOM. The Small Arms Survey gathered licensing totals from 12 of the 20 CARICOM member states and associate members, and registration figures from 18. Legal import data is available for all 15 member states, and national firearm ownership surveys were found for seven. For the five associate members, disaggregated import data and surveys were not available for this research, which relied instead on official registration and licensing figures and estimates.

These sources make the Caribbean the best-documented region for total firearm ownership, after Europe. Licensing and registration data indicates that the region has particularly restrictive firearms legislation, second only to parts of Eastern Asia such as China, Indonesia, Japan, and South Korea.

Estimated total firearm ownership is higher than registration numbers, mostly due to difficulties preventing illicit transfers from the United States, Brazil, Venezuela, and other neighbouring countries (see Section 3). Even these totals, however, show regional ownership rates are low by global standards. As Sections 1 and 6 of this Report demonstrate, CARICOM gun ownership is not exceptionally high, but the possible dangers posed by these guns, especially illegally owned guns, are significant.

Box 4 CARICOM responses to firearm questionnaires

As part of this study, the Small Arms Survey requested data on firearms known to be present—and therefore mostly legal firearms—in the region. With guidance from CARICOM IMPACS, the Survey sent its standard country questionnaire on legally owned firearms to officials in all 20 member states and associate members.

Nine countries and territories responded to the questionnaire. St Vincent and the Grenadines was the sole Caribbean island to respond to an earlier survey circulated in 2017, but did not respond to the 2022 questionnaire (see Table 3). Ten countries and territories did not respond at all, in 2017 or 2022, although inquiries were still being made at the time this Report was published. Even so, the Survey saw a higher response rate than it has elsewhere in the world with the same questionnaire—thanks in large part to the active support of CARICOM IMPACS.

The questionnaire sought firearms holdings data related to five categories. All ten respondents gave detailed information on legal civilian gun ownership, and most also reported on the firearms of private security companies in their country. National security concerns were not a serious barrier to reporting for several member states, with data on police firearms provided by six states, and data on military firearms provided by four.

Table 3 Firearms data collected through the Survey’s National Small Arms Questionnaire, by category

Country	Date received	Civilian firearms	Private security firearms	Law enforcement firearms	Armed forces firearms	Privately made firearms
Bahamas	April 2022	X	X			X
Barbados	February 2022	X	X			
British Virgin Islands	February 2022	X	X	X		X
Grenada	May 2022	X		X		
Guyana	May 2022	X		X		X
Jamaica	June 2022	X	X	X		X
Montserrat	February 2022	X	X	X	X	X
St Lucia	March 2022	X	X	X	X	
St Vincent and the Grenadines	May 2017	X	X		X	
Trinidad and Tobago	September 2022	X	X	X	X	

► Some countries offered data on the weapons of private security or state security services that was too specific or narrow to use here, rather than the overall totals needed to draw comparisons across countries. These responses are not listed in Table 3 because they did not allow for regional comparisons.

For example, some countries released information on numbers of police personnel only or firearms data for smaller law enforcement agencies, such as prison authorities or customs agencies, but not for national police. Concerning military data, several respondents released information on the number of decommissioned military firearms—usually decommissioned through the destruction of unwanted weapons—but did not report their total active military firearms inventories. Officials from some countries that did not provide data or did so only partially indicated they may be able to report or report more thoroughly in the future.

Legal civilian firearms

Analyses of firearms issues in the Caribbean usually focus on the flow of illicit guns and their impact on communities (Kullman and Clayton, 2021). Smuggled or locally made guns—illegally owned—are widely assumed to greatly outnumber legally owned firearms (Robbins, 2020).

While there are many good reasons to focus on criminal ownership, illicit guns are also the most difficult to analyse. Although legal firearms may be just a part—possibly a small part—of the overall firearms picture in the 20 member states and associates of CARICOM, legal civilian guns have the advantage of being the best-documented firearms.

Official licences and registration numbers provide the most reliable source of gun data, and it is certain that they actually existed at the time they were registered (Karp, 2018). The greatest weakness of official gun data is that it is the least comprehensive of national totals, since undeclared and illegally owned firearms are missing from these sources.

Much depends on when each country's current licensing and registration system started, whether records are centralized, and how long records are kept. What happens, for example, to records when licences and registrations are not renewed, or when the licensed owner dies? Some registration systems, such as that of Guyana, enumerate only currently registered firearms, leaving out guns with unclear statuses if owners fail to renew the registration. Unless the records are systematically updated, they may also list weapons that have been sold, lost, or stolen.

The Survey collected firearm licensing totals from 12 CARICOM member states and associate members, and registration figures from 18 (see Table 4). While even these totals are far from comprehensive, since they leave out unregistered guns and unlicensed owners, they are the most *certain* firearm ownership numbers available. Differences in reporting years limit how these figures can be compared, but they provide a general sense of legal national holdings.

Raw numbers are important, but they are even more revealing when adjusted for differences in national population. This comparison reveals wide differences in national legislation, procedures, and legal gun markets (see Table 5). For the 12 member states and associate members reporting total licensed owners, there were an average of 1.05 licensed owners per 100 residents. For the 18 reporting registered firearms, there were an average of 1.63 legally registered guns per 100 residents.

These ratios show that CARICOM gun laws and regulations are highly restrictive by global standards. In most of Latin America and Europe, by comparison, a typical gun licence allows the owner to legally own several firearms. Limiting licensees to a single gun¹⁶ helps police in the region to locate the legal guns, and to readily identify illegal guns. Throughout much of the Caribbean, only specific kinds of firearms can be registered. In the Bahamas, for example, only specific types of firearms—usually rifles and

Table 4 Reported firearm licences and registrations

CARICOM member states	Licensed owners	Registered firearms	Reporting year
Antigua and Barbuda	–	1,449	2011
Bahamas	9,775	11,072	2022
Barbados	1,875	2,293	2021
Belize	–	10,755	2009
Dominica	–	–	–
Grenada	1,145	1,091	2022
Guyana	4,000	–	2012
	–	5,412	2021
Haiti	–	38,000	2016
Jamaica	47,158	52,445	2021
Montserrat	8	11	2021
St Kitts and Nevis	–	–	–
St Lucia	2,333	2,701	2022
St Vincent and the Grenadines	2,865	2,865	2017
Suriname	–	30,000	2011
Trinidad and Tobago	10,550	–	2008
	–	19,434	2022
CARICOM associate members			
Anguilla	–	48	2016
Bermuda	–	103	2018
British Virgin Islands	45	45	2022
Cayman Islands	494	1,102	2020
Turks and Caicos	–	300	2013
	275	–	2022

Note: This table does not include unregistered, illegally owned civilian firearms.

Sources: Small Arms Survey (n.d.a); country reports to the Small Arms Survey

Table 5 Rates of firearm licences and registrations per 100 residents

CARICOM member states	Reporting year	Total population	Licences per 100 residents	Registered firearms per 100 residents
Antigua and Barbuda	2011	86,000	–	1.68
Bahamas	2022	409,000	2.39	2.71
Barbados	2021	281,000	0.67	0.82
Belize	2009	310,000	–	3.47
Dominica	–	–	–	–
Grenada	2022	125,000	0.92	0.87
Guyana	2012	742,000	0.54	–
	2021	803,000	–	0.67
Haiti	2016	10,600,000	–	0.36
Jamaica	2021	2,830,000	1.67	1.85
Montserrat	2021	4,400	0.18	0.25
St Kitts and Nevis	–	–	–	–
St Lucia	2022	180,000	1.30	1.50
St Vincent and the Grenadines	2017	106,000	2.70	2.70
Suriname	2011	549,000	–	5.46
Trinidad and Tobago	2008	1,390,000	0.76	–
	2022	1,530,000	–	1.27
CARICOM associate members				
Anguilla	2016	14,700	–	0.33
Bermuda	2018	63,400	–	0.16
British Virgin Islands	2022	31,200	0.14	0.14
Cayman Islands	2020	66,700	0.74	1.65
Turks and Caicos	2013	32,800	–	3.36
	2022	45,500	0.60	–

Note: This table does not include unregistered, illegally owned civilian firearms.

Sources: Small Arms Survey (n.d.a); country reports to the Small Arms Survey; population rates based on UN data for that year (UN, 2022c)

shotguns—are legally permitted; the possession of a revolver is allowed but severely restricted, so any handgun in civilian hands in the country is likely to be illegal.¹⁷

These averages reveal a strong level of consistency across the region. With 5.46 registered firearms for every 100 residents, Suriname had the highest rate of legally registered firearms, followed by Belize, with 3.47 registered guns per 100 residents. Although they stand out regionally, even these figures are not high by global standards. Several CARICOM associate countries have legal firearm ownership rates among the lowest in the world.

Older data shows a trend among several CARICOM countries towards reducing legal gun ownership. Almost 40 years ago, in 1983, Barbados reported approximately 3,000 registered civilian firearms (*Nation*, 1984). In 2021, the country had 2,293, a decline of 23 per cent in 38 years (Barbados, 2022) although its population increased by 10 per cent during this period. The most persuasive explanation for the decline in registration is that authorities tightened the rules on firearm ownership.

The same is true in the Bahamas, where 17,110 guns were registered in 2010, but only 11,072 in 2021—a decline of 35 per cent in 11 years (Bahamas, 2022; Hutcheson et al., 2011, p. 1). In Guyana, the number of registered civilian firearms dropped from 9,610 in 2018 to 5,412 in 2021—a decline of 44 per cent in four years (Guyana, 2022). Declining registration totals suggest that old registrations are not being consistently renewed, or that registration officials are less willing to issue new firearm licences and registrations.

Anecdotal reporting indicates that these numbers are changing rapidly, as other countries move in the opposite direction. In Trinidad and Tobago, for example, where four out of every five homicide victims are killed by a firearm, it was reported that licensing has become less restrictive in response to growing fears of violence (Christopher, 2019; Renne, 2021). Other Caribbean countries report a surge in demand, albeit mostly for illicit guns (Ahmed, 2019).

Legal ownership and imports

Virtually all firearms and ammunition in CARICOM member states and associate members share a common characteristic: they were imported, whether legally or illegally.¹⁸ From 2010 to 2019, exports of legal firearms, ammunition, and parts to the 15 CARICOM member states had a declared value of USD 83.5 million (UN, n.d.b).

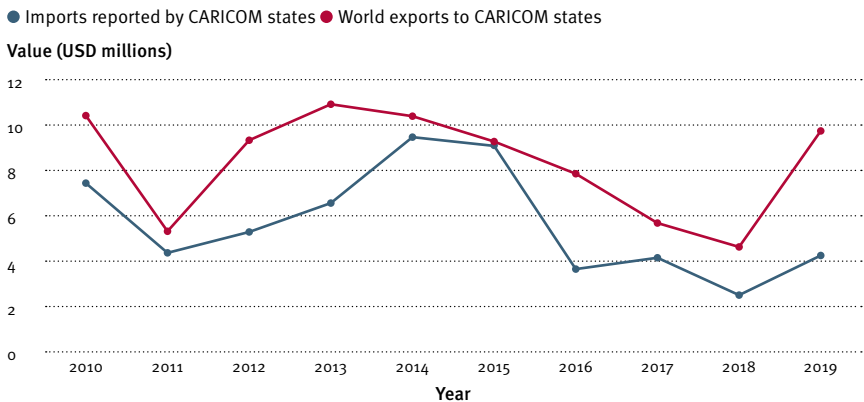
A prominent report notes that '[t]here is no domestic manufacturing of firearms in the English-speaking Caribbean' (Sutton and Alvarez, 2017, p. 127). The same is true of French-speaking Haiti and the region's Dutch- and French-speaking territories and former colonies. Almost all registered civilian firearms are therefore imported. The exceptions are locally made craft guns, or privately manufactured firearms, virtually all illegal.

While legal trade reveals only part of the picture of firearms in the region, it is the best understood part. Following the standard practices of the Survey, this section relies on data from the UN trade reporting system, Comtrade, which collates trade reports from UN member states (Florquin, Hainard, and Jongleux, 2020, pp. 14, 32, 52–53). Comtrade data has certain limitations. The system, for example, does not systematically record the trade of territories, such as CARICOM associate members, and some countries that are potentially relevant to the region, such as Mexico, do not report consistently (Hainard and Shumska, 2021, p. 4).

UN Comtrade reporting normally includes military transfers, documented under separate trade codes. These transfers have been excluded here, although pistols—which can be both military and civilian—are included. Police purchases, in contrast, are not categorized separately in trade statistics. Police firearms and supplies are probably submerged within civilian trade data, distorting some country profiles. This is especially important for the small nations and territories of the Caribbean community, where police modernization can periodically inflate imports.

There are two ways to examine the legal trade to CARICOM countries using customs reports: *import reports* by recipient countries, and *export reports* from their suppliers. If reporting was universal and uniform, the two would be identical: when an exporter reported sending a gun or ammunition, an importer would report its receipt. As Figure 4 shows, this is often not the case. Import reports are noticeably less comprehensive than export reports, sometimes differing by over 100 per cent. Because of the potential sensitivity of this data to single major transactions, the differences need

Figure 4 Small arms and ammunition exports vs. import reports for CARICOM member states, 2010–19

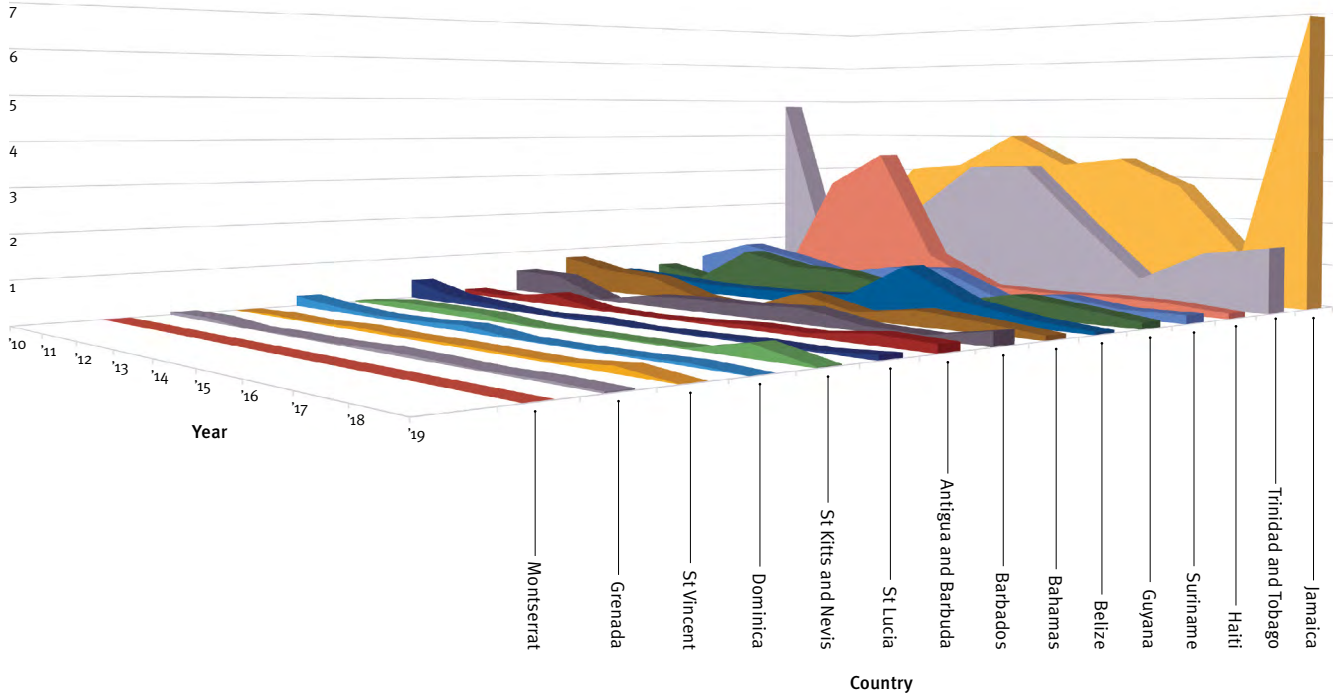


Note: All values are in then-year USD. UN Comtrade commodity categories used in Figures 4–7 are the same as in Florquin et al. (2020, p. 32), except for military weapons (930120 and 930190) which are excluded.

Source: UN (n.d.b)

Figure 5 Annual firearm imports received by CARICOM member states, 2010–19

Value (USD millions)



Note: All values are in then-year USD.

Source: UN (n.d.b)

not be systematic. This section relies on export reports, however, to ensure the greatest level of comprehensiveness.

The role of single transactions—which can suddenly inflate small country import trends—is even more evident when looking country by country at exports received by the 15 CARICOM member states (see Figure 5). The figure confirms that, unsurprisingly, bigger countries receive more firearms, parts, and ammunition than smaller ones. But for all these countries, there are no simple year-by-year trends. Imports are highly volatile. As shown here, there is high demand for firearm-related products in some years, but much less in others. This lack of consistent trends, as imports fluctuate significantly from year to year, is typical of ‘the law of small numbers’, since smaller statistics tend to vary dramatically year to year, instead of showing smooth, linear curves. This volatility from year to year is of no intrinsic importance in and of itself (Tversky and Kahneman, 1971). The steady trends seen in larger data sets (for example, for imports by larger countries) are not as applicable to CARICOM member states, which are too small to sustain consistent import rates—or lack resources and are subject to embargoes, as in the case of Haiti.¹⁹

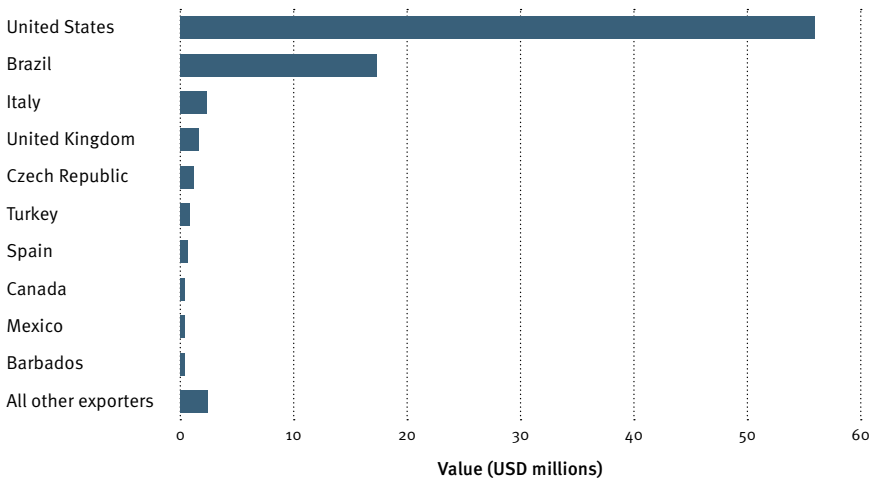
One implication for CARICOM member states is that regulatory authorities, especially customs and police, cannot plan for a consistent flow of legal firearms and supplies—unlike their counterparts in larger importing states. Instead, they should prepare to cope with surges or sudden waves of gun imports, creating pressure to mobilize national resources to deal with the sudden influx in firearms trade and its consequences.²⁰

Customs data confirms the conventional wisdom that legal exports of firearms and supplies to CARICOM member states are overwhelmingly dominated by the United States (see Figure 6). The legal firearms and ammunition trade had a declared value of USD 83.5 million for 2010–19, according to UN Comtrade. Of this, USD 55.9 million (67 per cent) originated in the United States. The United States is not, however, a monopoly supplier. Brazil has emerged as the second-largest exporter, sending handguns throughout the region, with a declared value of USD 17.3 million during the years 2010–19 (21 per cent of the region’s total legal firearm imports).

Other globally important exporters play a much smaller role in the region. Italy and Turkey, for example, are major legal firearm exporters globally, but send comparatively little to the Caribbean. Their role may be concealed by the dominance of US brokers. Foreign-made firearms that are imported first into the United States and then re-transferred to the Caribbean are recorded in UN Comtrade as US exports to the region. Re-transfers include second-hand weapons, presumably from private owners in the United States, and new weapons that are re-sold by brokers.

While it might be tempting to assume that transfers of illegal firearms and ammunition also match these patterns, data on arms trafficking is too sparse and ambiguous to analyse in this way—as Section 3 on trafficking shows. Illegal exports from the United States are therefore not shown here, although anecdotal reporting leaves no doubt that they are extremely important.

Figure 6 Top ten exporters of firearms and supplies to CARICOM member states, 2010–19



Notes: Figures include legal exports of firearms, parts, and ammunition. All values are in then-year USD.

Source: UN (n.d.b)

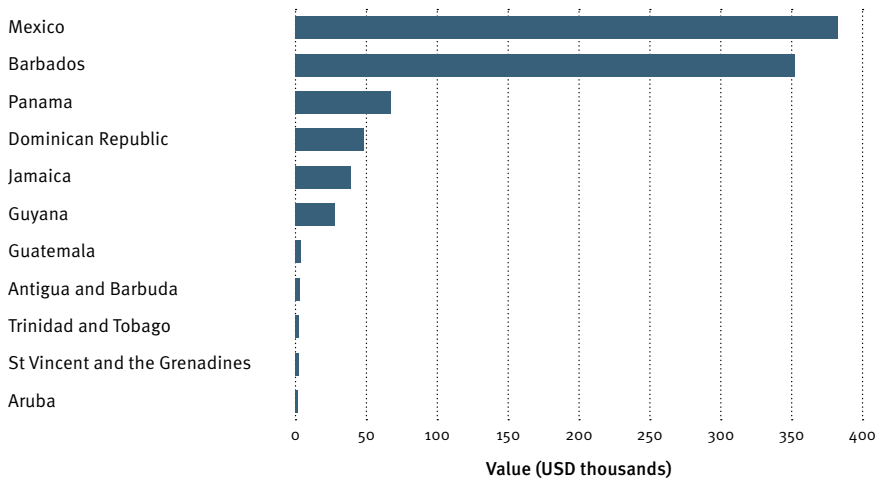
While countries in the Caribbean may lack firearm-related manufacturing facilities, they appear to be engaged in the re-transfer of firearms that originate elsewhere. Customs data shows a smaller but not insignificant legal trade among littoral and island states (see Figure 7). Some of this may reflect the way that the weapons are recorded by officers and military personnel involved in joint, international law enforcement and security operations. This leaves out, however, the *illegal* interisland trade—for example, from Puerto Rico and the US Virgin Islands, or between Haiti and Jamaica, which are known to be of great importance (Robbins, 2020; see also Section 3).

The data shows no clear trends in the legal interisland trade. It appears to be idiosyncratic, favouring some countries and not others. This probably reflects the presence of particular entrepreneurs and the policies of national regulatory authorities. Whether the legal interisland trade could rapidly expand to fill trade opportunities is unclear.

What public surveys reveal

When it comes to determining how many guns are privately owned in a country, it is impossible to depend on a single data source. Official registration data can usually be relied on to show how many guns are legally owned. These figures do not, however, include illegal ownership, which may be much higher. Surveys—if done well—

Figure 7 Legal firearm exports from Caribbean and neighbouring littoral countries to CARICOM member states, 2010–19



Notes: Figures include legal exports of firearms, parts, and ammunition. All values are in then-year USD.

Source: UN (n.d.b)

have long been considered the best way to obtain a comprehensive picture of the complete total, including illegally owned guns. As shown here, the Caribbean experience shows that surveys can fail to capture illegal gun ownership almost as much as registration systems.

Surveys are extraordinarily powerful tools for social science, including criminology, but they are not without limitations, such as their cost. Fortunately, public surveys covering civilian gun ownership have been undertaken in seven CARICOM countries: the Bahamas, Barbados, Haiti, Jamaica, St Lucia, Suriname, and Trinidad and Tobago (see Table 6). All these surveys ask about household ownership (“Does someone in the household own a gun?”) not individual ownership (“Do you own a gun?”).

In each case, the surveys covered gun ownership as part of a larger project. In the Bahamas, Barbados, Suriname, and Trinidad and Tobago, the surveys examined broad trends in crime victimization, using a template borrowed from the International Crime Victimization Survey and sponsored by the Inter-American Development Bank (IADB) (Sutton and Alvarez, 2017). Gun ownership in Jamaica and St Lucia was surveyed as part of a project on crime using a template developed by the UN Office on Drugs and Crime (JNCVS, 2020). The Bahamas has been surveyed twice—by the IDB and an independent project undertaken by scholars from the College of The Bahamas (Hutcheson et al., 2011)—and Haiti at least five times between 2005 and 2010, as examined below.

Table 6 Firearm ownership surveys in the Caribbean

Country	Sponsor	Total respondents	Year surveyed	Year published
Bahamas	College of The Bahamas	1,281	2010	2011
	Inter-American Development Bank	3,429	2014	2017
Barbados	Inter-American Development Bank	3,999	2015	2017
Haiti	Small Arms Survey	2,800	2009–10	2011
Jamaica	Statistical Institute of Jamaica	4,530	2019	2020
St Lucia	Central Statistical Office of Saint Lucia	2,075	2019	2020
Suriname	Inter-American Development Bank	3,998	2014	2017
Trinidad and Tobago	Inter-American Development Bank	4,206	2014	2017

Sources: Central Statistical Office of Saint Lucia (2020, p. 22); Hutcheson et al. (2011); JNCVS (2020, p. 12); Kolbe and Muggah (2011, p. 239); Sutton and Alvarez (2017, pp. 13, 131)

All these surveys asked about household ownership: Did the respondent know of a gun in the household, regardless of who owns it officially? This approach overcomes the challenge of asking whether the respondent owns a gun, which can be a tricky judgement in a household where ownership is shared or where everyone can access the weapon.

The surveys cover one-half of CARICOM members states, comprehensive enough to reveal the diversity of gun ownership across the region. The results suggest that Haiti has the lowest level of households with firearms, with just 2.3 per cent of surveyed households acknowledging the presence of guns, followed by Jamaica (2.6 per cent). The Bahamas had the highest rate of gun ownership, with 23 per cent of households acknowledging the presence of firearms in one of the two surveys, followed by Suriname (19.4 per cent) (see Table 7).

It is tempting to extrapolate total national civilian gun ownership directly from these surveys, but this is not without problems. Surveys are suggestive, never conclusive. In-person canvassing can provoke tensions, leading to caution. In Jamaica, for example, survey organizers encountered resistance from enumerators, who were reluctant to ask about gun ownership, and some questions had to be dropped.²¹

Table 7 Firearm surveys and registered firearms

Country	Year of survey	Population	Average household size	Ratio of households with firearms	Number of households with firearms	Number of registered firearms
Bahamas: College of The Bahamas survey	2010	371,000	3.4	0.230	25,097	17,110
Bahamas: IDB survey	2014	387,000	3.4	0.109	12,407	17,110
Barbados	2015	278,000	2.85	0.041	3,999	2,302
Haiti	2009–10	9,730,000	4.43	0.023	50,517	20,379
Jamaica	2019	2,810,000	3.12	0.026	23,417	34,055
St Lucia	2019	178,000	2.89	0.031	1,909	2,701
Suriname	2014	567,000	3.82	0.194	28,795	30,000
Trinidad and Tobago	2015	1,450,000	3.25	0.095	42,385	7,801

Sources: Surveys listed in Table 6; population rates based on UN data for that year (UN, 2022c); average household sizes based on UN data for that year or nearest year (UN, 2022b)

Polling on firearm ownership can also be problematic. Gun owners may be hesitant to acknowledge their guns in surveys, whether due to concerns about the social stigma of gun ownership or about exposing their illegal ownership. The tendency for gun owners to refuse to answer or lie in surveys is well documented (Urbatsch, 2018). Another common challenge for surveys is the gender gap; women are less likely to report the presence of guns, possibly because the men who own them do not tell their entire family.²²

These problems seem to have affected several Caribbean surveys. Low survey response rates appear to be an especially serious problem in the Bahamas, Jamaica, St Lucia, and Suriname, where the number of firearm-owning households shown by surveys is *lower* than the total number of registered guns. This is logically possible, but not likely, suggesting that many gun owners kept silent.

For these reasons, approximating total firearm ownership from survey results must be undertaken with caution, and raw survey findings must be adjusted in order to be realistic. The St Lucia National Crime Victimization Survey, for instance, used the *indirect network scale-up method* to adjust household ownership reports. It concluded that at

least one firearm is present in 10.8 per cent of all households, or roughly 5,700 out of some 61,600 households (Central Statistical Office of Saint Lucia, 2020, slide 63).²³ This is about three times the number of households with firearms identified using traditional self-reporting methods, with unadjusted, raw survey report data.

Another frequent oversight in many surveys is the failure to account for the ownership of several guns in a single household. In many countries, it is common for gun owners to have multiple firearms.²⁴ Taking these caveats into consideration, Table 8 uses an average ownership of 1.5 guns per household to conservatively estimate minimum ownership rates among countries where surveys were undertaken.

These adjustments bring ownership totals, including illicit firearms, above the numbers of legally registered firearms displayed in Table 4, with the exception of Jamaica, where survey numbers remain suspiciously low. It is therefore possible to use the surveys to estimate the total levels of undeclared or illicit possession in the other surveyed countries. These survey-derived civilian firearm totals suggest that illicit ownership outnumbers registered firearms, seen most clearly here in the examples of Barbados, Haiti, and Trinidad and Tobago.

Even the totals in Table 8, however, are likely to be underestimates, because many respondents are unwilling to acknowledge illicit firearm ownership in surveys. Although they have not been used here, scale-up methods are a prominent solution to the problem and may be essential to fully and systematically capture this gap. In the Bahamas, for instance, when survey findings are scaled up using a similar approach, private firearm ownership appears to amount to a total of some 99,500, mostly illegal, guns—almost double the high estimate for the Bahamas in Table 8.²⁵ Scale-up methods, as described above to show total ownership in St Lucia, suggest gun ownership there is three times higher than shown in Table 8. Replicating this method elsewhere in the Caribbean would help to gauge the scale of unreported civilian firearm ownership.

For regional gun policy, this assessment supports the conclusion of many observers that the biggest regional firearms challenge is illicit ownership. With that challenge in mind, future gun ownership surveys need to better account for the lack of awareness among some household respondents, and the deliberate dissimulation of illegal firearm owners.

Illicit ownership

Where surveys are unavailable or lacking credibility, assessments by local experts and professionals can serve as a valuable tool for estimating total civilian firearms. Despite potential credibility issues,²⁶ they are an important component of any comprehensive assessment. National leaders or police officials are usually the most prominent sources. Institutional reports and scholarly assessments also provide key information.

Table 8 Surveys of legal and illegal firearm ownership

Country	Year of survey	Ratio of households with firearms	Total firearms based on 1.5 guns per household multiplier	Total firearms based on 2 guns per household multiplier
Bahamas: College of The Bahamas survey	2010	0.230	37,646	50,194
Bahamas: IDB survey	2014	0.109	18,610	24,814
Barbados	2015	0.041	5,999	7,999
Haiti	2009–10	0.023	75,775	101,034
Jamaica	2019	0.026	35,125	46,833
St Lucia	2019	0.031	2,864	3,819
Suriname	2014	0.194	43,193	57,591
Trinidad and Tobago	2015	0.095	63,577	84,769

Sources: Population rates based on UN (2022c); average household sizes based on UN (2022b); percentage of households with firearms based on Central Statistical Office of Saint Lucia (2020, p. 22); Hutcheson et al. (2011); JNCVS (2020, p. 12); Kolbe and Muggah (2011, p. 239); Sutton and Alvarez (2017, pp. 13, 131)

An illuminating example of such an estimate comes from a Caribbean country otherwise excluded from this Report. In 2021, Dominican Republic president Luis Abinader said: ‘We estimate that for each legal firearm, there could be approximately up to three illegal weapons’ (teleSUR, 2021). In 2019, the Dominican Republic had 236,678 registered firearms (Gomez, 2020). By this ratio, there are roughly 710,000 unregistered guns in the country, making roughly 950,000 civilian-owned firearms in all.

National leaders can disagree about the problem of illicit guns, with some attempting to show it has been exaggerated. In Trinidad and Tobago, the then acting assistant commissioner of police, Jayson Forde, estimated in 2019 that just 8,000 or so illegal guns were present in the country. This would be equal to less than half the total number of legally owned civilian firearms. Forde also noted that police seized about 1,000 firearms per year—a figure that is difficult to reconcile with the low estimated illegal gun total (Christopher, 2019). Trinidad and Tobago’s Strategic Services Agency revealed a much higher rate of illicit gun ownership, reporting that the illegal guns trade was worth over TTD 100 million annually, or roughly USD 15 million (*Trinidad and Tobago Guardian*, 2017). Based on the assumption that the average black-market price for a gun is USD 1,500, roughly 10,000 illegal guns are being traded in Trinidad and Tobago annually, which suggests a much higher overall total.

Table 9 Expert and professional estimates of total civilian firearms in Haiti

Year	Total civilian firearms	Basis	Source
2006	190,000	Estimate	Small Arms Survey
2015	250,000	Estimate	Friday Godson Orélus, former director general of the National Police of Haiti
2018	291,000	Estimate	Small Arms Survey
2019	270,000	Estimate	Report of the UN Secretary-General
2019	500,000	Estimate	National Commission of Disarmament, Decommissioning and Reintegration
2022	600,000	Estimate	Jean-Marie Théodat

Sources: Haiti Libre (2016; 2019; 2020); Karp (2007; 2018); Kolbe and Muggah (2011); Léveill  (2022)

Expert and professional estimates are most widely available for Haiti, among all CARICOM countries, perhaps because of the seriousness of gun violence there, and the dearth of data from other sources. The difficulty of understanding firearm possession in Haiti is not due to a lack of detail—*anecdotal reports are readily available*—but rather a lack of comprehensive and reliable aggregate information. Haiti has official gun registration data—with 20,379 firearms reported registered in 2006, and some 38,000 in 2016—but police and national leaders acknowledge that these represent only a fraction of total national firearm ownership (Haiti Libre, 2016).

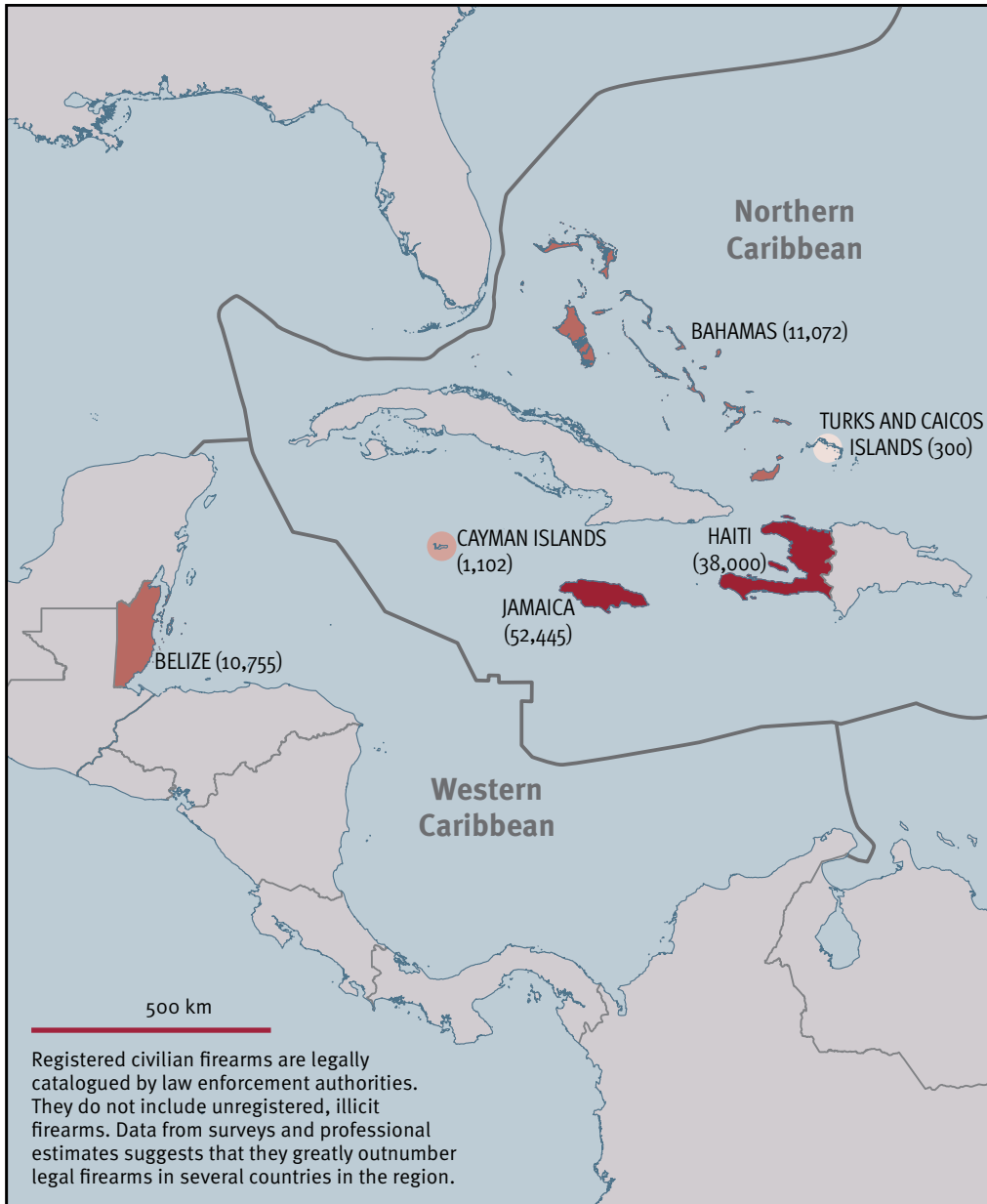
Given the limitation of registration numbers and the high levels of gun violence in the country, it is no surprise that observers have made estimates of their own (see Table 9). These professional estimates—some provided by police and security officials, others by reporters and scholars—are not scientific, but reveal something about perceptions of the firearm situation in Haiti. These estimates tend to increase over time, from 190,000 firearms in 2006 to 600,000 in 2022. Whether this reflects changes in actual gun numbers or perceptions of rising gun dangers can only be surmised.

Haiti is also the most surveyed country in the region, with at least five surveys covering gun ownership conducted between 2005 and 2010. The extensive surveying itself is evidence of the seriousness with which domestic and international audiences view its armed violence problems. These surveys, however, generate highly diverse results, showing firearm ownership rates ranging from 2.3 to 22 per cent of households (Kolbe and Muggah, 2011, pp. 239–40).

Haiti surveys support estimates of total civilian firearms holdings that range from as little as 75,775 (at 2.3 per cent of households and an average of 1.5 guns per household) to as many as 1.4 million firearms (based on 22 per cent of households and 2.7

guns per owning household) (Kolbe and Muggah, 2011, p. 247). This difference between survey results—with one finding gun ownership 17 times higher than another—testifies to the weakness of the method in this case. While survey authors are entitled to favour their own work, it is difficult for an outsider to judge between them impartially. Generating a more reliable total would require not only a stronger state—able to improve firearm registration performance—but also a social environment that is more conducive to accurate survey research. ●

Map 2 Reported firearm registration in CARICOM member states and associate members



Source: See Table 4





Most schemes to traffic firearms to the Caribbean are notable mainly for their simplicity.”

3. Illicit firearms

Section findings

- Seizure and trace data indicates that the vast majority of illicit firearms circulating in the Caribbean are handguns, which account for as much as 88 per cent of the firearms in the data sets of seized weapons reviewed by the Small Arms Survey.
- Within the Caribbean, there is little apparent geographic difference in the availability of the top brands of firearms, including pistols. The four most commonly seized brands make up nearly the same percentage of pistols seized in both northern Caribbean states and states located in or near South America.
- While illicit rifles and rifle ammunition are emerging concerns for law enforcement officials, their acquisition by criminals in the Caribbean generally remains marginal. This stands in sharp contrast to the situation in some neighbouring countries in Central and North America, where up to 47 per cent of seized firearms are rifles.
- Most schemes to traffic firearms to the Caribbean are notable mainly for their simplicity. The modus operandi of most US-based traffickers is straightforward and requires minimal funding, infrastructure, or knowledge. The trafficker simply needs to camouflage arms and ammunition well enough to blend in with the thousands of shipments of other goods departing and arriving from international ports every day.
- Caribbean authorities often lack the personnel and equipment to adequately monitor their coasts, land borders, and ports. Authorities in some small island states must patrol hundreds of beaches and bays with only a small police force and little or no coast guard or customs support. Port officials in other states lack even basic scanning technology, making it difficult to identify and interdict illicit shipments of firearms and other contraband.
- The ready accessibility of firearms and ammunition in some neighbouring states, including the United States, combined with inadequate screening of outbound mail and cargo shipments, undermines the often-robust controls on firearms and ammunition adopted by many Caribbean states.

Overview

This section analyses the types of illicit firearms circulating in the Caribbean, reviews available data on both the domestic and foreign sources of these weapons, and examines the mechanics of firearms trafficking both to and within the region.

Types of illicit firearms

The types of illicit firearms circulating in the Caribbean are remarkably uniform across the region. Data compiled by the Survey reveals that the vast majority of seized firearms are handguns, which account for as much as 88 per cent of the firearms in the data sets studied (see Table 10).²⁷ Pistols make up most of the seized handguns—often by a considerable margin. Surveyed inmates in Belize, Suriname, and Trinidad and Tobago also identified handguns as the types of illicit firearms they had most frequently obtained before serving their sentences.²⁸

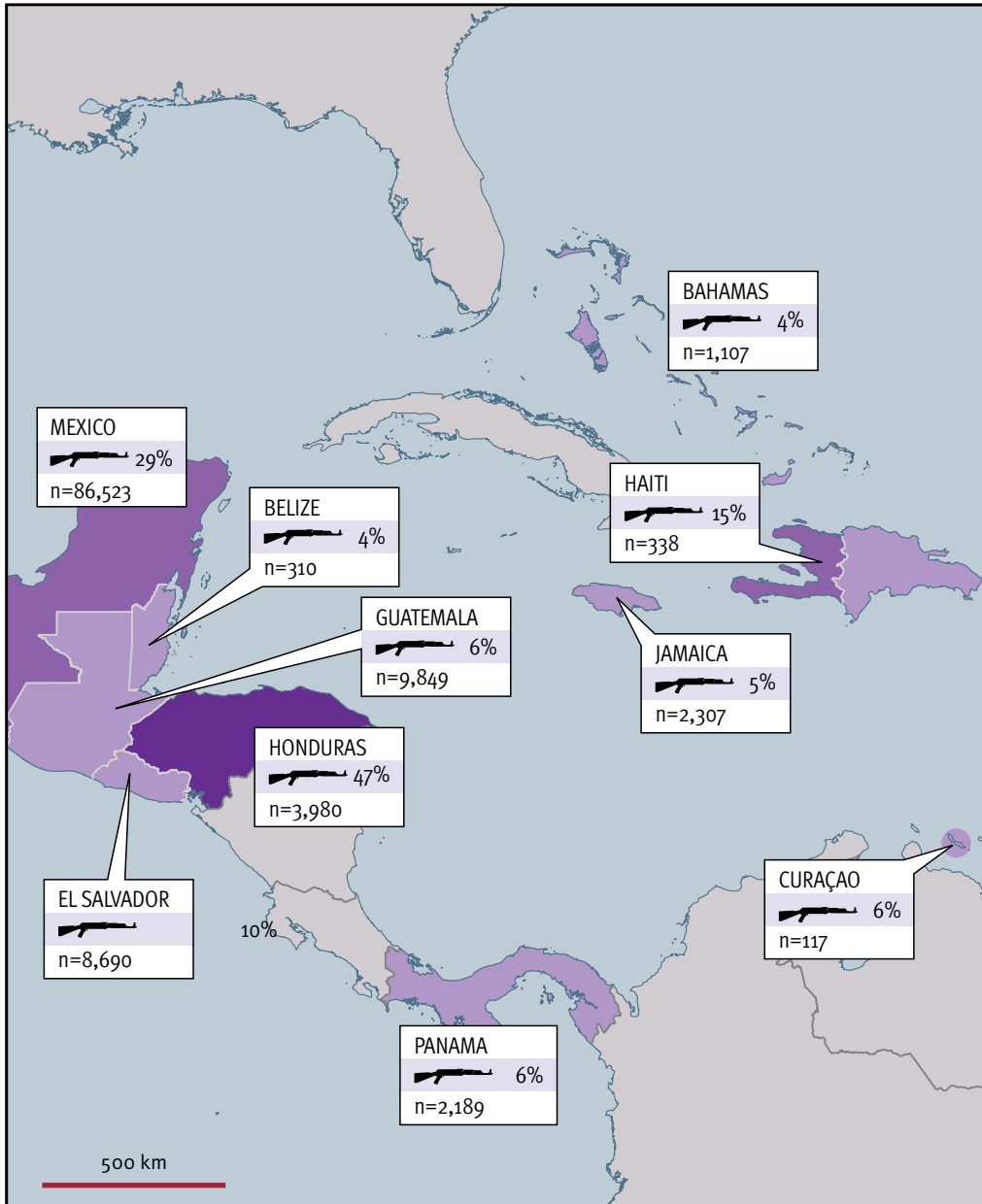
With the exception of Haiti and the British Virgin Islands, rifles comprise less than ten per cent of firearms seized in Caribbean states, as recorded in the data studied. This percentage is significantly lower than in some neighbouring states, including in Mexico, where more than 29 per cent of seized firearms submitted for tracing annually to the US government were rifles, and in Canada, where 41 per cent of trace requests involved rifles (US ATF, 2021a; 2021d). In Honduras, the number of rifles submitted for tracing varies significantly from year to year (from 8 per cent in 2016 to 80 per cent in 2018) but even the lowest annual percentage was higher than the percentage of rifles seized in many Caribbean states.²⁹ This data highlights the significant differences in trafficking patterns within the same geographic region and the analytical perils of over-aggregating data on subregions within that region (see Map 3).

That said, the proliferation of military-style rifles in some Caribbean states is a significant concern for local and regional law enforcement officials. In August 2022, US officials warned of a notable increase in the trafficking of large-calibre rifles and other firearms to Haiti and the rest of the Caribbean. Examples highlighted by these officials included firearms more frequently associated with Mexican drug cartels than with criminals in the Caribbean, including .50 calibre rifles (US ICE, 2022; see Images 1–2).

The makes (brands) of seized firearms are also remarkably uniform across the Caribbean, as revealed by the data on seized and traced handguns in Figure 8.³⁰

Within the Caribbean, there is little apparent geographic difference in the availability of the top makes of pistols. As revealed in data on seized pistols submitted for tracing through the International Criminal Police Organization (INTERPOL), the four most commonly seized makes—Glock, Taurus, Beretta, and Smith & Wesson—not only are the same in both the northern Caribbean and states located in or near South America,

Map 3 Rifles as a percentage of firearms submitted for tracing to US ATF for selected countries, 2016–20



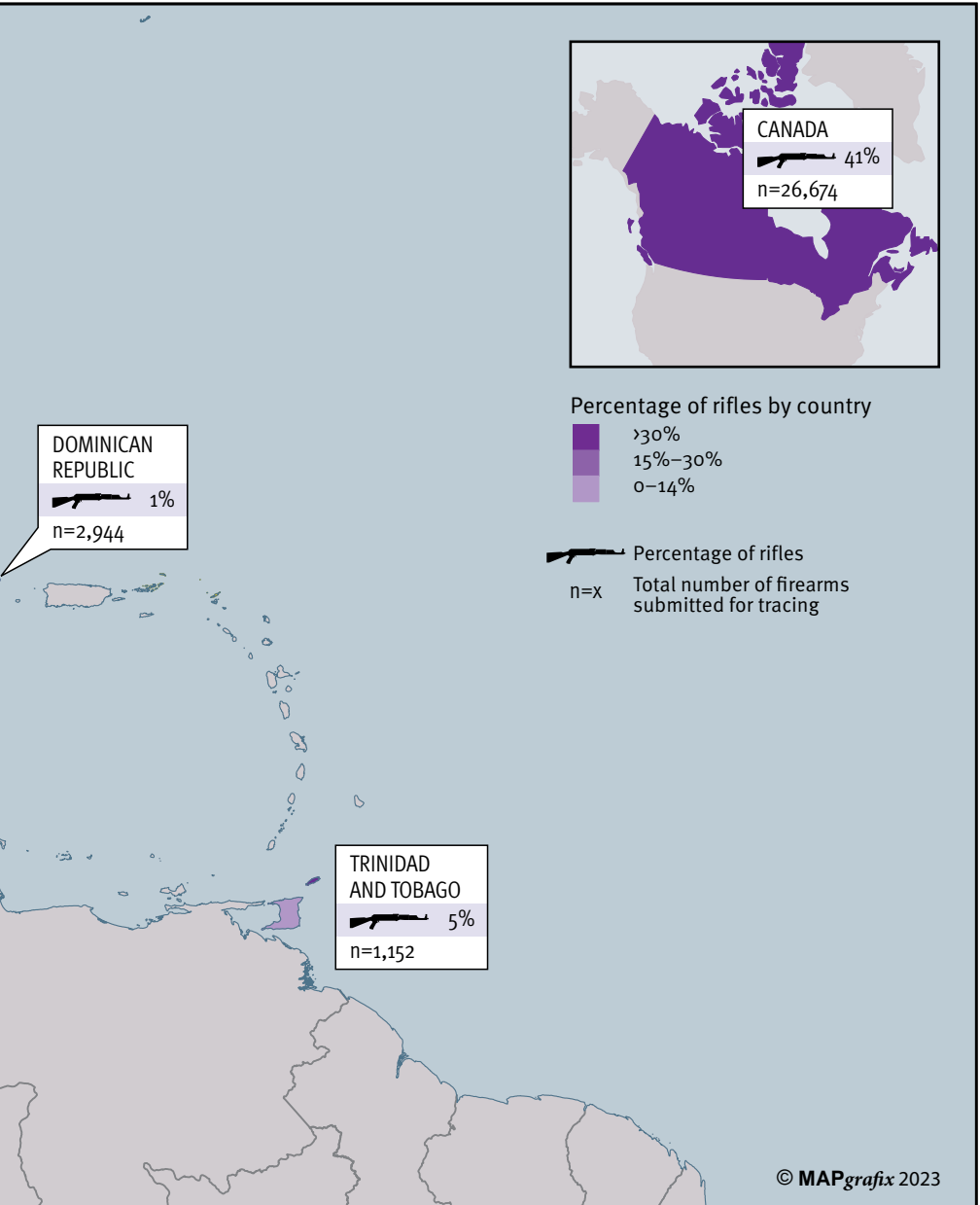


Table 10 Types of firearms* seized in (or intended for) the Caribbean, 2015–21

Type	Trace requests submitted through INTERPOL (2015–21)		Trace requests received by US ATF (2016–20)		US customs seizures (2016–21)	
	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent
Total handguns	2,111	88%	7,230	87%	431	83%
Pistols	1,593	67%	6,042	73%	417	80%
Revolvers	373	16%	1,188	14%	14	3%
Unspecified handguns	145	6%	–	–	–	–
Rifles	110	5%	325	4%	6	1%
Shotguns	62	3%	652	8%	14	3%
Sub-machine guns	22	<1%	–	–	0	0%
Machine guns	0	–	–	–	0	0%
Air or airsoft guns	10	<1%	–	–	–	–
Blank-firing guns	2	<1%	–	–	63	12%
Other and unspecified firearms	73	3%	68	3%	0	0%
Total	2,390		8,275		520	

Note: * This table only includes data on factory-built firearms. Privately made firearms are analysed in Sections 4 and 5. ‘–’ indicates that no data was available.

Sources: Belize National Forensic Science Service (2021); US ATF (2017a; 2017b; 2018a; 2018b; 2019a; 2019b; 2020a; 2020b; 2021b; 2021c); US CBP (2021); written correspondence with INTERPOL official (18 April 2022), the Jamaica Constabulary Force (14 July 2022), and the Royal Police Force of Antigua and Barbuda (6 July 2022); the Trinidad and Tobago Forensic Science Centre (n.d.) (25 July 2022) (see Images 13–15)

Images 1–2 Caribbean-bound firearms interdicted by US authorities



Source: US ICE (2022)

Table 10 Continued

Antigua and Barbuda police seizures (2018–May 2022)		Belize police seizures (2016–21)		Jamaica police seizures (2018–21)		Trinidad and Tobago police seizures (2017–21)	
Quantity	Per cent	Quantity	Per cent	Quantity	Per cent	Quantity	Per cent
85	74%	538	82%	2,222	87%	3,325	81%
70	61%	431	66%	1,883	74%	2,309	56%
15	13%	107	16%	339	13%	1,016	25%
–	–	–	–	–	–	–	–
8	7%	24	4%	184	7%	247	6%
8	7%	77	12%	82	3%	408	10%
–	–	3	<1%	64	3%	83	2%
–	–	0	0%	–	–	0	0%
13	11%	13	2%	–	–	4	<1%
1	1%	0	0%	–	–	–	–
–	–	1	<1%	–	–	20	<1%
115		656		2,552		4,087	

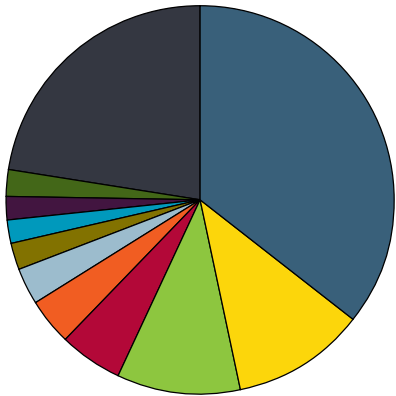
but also make up nearly the same percentage of pistols seized in both subregions: 63 and 64 per cent, respectively (see Figure 9).

Handguns made by South American firearms manufacturers accounted for a smaller percentage of firearms seized in Caribbean states located in or near South America than in northern states, suggesting that, in a globalized firearms market, geographic proximity to manufacturers has little bearing on the availability of their products for unauthorized end users—at least in the Caribbean. Notably, only two pistols manufactured by the Venezuelan company CAVIM were identified in the data, which is surprising given that Guyana borders Venezuela and Trinidad and Tobago is just ten miles away.

The data also indicates that automatic firearms are rarely seized by law enforcement agencies in the Caribbean.³¹ Of the 2,390 seized firearms submitted for tracing through INTERPOL, only 11 are described as automatic. Similarly, the seizure data compiled from Trinidad and Tobago Police Service press releases only includes references to 12 automatic firearms, more than half of which were Glock pistols fitted with conversion devices. The rest consisted of four AK- and AR-15 pattern rifles, an M&P sub-machine

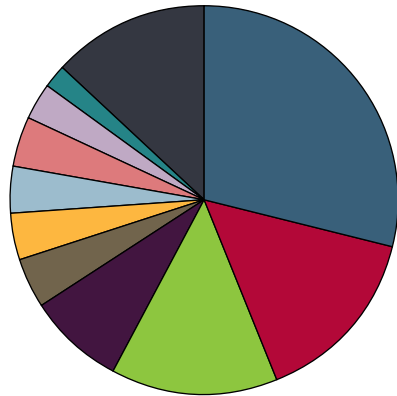
Figure 8 Top ten makes of pistols seized in the Caribbean, 2015–21

a. Trace requests submitted through INTERPOL (2015–21)



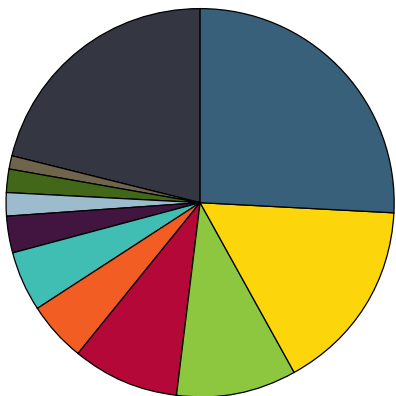
- Glock (557; 35%) ● Beretta (172; 11%)
- Taurus (167; 10%) ● Smith & Wesson (86; 5%)
- Tanfoglio (61; 4%) ● SIG Sauer (41; 3%)
- Bersa (38; 2%) ● Bryco Arms/JA Arms/Jennings (38; 2%)
- Ruger (38; 2%) ● Walther (37; 2%)
- Other (358; 22%)

b. US customs seizures (2016–21)



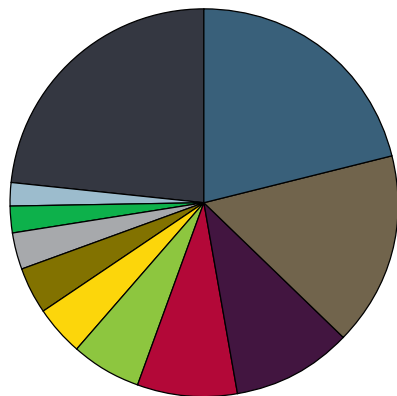
- Glock (108; 29%) ● Smith & Wesson (54; 15%)
- Taurus (53; 14%) ● Ruger (28; 8%)
- CZ (16; 4%) ● Jilenez Arms (15; 4%)
- SIG Sauer (13; 4%) ● Springfield (13; 4%)
- P80 (11; 3%) ● H&K (9; 2%)
- Other (49; 13%)

c. Trinidad and Tobago police seizures (2016–mid-2022)



- Glock (321; 26%) ● Beretta (192; 16%)
- Taurus (122; 10%) ● Smith & Wesson (107; 9%)
- Tanfoglio (61; 5%) ● Browning (58; 5%)
- Ruger (38; 3%) ● Sig Sauer (29; 2%)
- Walther (27; 2%) ● CZ (16; 1%)
- Other (259; 21%)

d. Belize police seizures (2016–21)

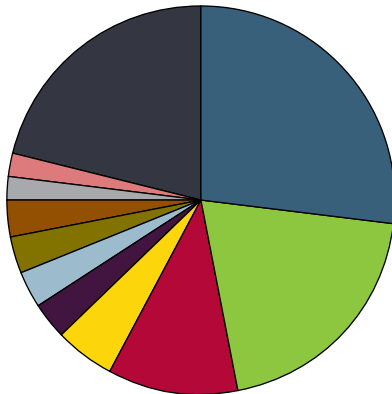


- Glock (87; 21%) ● CZ (68; 16%)
- Ruger (42; 10%) ● Smith & Wesson (35; 8%)
- Taurus (24; 6%) ● Beretta (16; 4%)
- Bersa (16; 4%) ● Colt (12; 3%)
- FEG (10; 2%) ● Sig Sauer (10; 2%)
- Other (98; 23%)

Sources: Belize National Forensic Science Service (2021); Trinidad and Tobago Forensic Science Centre (n.d.); US CBP (2021); written correspondence with INTERPOL official, 18 April 2022

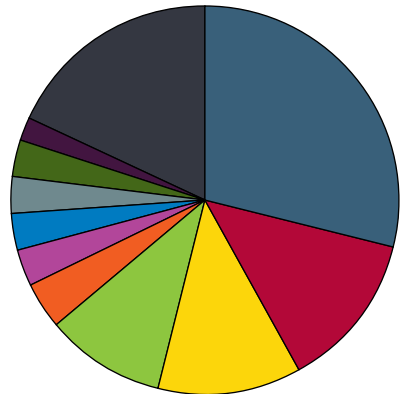
Figure 9 Top makes of seized pistols submitted for tracing by states in different subregions of the Caribbean, 2015–21

a. Northern Caribbean states*



- Glock (152; 27%) ● Taurus (116; 20%)
- Smith & Wesson (63; 11%) ● Beretta (26; 5%)
- Ruger (19; 3%) ● Sig Sauer (19; 3%)
- Bersa (15; 3%) ● FN (15; 3%)
- Colt (12; 2%) ● Springfield (12; 2%)
- Other (119; 21%)

b. Caribbean states located in or near South America**



- Glock (382; 29%) ● Smith & Wesson (166; 13%)
- Beretta (160; 12%) ● Taurus (134; 10%)
- Tanfoglio (58; 4%) ● Weihrauch (36; 3%)
- Rossi (35; 3%) ● JA Industries*** (34; 3%)
- Walther (34; 3%) ● Ruger (24; 2%)
- Other (233; 18%)

Notes: * Data in this graph reflects seizures in the following states: Bermuda, the Cayman Islands, the Dominican Republic, Haiti, Jamaica, and Turks and Caicos.

** Data in this graph reflects seizures in the following states: Aruba, Curaçao, Guyana, St Lucia, and Trinidad and Tobago.

*** Bryco and Jennings firearms are included in this figure.

Source: Written correspondence with INTERPOL official, 18 April 2022

gun, an unspecified ‘automatic rifle’, and an automatic Glock pistol (with no mention of a conversion device). Belizean authorities seized even fewer automatic weapons,³² and none are identified in seizure data provided by the British Virgin Islands. There are no references to light, general-purpose, or heavy machine guns in the data studied. This contrasts sharply with neighbouring Mexico, where drug cartels have acquired dozens of machine guns, including M249 and M2 style firearms, and six-barrel M134 miniguns.³³

Also notable is the apparent lack of demand in the Caribbean for converted blank-firing pistols, which are mainstay weapons for criminals in many European countries. Just two blank-firing guns are identified in the data on trace requests submitted through INTERPOL, and US customs authorities seized only a single shipment containing blank-firing guns, which was destined for Trinidad and Tobago. Blank-firing guns seized by

Trinidadian authorities are limited to two Turkish Ekol pistols found with three firearms at a bonded warehouse in the El Socorro Trade Zone in September 2020 (TTPS, 2020).³⁴ A small number of alarm pistols and corresponding blank ammunition have been used in crime in the French territories of the Caribbean—where they were converted to fire lethal rounds—as well as in Jamaica (see Section 5), but overall demand for these weapons appears to be marginal in the region. This is likely explained by the ready availability of conventional firearms.

Domestic sources

Domestic sources of illicit small arms and ammunition generally include the diversion of national stockpiles held by defence and security agencies, the diversion of civilian holdings, illicit ‘craft’ production, and the recirculation of already illicit weapons in the underground market (Jenzen-Jones and Schroeder, 2018, pp. 52–58).

Most Caribbean officials interviewed—and official documentation reviewed—by the Survey indicated that the majority of illicit firearms come from abroad, including from neighbouring states and the US mainland (see next section).³⁵ In some countries, the illicit firearms are then loaned or sold by criminal organizations to their members or to other illicit end users.³⁶ These claims were echoed by many of the inmates interviewed in Belize, Suriname, and Trinidad and Tobago for this project, the majority of whom indicated that they (or the criminal organizations in which they were involved) acquired their firearms from foreign sources. Of the 27 inmates who responded to the interview question, ‘Did [your] organization obtain the trafficked items from domestic or foreign sources?’, 23 indicated foreign sources, 2 indicated foreign and domestic sources, and 2 indicated that they obtained firearms only from domestic sources (Small Arms Survey, 2022b). Their responses are not surprising given the strict controls on the sale and possession of firearms and ammunition in many Caribbean states, and the comparatively limited number of domestic sources (diversion points) of arms and ammunition in these states.

That said, detailed, publicly accessible data on firearms diverted from domestic sources in the Caribbean is extremely limited. None of the data on seized and traced firearms acquired by the Survey consistently identifies the last known authorized end user, let alone the full chain of custody of the seized weapons, which is often required to determine the proximate source of diverted firearms, including those diverted from domestic sources. Furthermore, the makes and models of the seized weapons are so widely available throughout the hemisphere that they provide few clues regarding diversion points. Greater access to detailed, disaggregated data on seized and traced firearms would help to improve public understanding of firearms diversion from domestic sources in the Caribbean and the role that this diversion plays in illicit arms flows and firearm violence.

The types and sources of privately made firearms circulating in the region, as well as the origins of ammunition used in violent crime, are discussed further in Sections 4 and 5 of this Report.

Foreign sources

Most open-source reports on illicit firearms in the Caribbean identify the United States as one of the largest—if not the largest—source of arms and ammunition in the region. In recent media articles and government statements, the United States is variously described as ‘the primary source’, ‘the most significant source’, or the source of ‘a significant number’ of illegal firearms in the region or in specific countries.³⁷ More precise claims are usually based on trace data, and specifically data from the annual report of the US Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) on trace requests submitted by Caribbean states.³⁸ Some journalists and analysts properly explain and contextualize the ATF’s data and its limitations. Others do not. Even reports with proper caveats, however, often give the impression that the percentage of crime guns definitively traced to the US domestic market is higher—and our knowledge of illicit firearms markets more extensive and refined—than it actually is.

Images 3–6 Caribbean-bound shipments of arms and ammunition interdicted by US customs officials



Sources: Image 3: US CBP (2020a); Image 4: US CBP (2020b); Image 5: Botelho (2022); Image 6: USDC Southern District of New York (2022b, p. 14)

Nonetheless, there is little doubt that the United States is a major source of illicit firearms in the Caribbean, and probably the largest source in some states and territories (see Images 3–6).³⁹ The path taken by US-sourced weapons to unauthorized end users in the Caribbean varies from country to country. In some states, available evidence indicates that most illicit weapons come directly from the US mainland. More than 90 per cent of firearms used in homicides and confiscated by authorities in the Bahamas are traced to US manufacturers and retailers, according to Bahamian officials, and 80–85 per cent of firearms seized in Barbados come from the United States.⁴⁰ Officials from these states claim that international trafficking from countries other than the United States and domestic diversion of legally imported firearms is minimal. ‘In 25 years, I have only come across one firearm that was legally imported and diverted’, observed one senior Barbadian police official.⁴¹

Most of the firearms trafficked from the United States are traced to the coasts (states with seaports). According to Bahamian authorities, 90 per cent of firearms recovered in the Bahamas and submitted to the ATF for tracing were purchased in the state of Florida, followed by Georgia (2.9 per cent), Texas (1.3 per cent), and California (0.6 per cent).⁴² Law enforcement officials in Antigua and Barbuda, Haiti, and Jamaica also identified Florida as a significant source of illicit firearms.⁴³

The diversion of firearms legally imported from the United States by foreign entities is another significant source of illicit arms in some countries. Data in the ATF’s annual report on firearms trace data⁴⁴ indicates that, from 2017 to 2020, authorities traced 583 firearms seized in the Caribbean to foreign importers of US weapons, or roughly 22 per cent of US-sourced firearms successfully traced by the ATF. In other words, nearly one in four successfully traced, US-sourced crime guns came not from the US domestic market but from a foreign importer. In the Dominican Republic, 42 per cent of US-sourced firearms were traced to foreign entities. Similarly, in Belize, more firearms were traced to foreign entities than US retail purchasers.⁴⁵ This data underscores the importance of addressing all points of diversion throughout the transfer chain, not just the highest profile diversion points—in this case, retail sales in the US domestic market.

Firearms are also trafficked from or through US territories. For example, most of the US-sourced firearms seized in the British Virgin Islands come from neighbouring US territories (the US Virgin Islands, St Martin, and Puerto Rico). One Royal Virgin Islands Police Force (BVI) official observed that ‘[t]his makes sense given our porous borders and close proximity to the US Virgin Islands’. The only recent examples of firearms trafficked directly from the US mainland to the BVI were two firearms smuggled via post from Atlanta, according to the official.⁴⁶

Data on firearms trafficked from other countries is sparse. Few Caribbean countries publish data on the results of weapons traces, and the data that is available is often

Table 11 Select firearms with Guatemalan markings seized by Belizean authorities, 2018–21

Date	Case type	Seized firearms			
		Type	Make	Model	Calibre
01/11/18	Kept firearm without a gun licence	Pistol	Glock	Model 35	.40 calibre
		Pistol	Beretta	92FS	9 mm
02/11/18	Kept firearm without a gun licence	Pistol	Browning	–	9 mm
06/06/20	Kept firearm without a gun licence	Pistol	Arcus	98DA	9 mm P
04/09/20	Kept firearm without a gun licence	Pistol	Tanfoglio	Force 99	9 mm
21/09/20	Kept firearm without a gun licence	Pistol	Arcus	98DA	9 mm
12/12/20	Kept firearm without a gun licence*	Pistol	Bersa	Thunder 9 pro	9 mm
09/01/21	Murder	Pistol	Beretta	92FS	9 mm
28/01/21	Murder	Pistol	BUL	G-Cherokee	9 mm
06/04/21	Found property	Pistol	Taurus	PT 100 P	.40 calibre
26/04/21	Kept firearm without a gun licence	Pistol	STI Armscor	Spartan 4	.45 ACP
20/05/21	Kept firearm without a gun licence	Pistol	FEG	–	9 mm
		Pistol	Bersa	–	.380 ACP
21/05/21	Kept firearm without a gun licence	Pistol	STI Int'l	GP6	9 mm
01/08/21	Murder	Pistol	Norinco	NP42	9 mm
23/08/21	Found property	Pistol	Daewoo	–	9 mm
		Pistol	Phoenix Arms	HP25A	.25 ACP

Note: * In the source document, the case description also included the term 'kept ammunition'.

Source: Written correspondence with the Belize Police Department, 25 July 2022

vague and difficult to verify. Nonetheless, it is clear that the United States is far from the only source of illicit firearms in the region, and direct trafficking from the US mainland comprises only a small percentage of illicit firearms in some countries, such as Belize. According to Belizean authorities, the vast majority of traced firearms are trafficked from Guatemala and Honduras.⁴⁷ This claim is consistent with US trace data: the percentage of firearms seized by Belizean authorities and traced to US retail sales is significantly smaller than in some other Caribbean countries.⁴⁸ Examples of Guatemalan firearms recently seized by the Belize Police Department are provided in Table 11.

Venezuela is of particular concern given its large stockpiles of arms and ammunition and the political instability and economic decline that has plagued the country in recent years. Existing evidence indicates, however, that firearms trafficked from Venezuela still only account for a minority of illicit firearms, even in neighbouring Caribbean states. For example, data obtained by the Survey indicates that 20 per cent of firearms seized by Curaçaoan authorities were traced to Venezuela in recent years (see Table 12). While this percentage is higher than in some other Caribbean countries, it is still only a small proportion of seized firearms, despite Curaçao’s proximity to Venezuela.

Other countries and territories⁴⁹ identified as sources of illicit firearms by Caribbean officials include nearly half of the 20 CARICOM member states and associate members,⁵⁰ along with Argentina, Brazil, Colombia, Costa Rica, the Dominican Republic,

Table 12 Firearms seized and traced by Curaçaoan authorities, 2017 to May 2022

Year	Seized	Traced to Venezuela	Percentage traced to Venezuela
2017	134	17	13%
2018	118	29	25%
2019	82	18	22%
2020	59	10	17%
2021	40	10	25%
2022 (January–May)	7	4	57%
Total	440	88	20%

Notes: All seized firearms are submitted for tracing and therefore the quantity of firearms in the ‘seized’ column is the total number of firearms seized by authorities in that year.

Source: Written correspondence with officials from the Curaçao Police Force (KPC) and the Intelligence Center Curaçao (ICC), 17 October 2022

French Guyana, Guadeloupe, Honduras, Nicaragua, and St Maarten.⁵¹ It is unclear whether and to what extent these countries were points of diversion for the trafficked firearms (that is, whether the firearms were diverted from the authorized to the illicit sphere in these countries) or simply transit points. The quantity of firearms trafficked from or through these countries, and whether the firearms were diverted from government, commercial, or private entities, is also unclear. Without more information about the nature and scale of this trafficking, it is impossible to assess its policy implications.

The mechanics of firearms trafficking to and within the Caribbean

The following section examines the mechanics of illicit firearms trafficking to and within the Caribbean. The first part looks at the primary modes of transport, including the relative frequency of trafficking via land, sea, and air to different countries. The second part analyses methods used by traffickers to conceal firearms, ammunition, and components in transit. The third part identifies various other smuggling techniques used by traffickers, which range from the falsification of shipping documentation to the obliteration of serial numbers on trafficked firearms.

The section is primarily based on data collected from hundreds of pages of documentation from criminal cases against 29 US-based trafficking networks that smuggled (or attempted to smuggle) arms or ammunition to the Caribbean from 2007 to 2021. This data is supplemented and corroborated by information from interviews with customs, police, and security officials from the Caribbean and neighbouring states. The data reveals a trafficking modus operandi that is remarkably simple and consistent, yet extremely difficult to thwart.

Most schemes to traffic firearms to the Caribbean are notable mainly for their simplicity. Unlike the elaborate transcontinental arms trafficking operations documented by UN investigators in other parts of the world, the schemes used to smuggle firearms to the Caribbean require minimal knowledge, skill, or planning to execute. There are no convoluted networks of shell companies, complicated logistical or transport arrangements, or elaborate efforts to deceive arms manufacturers or export licensing officials. Such measures are not necessary. In the United States, the types of weapons trafficked to the Caribbean are widely dispersed among thousands of online and brick-and-mortar retailers and are easily accessed by most US citizens. The process of preparing and delivering the weapons to the Caribbean is straightforward and does not require significant knowledge, materials, or funding. The trafficker simply needs to camouflage the items well enough to blend in with the thousands of shipments of other goods departing and arriving from international ports every day.

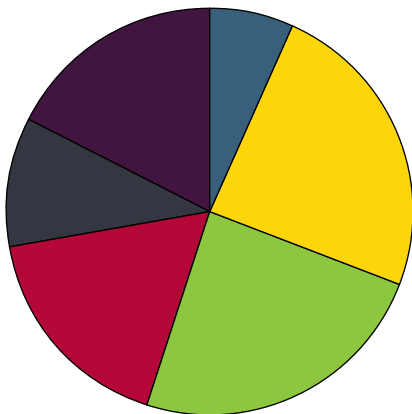
Modes of transport

Firearms and ammunition are trafficked from the United States to the Caribbean via shipping companies, postal and fast parcel services, and commercial airliners.⁵² More than half of the 29 trafficking networks studied used shipping companies (see Figure 10), mostly located in Florida.⁵³ Maritime shipments were the most common mode of transport due to the size and weight—and consequently the cost—of the cargo, which was often packed in large barrels with other commodities or hidden within automobiles.

Firearms are also smuggled on regularly scheduled passenger flights—a surprisingly common mode of transport for US-based traffickers given passenger screening requirements.⁵⁴ The Survey identified five trafficking networks that smuggled firearms, ammunition, parts, and accessories to the Caribbean on commercial airliners.⁵⁵ Participants in two of these networks included active law enforcement officers, who used their official credentials and knowledge of airport security to bypass passenger screening.

Figure 10 Modes of transport used for trafficking firearms and ammunition from the United States to the Caribbean, 2010–21

- Shipping company (air) (7%)
- Shipping company (ocean) (24%)
- Shipping company (unspecified) (24%)
- Commercial passenger plane (17%)
- Postal and fast parcel services (10%)
- Unspecified (17%)



Source: Small Arms Survey (2022a)

Firearms trafficked by one of the networks were later seized from members of a drug trafficking organization in the Dominican Republic (USDC District of New Jersey, 2014, p. 4).

Other networks attempted to evade detection by concealing arms and ammunition, including explosive materials, in their luggage—a practice that poses a safety hazard for airline passengers, crew members, and airport employees. One such attempt was discovered when hundreds of ammunition primers hidden in the luggage of a smuggler flying from Massachusetts to Jamaica exploded during a layover in Miami. The explosion embedded shrapnel in the shoe of a baggage handler and prompted a thorough check of the smuggler’s other luggage, during which authorities found hundreds of additional ammunition primers and a disassembled ammunition reloading press (US DOJ, 2011).⁵⁶

Three of the trafficking networks used the US postal service or commercial fast parcel services to illicitly deliver firearms

abroad, including to the Caribbean. Two of the networks shipped—or attempted to ship—weapons to Barbados, and one sent multiple shipments to St Kitts and the United Kingdom. The shipments were often small, falsely described as other items on shipping documents, and packaged with other commodities (Small Arms Survey, 2022a). While some of the firearms were identified and seized by US authorities at ports of exit, others went undetected and were delivered to foreign recipients.⁵⁷

The modes of transport identified by US and Caribbean officials are largely consistent with those identified in US court documents.⁵⁸ Authorities from Antigua and Barbuda and Barbados, as well as a foreign observer in Haiti, identified maritime cargo shipments as the largest source of illicitly imported firearms.⁵⁹ Likewise, customs officials from Belize told the Survey that 80 per cent of the illicit firearms shipments interdicted at Belizean ports are found in cargo ships.⁶⁰ Data on firearms seized at Jamaican ports indicates that maritime shipments account for an even higher percentage of internationally trafficked firearms. Of the 218 firearms seized at Jamaican ports from 2016 to 2021, 207 (95 per cent) were seized at maritime ports (see Table 13).

Weapons are also trafficked to and within the Caribbean in private maritime vessels, including fishing boats and pleasure craft, such as speedboats and yachts.⁶¹ Traffickers in Haiti transport firearms to Jamaica by boat, where the weapons are traded for ‘ganja’ (drugs). The drugs are then trafficked to the Dominican Republic.⁶²

The prevalence of firearms trafficking via air or post varies from country to country. In recent years, authorities in Barbados have observed ‘heavy use’ of postal and fast parcel services, in part due to the introduction of scanners at seaports.⁶³ Similarly, according to the police, over 90 per cent of trafficked firearms enter St Kitts and Nevis through international air cargo.⁶⁴ Officials from other Caribbean countries reported little or no trafficking via air or post.⁶⁵ For example, Guyanese authorities are aware of only one to two cases of trafficking that involved the use of postal services.⁶⁶

Domestic transport modes are more varied and reflect the geographic features of the area in which the traffickers operate. On land, firearms are transported by car or scooter,

Table 13 Location of seizures in Jamaica, 2016–21

	Pistols	Revolvers	Rifles	Shotguns	Sub-machine guns	Total
Airports	10	0	1	0	0	11
Maritime ports	149	18	35	2	3	207

Notes: The data in this table includes all seizures of firearms from both inbound and outbound shipments from 2016 to 2021. The data on maritime ports comprises items found in cargo areas at seaports. The data on airports comprises items found in baggage handling areas at airports.

Source: Written correspondence with the Jamaican Ministry of National Security, 5–6 September 2022

or on foot.⁶⁷ Interisland transfers are conducted via sand barges, tugboats, mail boats, and various other commercial and private vessels.⁶⁸

Authorities in several countries noted that data gaps preclude a definitive analysis of transport modes, partly because most illegal firearms are seized inland (usually during or after the commission of a crime) rather than in transit. In Jamaica, more than 90 per cent of illicit firearms were seized inland in 2021 and early 2022; the rest were seized at controlled ports. Even the port seizures provide only a partial picture of international trafficking since, according to Jamaican authorities, ‘uncontrolled ports remain the dominant route for trafficking of arms into the country’.⁶⁹

Concealment methods

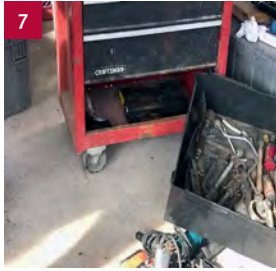
The methods used to conceal illicit shipments of arms and ammunition to the Caribbean range from non-existent to painstaking, although none of the concealment methods identified by the Survey are particularly innovative or complex. Nearly all of the trafficking networks described in the US court documents hid weapons within or among household items, often arranged in layers to make the weapons less conspicuous and accessible. In 2016, an Illinois-based trafficker built a custom wooden container with a hidden compartment for arms and ammunition that he intended to smuggle to Haiti. The trafficker put the container in the back of a used cargo van and surrounded it with clothing. He then placed several large pieces of furniture between the container and the back door of the van. The logic behind this arrangement is explained by US authorities in court documents:

By doing this, defendant ensured that the container’s contents, namely, the firearms and ammunition, were concealed and would not be discovered by any of common carrier employees, customs or government officials in the United States or Haiti, or any other individuals whom defendant feared might steal the firearms and ammunition, during transit from Illinois to Haiti (USDC Northern District of Illinois, n.d., p. 4).

Concealing weapons within automobiles and among automobile parts is another common tactic. Some traffickers purchase used cars expressly for the purpose of smuggling arms and ammunition. In 2011, customs officers in Florida found 63 pistols and rifles in a green Chevy van that was about to be shipped to Puerto Rico.⁷⁰ The firearms were found in the ‘void spaces’ of the side and rear door panels of the van, which the traffickers had purchased on Craigslist for USD 2,500 (USDC Middle District of Florida, 2011, pp. 2–4).

That same year, authorities at the port of Palm Beach, Florida, inspected a 1988 Mack dump truck being shipped to Haiti. As the tailgate was inoperable, it had to be opened

Images 7–9 Pistols and ammunition concealed under the third drawer of a toolbox



Source: Belize Customs & Excise Department

manually and held open with a forklift. In the bed of the truck, authorities found ‘tons of roughly used and foul-smelling cargo’ of little or no value, including mattresses, buckets of raw meat, a used child’s bicycle, and other household items, which were piled five to six feet high. Under these items, authorities discovered four blue plastic barrels wrapped in plastic wrap. Attempts to X-ray the barrels were unsuccessful so agents had to manually open them and inspect their contents, which included 12 pistols, 27 magazines, pistol cases, and more than 200 rounds of ammunition. Some of the weapons were wrapped in plastic and paper towels, and then in a wet blanket. Others were surrounded by bottles of liquid toiletries. A few were found in a locked safe (USDC Southern District of Florida, 2011, pp. 3–5).

This case highlights several common concealment methods that are still widely used by trafficking networks. It also shows the lengths to which traffickers will go to discourage the inspection of shipments containing contraband—including, in this instance, the following tactics:

- The broken tailgate and locked safe impeded access to the weapons.
- The foul-smelling cargo was intended to deter authorities from inspecting the shipment.
- The large quantities of household items gave the impression that the shipment was innocuous, and made scanning and inspecting the cargo more difficult and time-consuming.

Additional examples of concealment methods used by US-based traffickers to smuggle weapons to the Caribbean are provided in Table 14.

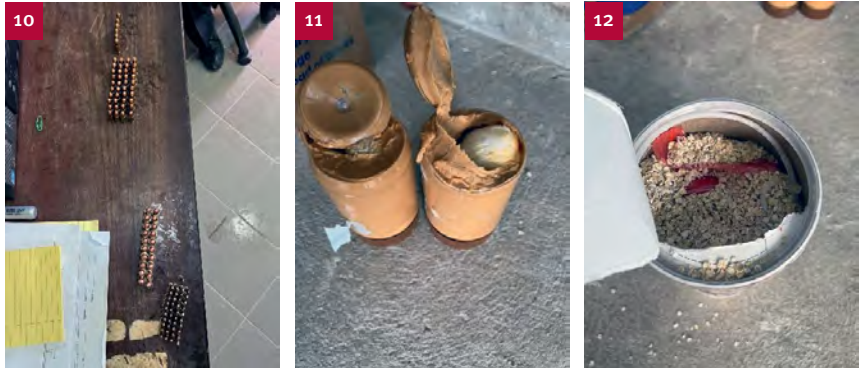
Caribbean customs and police officers describe similar concealment methods. Firearms seized at Belizean ports are often discovered in packages of food and consumer goods, which are loaded into shipping containers. Ammunition is concealed in the

Table 14 Examples of concealment methods used to smuggle arms and ammunition to the Caribbean, 2010–22

Year	Destination state	Transport mode	Smuggled weapons	Concealment methods
2010	Jamaica	Commercial airliner	Ammunition primers and an ammunition reloading press	Ammunition primers and parts of the reloading press were hidden in a plastic bag concealed in the lining of a suitcase. Other parts of the reloading press were found in a zipped compartment and wrapped in clothing concealed within the suitcase.
2015–16	Guyana	Commercial cargo plane	Pistols, a revolver, and ammunition	The firearms and ammunition were placed at the bottom of 75-gallon barrels underneath food and other items.
2016	Dominica	Unspecified shipping company	Pistols	The firearms were packed in a barrel with various household items purchased at Walmart specifically for the shipment.
2016–17	Jamaica	Unspecified shipping company	Pistols, rifles, firearm parts, and ammunition	The firearms were packed in a 55-gallon barrel with food items, including bags of sugar and flour. Most of the firearms had been partially disassembled and wrapped in green cellophane. ⁷¹
2020	Barbados	Postal (fast parcel)	Pistols and parts	The firearms were shipped with auto parts (see Image 3).
2021	Haiti	Unspecified shipping company	Pistols, rifles, and ammunition	The weapons were placed in rubbish bags, loaded into large multi-gallon barrels, and then covered with household items, including clothes, shoes, and sports drinks.
2022	Dominican Republic	Unspecified	Pistols and ammunition	The pistols were duct-taped, hidden in sealed coffee containers filled with coffee grounds, and placed in a large white barrel containing bird seed, chicken feed, and corn.

Source: Small Arms Survey (2022a)

Images 10–12 Ammunition discovered inside peanut butter and cereal containers in Belize



Source: Belize Customs & Excise Department

same way but shipped separately. The only notable difference between shipments of arms and shipments of ammunition, observed one Belizean customs officer, is the size of the smuggling vessel. Authorities have found trafficked ammunition in peanut butter and jelly jars and sealed cereal boxes, and firearms in dishwashers and toolboxes (see Images 7–12).⁷² Authorities from other Caribbean states and territories have discovered firearms in cars and car parts, toasters, microwave ovens, televisions, baby strollers, refrigerators, and cases of beverages, among other items.⁷³

Smuggling techniques

Smugglers use a wide variety of smuggling techniques when trafficking firearms to the Caribbean, none of which are specific to the region. In essence, all of these techniques serve two purposes: to make the purchase or shipment of the weapons as inconspicuous as possible, and to hide the conspirators' involvement in the operation. To these ends, US-based trafficking networks studied by the Survey employed one or more of the following techniques:

- using false addresses on firearms sales documents;
- purchasing firearms from different vendors;
- only purchasing one to two firearms at a time;
- using code words for firearms when communicating with clients;
- obliterating serial numbers;
- falsely describing trafficked items in shipping documents;
- using aliases when shipping and receiving illicit weapons;

Images 13–15 Firearms, parts, and ammunition seized by Trinidadian authorities, 2021–22



Sources: Image 13: TTPS (2022); Images 14–15: TTPS (2021a)

- providing false addresses in shipping documents;
- using false IDs when shipping firearms; and
- undervaluing items in shipping documents.

None of the techniques listed above are new or novel; traffickers worldwide have used them to smuggle weapons and other contraband for decades, and continue to do so because they remain effective. Port officials and customs agents are under pressure to quickly and efficiently process thousands of tons of cargo every day and therefore seek to minimize unnecessary delays or disruptions. Physical inspections of suspect shipments can take several hours and require multiple personnel, making

it impossible to inspect more than a small percentage of shipments at busy ports. Scanning equipment can help to expedite the inspection process but this technology has limitations, as illustrated by the case of the Haiti-bound dump truck interdicted in 2011: authorities had to remove the barrels and other containers from the back of the truck and scan them individually, and the scanners were ‘unsuccessful in penetrating the contents of the barrels’, forcing authorities to manually unpack the barrels and inspect their contents.⁷⁴ Conducting similar inspections of every comparable shipment to the Caribbean is financially and logistically unfeasible—and firearms traffickers know it. Until US and Caribbean authorities are able to overcome these limitations or devise other effective countermeasures, traffickers will continue to use these methods. ●

“ In the Caribbean,
privately made firearms range
from crude homemade shotguns
to ghost guns assembled from
factory-produced parts.”

4. Privately made firearms and conversion devices

Section findings

- Privately made firearms (PMFs) in the Caribbean range from crude homemade shotguns to ‘ghost guns’ assembled from factory-produced parts. While available evidence suggests that PMFs currently represent only a small percentage of illicit firearms in the region, the true extent of their proliferation is unknown due to under-reporting and other data limitations.
- The rapid evolution of technology and techniques for producing PMFs poses a significant regulatory challenge for governments in the Caribbean and neighbouring states.
- Advancements in techniques for producing PMFs are primarily driven by a large, decentralized online community of amateur gunsmiths who are continuously refining methods for creating functional PMFs with few, if any, controlled parts. The ability of this community to quickly adapt to—and circumvent—restrictions on firearms production poses an existential threat to firearms control efforts, both in the Caribbean and worldwide.
- Accurately and consistently identifying ghost guns, 3D-printed firearms, and other PMFs requires regular training on firearm identification. Officials interviewed by the Small Arms Survey noted that some law enforcement officers lack even basic knowledge, such as the difference between a pistol and a rifle, let alone the ability to distinguish between factory-made firearms and high-end PMFs.

Overview

The following section outlines several technological and proliferation trends that could have significant implications for illicit firearms inventories, trafficking dynamics, and counter-trafficking policies and practices in the Caribbean and beyond. Two of these trends—the increased production and trafficking of ghost guns and conversion devices—are already evident in the United States.

In the Caribbean, PMFs range from crude homemade shotguns to ghost guns assembled from factory-produced parts. This section provides an overview of illicit PMFs and privately made accessories, namely conversion devices, in the region.

This Report uses the US government’s definition of ‘PMF’:

a firearm, including a frame or receiver, assembled by a person other than a licensed manufacturer, and not containing a serial number or other identifying marking placed by a licensed manufacturer at the time the firearm was produced (Office of the US Federal Register, 2022, p. 24664).

The terms ‘PMF’ and ‘ghost gun’ are often used interchangeably but, for the purposes of clarity, the latter is used here to refer to a specific subset of PMFs assembled from partially finished frames or receivers⁷⁵ and factory-built parts—often packaged and sold as kits. PMFs are a growing concern in the United States, where their recovery at crime scenes has increased dramatically in recent years. Seizures and traces of suspected PMFs by US law enforcement jumped from 1,758 firearms in 2016 to 19,344 in 2021 (US ATF, 2022, p. 39). During this six-year period, authorities seized at least 45,240 PMFs, including 692 linked to homicide or attempted homicide investigations (p. 39). According to ATF, the actual number of PMFs seized by law enforcement during this time period is almost certainly higher.⁷⁶ Due to the interconnected nature of illicit firearms markets in the United States and the Caribbean, these trends are directly relevant to trafficking dynamics in the Caribbean.

Ghost guns

Existing evidence indicates that many of the PMFs seized in the United States and, to a lesser extent, the Caribbean are ghost guns (US ATF, 2022, pp. 32–36). The popularity of ghost guns is attributable, in part, to the relative ease with which they can be finished and assembled using readily available tools and equipment. Parts kits for ghost guns often include jigs, drill bits, and other production tools (see Image 16), and instructional videos are readily available online. ‘Any individual can fabricate a firearm by simply following the fabrication instruction provided (with item or online)’,

Image 16 Semi-automatic handgun weapons kit

16



Source: US ATF (2022, p. 33)

observed one former law enforcement official. While the quality of ghost guns and other PMFs varies, the official confirmed that available designs and materials are sufficient to produce functional, durable firearms: ‘[A]ll the firearms that my peers and I fabricated were definitely comparable in performance, durability, and lifespan to the factory-built versions.’⁷⁷

The growing popularity of ghost guns in the United States has potentially significant implications for the Caribbean given the role of US-sourced crime guns in the region. Since 2020, US customs and law enforcement officials have seized possible PMFs, components often used to assemble PMFs, and production equipment bound for Caribbean states on multiple occasions (see Table 15).

Table 15 PMFs, receivers and frames, and related kits bound for the Caribbean and seized by US customs officials, 2020–21

Destination state	Date	Item description (as reported)	Quantity
Barbados	16/10/20	Glock 22 with P-80 frame	1
Dominican Republic	02/03/20	Smith & Wesson black plastic pistol [frame]	4
	23/06/20	P80 Glock lower receiver (no serial [number])	1
		P80 Glock lower receiver with box	1
		5.56 Faxon upper [receiver]	1
		AR-15 lower receiver	2
	07/07/20	M4 lower parts kit	3

Destination state	Date	Item description (as reported)	Quantity
▶ Haiti	17/06/20	American Tactical lower receiver	1
		American Tactical upper receiver	2
		American Tactical Omni hybrid lower [receiver]	1
		Smith & Wesson lower receiver	1
		Smith & Wesson upper receiver	1
	23/06/20	Anderson manufacturing lower receiver	2
		Custom homemade lower receiver	2
		Custom homemade upper receiver	4
	08/12/20	Unknown unmarked upper receiver	3
		Smith [&] Wesson lower receiver M&P 15	5
		Smith [&] Wesson unmarked upper [receiver]	5
Suriname	16/07/20	AR-15 lower receiver kit	3
		AR-15 upper receiver kit	3
		AR-15 lower receiver	3
		AR-15 upper receiver with barrel	3
Trinidad and Tobago	08/01/20	P80 handgun ⁷⁸	5
	31/01/21	P80 frame in jig	5
		P80 pistol frame in jig	15
		80 per cent complete AR lower receiver	10
		80 per cent lower AR receiver	20
		AR-15 milling jig part	50
		9 mm pistol with P80 frame	5
		Complete AR upper assembly	20
		AR upper assembly	10
	31/03/21	Complete lower kits	6
		AR platform complete upper receiver	8
AR rifle platform stripped lower receiver		4	

Source: US CBP (2021)

Images 17–18 Various parts found in an imported shipment at Piarco International Airport, Trinidad, 2021



Source: TTPS (2021a)

Data from the US Customs and Border Protection also reveals a notable increase in seizures of receivers and frames bound for the Caribbean, possibly intended for use in the assembly of PMFs. From 2016 to 2019, US customs officers seized just one pistol frame and five rifle receivers from shipments addressed to recipients in the Caribbean. In 2020–21, 145 frames and receivers were seized (US CBP, 2021) (see Images 17–18).

Determining the extent to which criminals in the Caribbean have obtained ghost guns is extremely difficult. Data on Glock-pattern pistols seized by authorities in the territories of French Guiana, Guadeloupe, Martinique, and St Martin suggests that ghost guns are already prevalent in some parts of the Caribbean. Of the 61 Glock-pattern pistols seized or linked to crimes by authorities in these territories from 2017 to mid-2022, 16 were P80 pistols—at least 12 of which were reportedly lacking serial numbers.⁷⁹

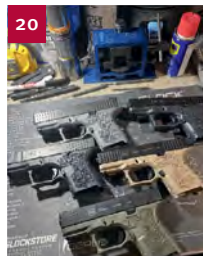
Ghost guns appear to be less common in other Caribbean countries. None of the nine Caribbean states that completed the Survey’s National Small Arms Questionnaire⁸⁰ indicated that they had seized ghost guns or unfinished receivers in recent years, and officials interviewed by the Survey indicated that they had seen no evidence of ghost guns in Haiti or Belize.⁸¹ Similarly, ghost guns appear to comprise only a miniscule percentage of pistols seized in Trinidad and Tobago over the last few years. Data on seized weapons provided to the Survey includes references to just six P80 pistols,⁸² along with 18 ‘replica’ Glock 17, 19, and 29 firearms.⁸³

It is difficult to determine whether any of the other seized pistols in the data reviewed by the Survey are ghost guns because of the possibility that pistols identified as factory-produced firearms are actually ghost gun variants. Indeed, 21 complete P80 pistols seized in the Dominican Republic were originally misidentified as Glock pistols—a mistake that a US government official familiar with the region noted is ‘probably common and will result in drastic under-reporting of 80%/PMF seizures in the region’.⁸⁴

The recent discovery of a US-based trafficking network that mass-produced ghost guns for clients in the Dominican Republic lends credence to concerns about their proliferation in the Caribbean. In November 2021, US authorities arrested a 34-year-old Rhode Island man after finding 46 upper receivers and 45 lower receivers in his car. Evidence found on the man’s phone revealed that, in addition to the 91 receivers, the defendant also purchased at least 72 kits for ghost guns, which he assembled at his home and then shipped—or planned to ship—to the Dominican Republic (USDC Southern District of New York, 2022a; 2022b; US DOJ, 2022b; see Images 19–21).⁸⁵

Other illicit PMFs circulating in the Caribbean include crudely produced shotguns and modified flare guns. Examples of homemade shotguns seized by Trinidadian authorities are shown in Images 22–27. Unlike PMFs made from partially finished frames and receivers and factory-produced parts, criminals are unlikely to view these weapons as close substitutes for factory-produced weapons.

Images 19–21 Photos of ghost guns and production equipment found on the phone of a Rhode Island arms trafficker, 2011



Source: USDC Southern District of New York (2022b, p. 7)

Images 22–27 Photos of ghost guns and production equipment found on the phone of a Rhode Island arms trafficker, 2011



Source: TTPS (n.d.a)

Modified flare guns are another common type of PMF in some Caribbean states.⁸⁶ The guns are often stolen from fishermen and other boaters, and then modified to fire common calibres of ammunition. Some are painted grey or black to make them look more like actual firearms. In Antigua and Barbuda, modified flare guns accounted for seven per cent of firearms seized from 2018 to May 2022.⁸⁷ Most were modified for 9 mm ammunition, which is the most popular calibre in the country, according to police officials (see Images 28–30). The officials also noted that none of the guns tested by forensics experts functioned properly,⁸⁸ suggesting that the brands of flare guns examined by authorities are not particularly well-suited for conversion into firearms. Whether the same is true of modified flare guns seized in other Caribbean states is unclear.

Images 28–30 Modified flare guns seized by Royal Police Force of Antigua and Barbuda



Notes: Image 28: Left profile of a modified flare gun; Image 29: flare gun barrel; Image 30: 9 mm ammunition cartridge chambered in a modified flare gun.

Source: Royal Police Force of Antigua and Barbuda

Also notable is the recent seizure of counterfeit Glock pistols by authorities in Trinidad and Tobago. According to US government officials who inspected the firearms, they ‘were physically identical to Glock pistols down to the pattern of the pistol grip’. The official noted that the pistol was marked ‘Made in China’, and that no false Glock markings were visible on the weapons.⁸⁹

3D-printed firearms and accessories

The 3D printing of firearms poses a significant threat to key elements of national and international small arms control regimes, including the CARICOM Firearms Roadmap. The development and refinement of user-friendly designs and production techniques for 3D-printed firearms, coupled with the increasing availability and decreasing costs

of 3D printers, is making these weapons accessible to a growing pool of potential end users, including criminals. The concurrent improvement in the quality and durability of 3D-printed firearms has also contributed to their increased popularity.

The recent acquisition of 3D-printed firearms by armed groups in active war zones,⁹⁰ and by criminals in countries where civilians have ready access to factory-built firearms, suggests that the potential market for these weapons is wider than previously assumed. While the use of 3D printing by criminals in the United States is still in its infancy, the number of 3D-printed firearms and components seized by US authorities is increasing. Tighter controls on ghost guns may accelerate these trends, which could have ripple effects in the Caribbean.

3D-printed weapons also represent a unique challenge to firearms control measures. Unlike ghost guns, which incorporate factory-built components, the latest generation of some 3D-printed firearms are made entirely (or almost entirely) from printed components and commercial off-the-shelf materials. This transition away from controlled weapons and components threatens to undermine existing transfer controls—the bedrocks of national and international norms and policies—and may eventually render some of them obsolete. For conventional (factory-built) firearms, each link in the transfer chain is an opportunity to detect and prevent diversion. Export and import licensing checks, re-transfer restrictions, border controls, transport security requirements, and end-use monitoring form a set of overlapping safeguards that, if thoroughly implemented, reduce the likelihood of the theft, loss, or diversion of firearms and their components. In contrast, the chain of custody for 3D-printed firearms begins and ends with the producer and end user—or just the producer if they are also the end user. In other words, the 3D printing of firearms bypasses the entire transfer chain and the corresponding controls that the international community, including CARICOM, relies upon to prevent diversion.

The extent to which 3D-printed firearms will supplant their factory-produced counterparts remains unclear, and will likely vary from country to country. Efficiently producing high-quality firearms using a 3D printer requires a certain amount of knowledge and experience, and some criminals will continue to value the demonstrated quality and reliability of factory-built firearms over 3D-printed weapons—especially in countries where conventional firearms are readily available, such as the United States. In the Caribbean, the costs and risks associated with illegally importing firearms from abroad may make 3D-printed firearms more attractive, particularly to petty criminals and other unauthorized end users with neither the resources nor the need for the quality assurance of brand name, conventionally produced firearms. The threat from 3D-printed firearms in the Caribbean is currently minimal,⁹¹ but that could change quickly and without warning. Authorities in the region would be well-advised to ensure that their laws and regulations allow for the seizure of unlicensed 3D-printed weapons and the prosecution of illicit producers before these weapons gain a foothold in criminal circles.

Conversion devices

Conversion devices are simple, easy-to-install components that convert semi-automatic pistols and rifles into fully automatic firearms. Like PMFs, the proliferation of illegal conversion devices is a growing problem in the United States. Seizures of the devices have increased from fewer than 100 in 2017 to more than 1,500 in 2021 (Rivas, Dorfman, and Royster, 2022). According to one US government official, many switches for Glock pistols are imported from China⁹² and can be ordered online directly from Chinese producers.⁹³ Others are homemade or fabricated in small workshops in the United States. Examples of the various types of conversion devices encountered by law enforcement are shown in Images 31–32.

Research conducted by the Survey suggests that trafficking in conversion devices in the Caribbean is currently limited to certain states and territories.⁹⁴ Only one of the eight government respondents to the Survey's 2021 National Small Arms Questionnaire indicated that law enforcement agencies in their states had seized conversion devices in recent years.⁹⁵

In other Caribbean states, authorities have seized conversion devices on multiple occasions.⁹⁶ In 2020 and 2021, the Trinidad and Tobago Police Service seized at least 57 conversion devices (see Table 16). Examples of other Caribbean states and territories where conversion devices have been seized include Puerto Rico, St Lucia, and the US Virgin Islands.

Recent seizures of 3D-printed conversion devices in the United States mark a dangerous convergence of trends in PMFs, the full effects of which are still unknown. In recent years, US authorities have arrested and prosecuted several arms traffickers whose merchandise included 3D-printed conversion devices. In one particularly notable case, a West Virginia man sold conversion devices for AR-15 pattern rifles to nearly 800 clients, including individuals affiliated with the 'Boogaloo Bois', a violent anti-government US extremist movement whose adherents have attacked government buildings and killed federal employees. Images 33–34 show one of the devices.

Images 31–32 Common conversion devices for Glock pistols (left) and AR-15 pattern rifles (right)



31



32

Sources: Image 31: TTPS (2023); Image 32: US ATF (n.d.b)

Table 16 Conversion devices seized by the Trinidad and Tobago Police Service, 2020–21

Date	Location	Qty	Item description (as reported)
02/03/20	Sea Lots	1	Glock pistol firearm with an automatic firing selector*
23/04/20	St Joseph	1	One Glock 19 pistol with a selector
26/05/20	Tunapuna	1	One green-coloured pistol outfitted with a selector
10/10/20	Malick	2	Two Glock 17 pistols with automatic selectors
05/11/20	Williamsville	1	A Glock 17 pistol fitted with an automatic selector
11/11/20	Piarco	1	One Glock 17 pistol fitted with an automatic fire selector
28/02/21	San Fernando	1	One Glock 19 pistol with an automatic selector
26/04/21	Couva	2	Two brown-coloured ‘rouni’ attachments with scopes. ‘This [rouni] turns any pistol into an automatic firing weapon’
06/05/21	La Romaine	1	A Glock 23 pistol fitted with an automatic selector
28/05/21	Mt. Lambert	1	A firearm equipped with a selector
09/06/21	Petit Valley	1	A Polymer 80 (P80) nine mm semi-automatic pistol with an automatic fire selector
06/11/ 21	Couva	44	44 selector switches

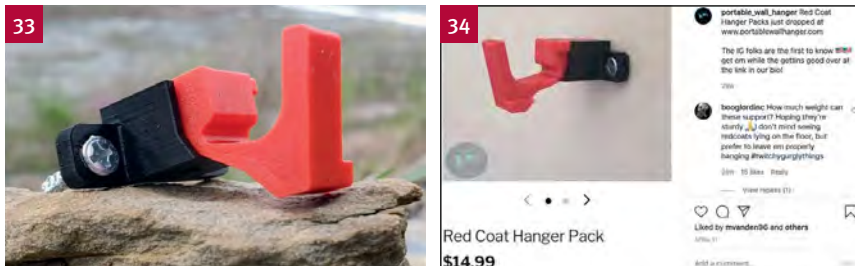
Notes: *Selectors are conversion devices.

Sources: TTPS (n.d.a)

The trafficker marketed them as wall hangers and donated part of the proceeds to a justice fund for a Boogaloo movement adherent who was killed by police in March 2020 (USDC Northern District of West Virginia, 2020, pp. 3–5).

The proliferation of conversion devices, including 3D-printed devices, is weakening prohibitions on civilian ownership of machine guns in the United States and has the potential to undermine firearms regulations in the Caribbean as well. ●

Images 33–34 Conversion devices marketed as coat hangers



Source: Greenberg (2020)



Cross-border trafficking appears to be the main source of illicit ammunition in the region, yet some criminals also rely on local sources.”

5. Ammunition used in violent crime

Section findings

- In a sample of ten Caribbean countries and territories, about half of the ammunition used in violent crime was manufactured in the United States. Italy, Germany, the Czech Republic, and Mexico, respectively, complete the top five manufacturing countries of the reviewed ammunition.
- Where it could be determined, the average time between the manufacture and illicit use of ammunition is much shorter in the Caribbean than in Europe, suggesting that diversion from the legal sphere to illicit use often occurs relatively rapidly.
- Cross-border trafficking appears to be the main source of illicit ammunition in the region, yet some criminals also rely on local sources.
- Law enforcement and forensic units that collect and process evidence at crime scenes offer unique opportunities for monitoring illicit ammunition and firearms and their possible origins. This would, however, require these units to collect and share data with other countries in the region more routinely.
- Marking ammunition and firearms destined for state stockpiles, legal retailers, and shooting ranges would enable them to be identified more quickly when seized or recovered at crime scenes.

Overview

This section examines the types of ammunition used in violent crime in the Caribbean, with a focus on cartridges retrieved at the scenes of homicides, attempted homicides, and assaults. It draws primarily on a unique data set compiled for this study and consisting of 1,429 spent cartridge cases (hereafter referred to as ‘cartridges’) retrieved at the scenes of violent crime in ten Caribbean countries and territories between 2016 and 2021 (see Annexe 1). The data is aggregated and presented at the subregional level for comparative purposes, and covers the following countries and territories:

- Seven CARICOM member states and associate members:
 - in the northern Caribbean (173 cartridges): Bermuda, Cayman Islands, and Turks and Caicos;
 - in the south-eastern Caribbean (539 cartridges): Anguilla, Barbados, and the British Virgin Islands; and
 - in the western Caribbean (248 cartridges): Belize.
- Three French overseas territories (469 cartridges):
 - French Guiana;
 - Guadeloupe; and
 - Martinique.

In addition, Jamaican authorities provided aggregated data on the calibres and makes of 3,109 spent cartridges retrieved at the scenes of homicides, shootings, and attempted murders, and cartridges categorized as ‘crime evidence’⁹⁷ between 2016 and 2021 (Jamaica MNS, 2022).

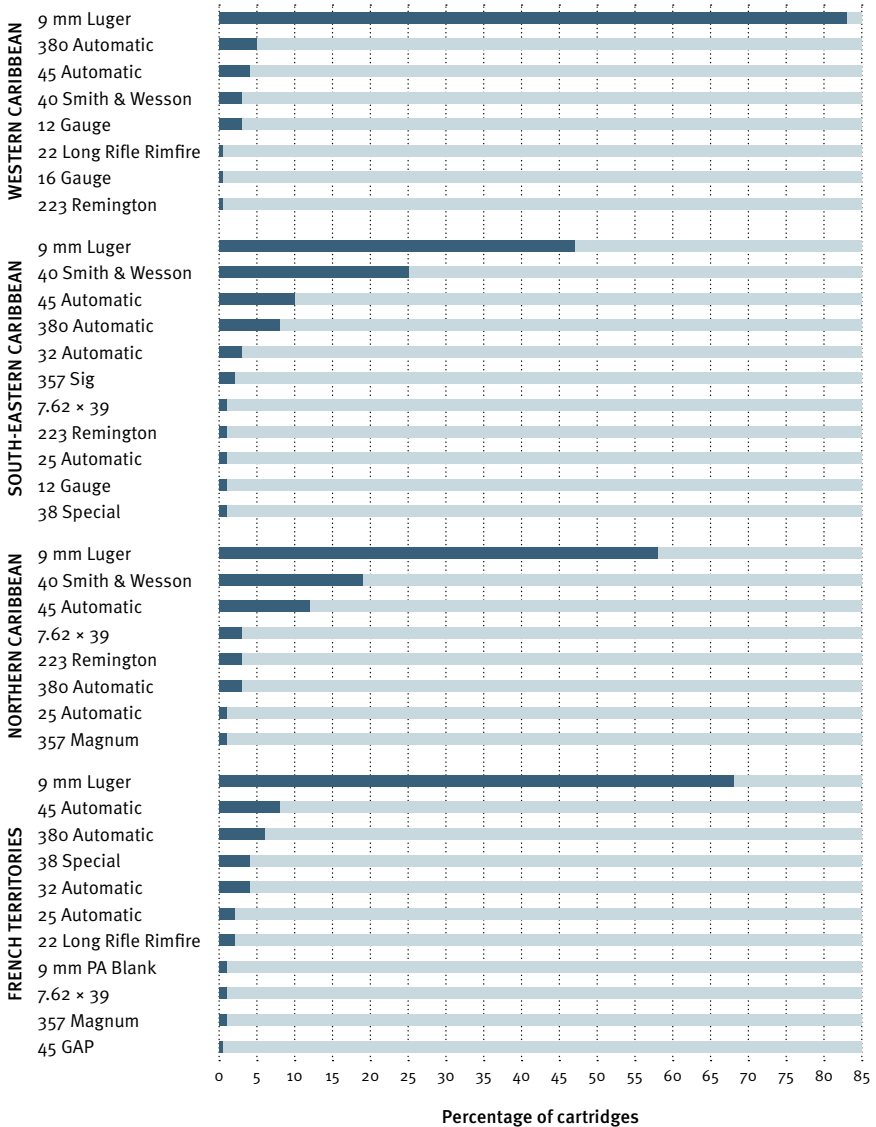
Information on other countries and territories mentioned in this section is derived from interviews and open sources. The section identifies the main calibres, countries of manufacture, makes, and headstamp markings of this illicit ammunition—including, where available, the year of manufacture and ‘time to crime’.⁹⁸ It also reflects on the opportunities in determining the sources of these cartridges, and identifies several caveats.

Main calibres

Consistent with the regional typology of illicit firearms established in Section 3, the illicit ammunition reviewed for this study consists almost exclusively of calibres⁹⁹ destined for use in handguns. The main calibre observed in all four subregional groupings was 9 mm Luger—used with pistols and sub-machine guns, and totalling 62 per

Figure 11a Calibre distribution of 1,429 cartridges used in incidents of violent crime in the ten Caribbean countries and territories under review, by subregion, 2016–21

Calibre distribution, by subregion

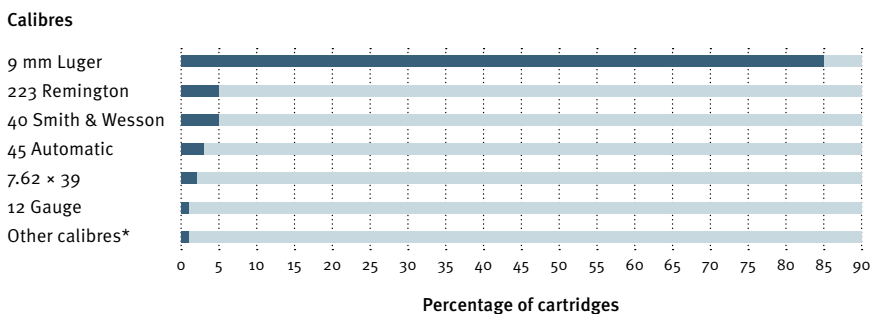


Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

cent of the entire data set (see Figure 11a). In fact, the data set’s top five calibres—9 mm Luger, 40 Smith & Wesson, 45 Automatic, 380 Automatic, and 32 Automatic—are all primarily used with pistols, and combined account for 91 per cent of all the reviewed cartridges. The study reveals a broadly consistent picture over the six-year period under review (see Figure 12) and across subregions (see Figure 11a), with the exception of 40 Smith & Wesson, which is absent in the French territories subset.¹⁰⁰ Other sources confirm the dominance of handgun calibres—including 9 mm Luger—in other countries of the Caribbean, such as Jamaica (where 85 per cent of the reviewed ammunition was 9 mm Luger, see Figure 11b) and the Dominican Republic.¹⁰¹

While limited in quantitative terms, the use of seven 9 mm PA Blank cartridges—produced in Bosnia and Herzegovina and Italy—in homicide and attempted homicide cases in Martinique and Guadeloupe suggests the circulation and use of alarm pistols in the French territories. Alarm pistols converted to fire lethal ammunition—including 9 mm PA Blank rounds modified to expel a projectile—are one of the main categories of illicit firearm in Europe and an emerging threat in other regions,¹⁰² but little is known about the scale of the problem in the Caribbean region. Firearm examiners at the Institut de Recherche Criminelle de la Gendarmerie Nationale (IRCGN) confirmed that the 9 mm PA Blank ammunition included in the data set, as well as the alarm weapons that discharged them, had indeed been converted to fire lethal projectiles. The IRCGN experts noted, however, that the use of this calibre seems to have abated in recent years,¹⁰³ and that criminals in the French territories increasingly rely on US-sourced lethal-purpose firearms, notably Taurus and Glock handguns.¹⁰⁴ Jamaican officials note the growing but still limited criminal use of 9 mm PA Blank ammunition and alarm handguns, although they are not modified to fire projectiles;¹⁰⁵ two such weapons have

Figure 11b Calibre distribution of 3,109 cartridges used in incidents of violent crime in Jamaica, 2016–21



Note: * These include the following calibres: 380 Automatic, 22 Long Rifle Rimfire, 7.62 x 51, 44 Smith & Wesson Special, 32 Automatic, 10 mm Auto.

Source: Jamaica MNS (2022)

also been seized in Trinidad and Tobago (see Section 3). Alarm handguns appear to be rarely seized elsewhere in the region, however.

Rifle calibres represent a small proportion of the sample under review. For instance, .223 Remington (commonly used with AR-15 rifles) and 7.62 × 39 mm (for AK-pattern rifles) calibres accounted for a total of 33 cartridges, or roughly 2.5 per cent of the data set of the ten countries and territories under review. Although handgun calibres also dominate the picture in Jamaica, the proportion of rifle calibres (.223 Remington/5.56 × 45 mm and 7.62 × 39 mm) in the country make up six per cent of the sample shown in Figure 11b—a higher proportion than in the other surveyed countries. Authorities in Grenada also reported seizing ten rounds of ‘M855 Green Tip 5.56mm armor piercing ammunition’ in 2021.¹⁰⁶ Another exception to this trend appears to be Haiti, where rifle cartridges are commonly used by gangs and seized from traffickers who smuggle them primarily from Florida.¹⁰⁷ In July 2022, for instance, Haitian customs and police authorities seized 114,000 5.56 × 45 mm and 4,000 7.62 × 39 mm rounds in Port-de-Paix (Roberson, 2022). Overall, however, as discussed in Section 3, rifles and rifle ammunition are used only marginally by criminals in much of the Caribbean, which stands in sharp contrast to the situation in some neighbouring countries in Central and North America.

One notable finding is the near absence of Soviet-standard ammunition in the data set, with the exception of 20 7.62 × 39 mm cartridges,¹⁰⁸ which represent just under 1.5 per cent of the data set. The 7.62 × 39 mm rounds appeared to be manufactured in Russia (16 units), Bosnia and Herzegovina (3 units), and North Korea (for the single cartridge dated 1967). It is interesting to note that seven 7.62 × 39 mm cartridges bearing the same headstamp ‘Tulammo 7.62 × 39 (+ logo)’ were found in homicide or

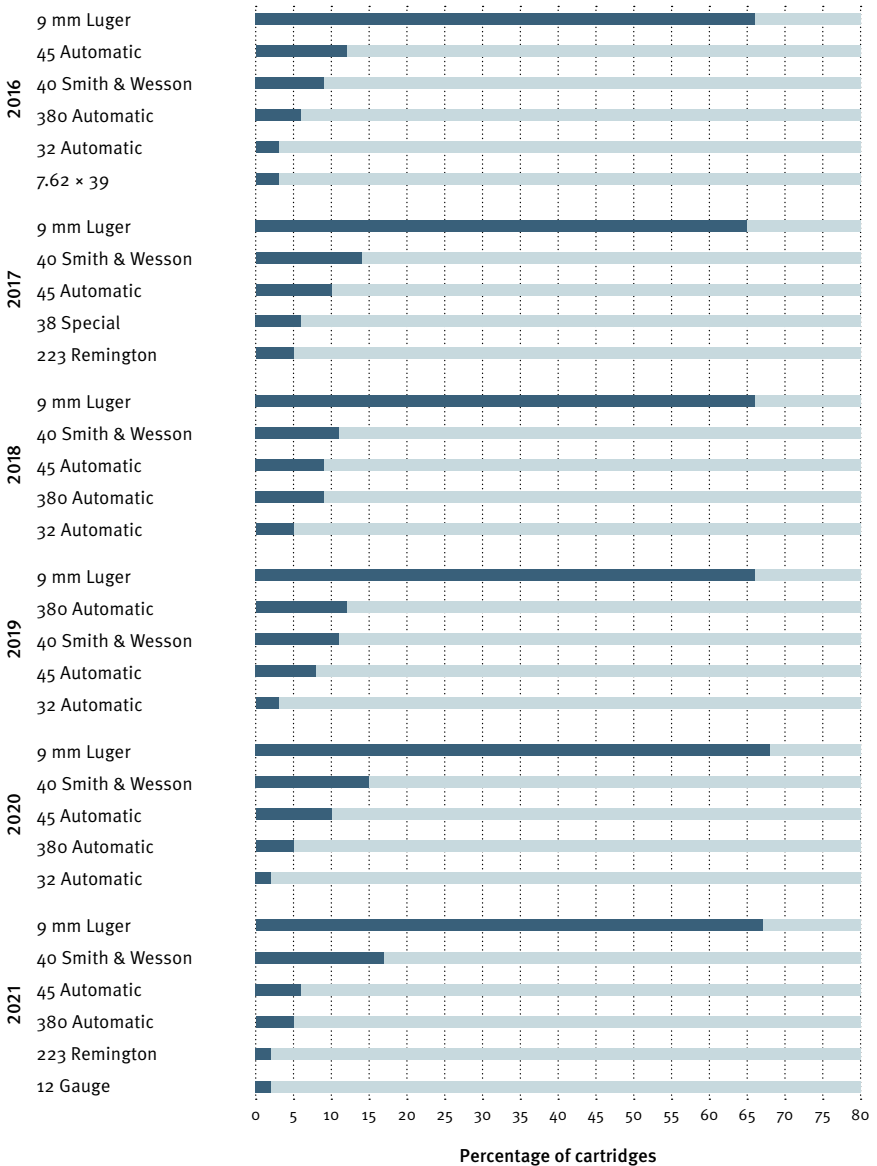
Image 35 Headstamp of 7.62 × 39 mm Tulammo ammunition found at crime scenes in four Caribbean countries and territories



Source: CARICOM IMPACS, 2023

Figure 12 Top five calibres among 1,429 cartridges documented in the ten Caribbean countries and territories under review, by year of criminal incident

Main calibres, by year of criminal incident



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

attempted homicide cases in the Cayman Islands (2 units), Guadeloupe (2 units), Turks and Caicos (2 units), and Barbados (1 unit) (see Image 35).¹⁰⁹ Barbados officials state that Tulammo ammunition is not commercially available in the country and that the rounds used in crime must therefore have been imported illegally.¹¹⁰

Similar to rifle ammunition, shotgun rounds are limited to only 11 cases of 12- and 16-gauge ammunition in Barbados and Belize, representing less than 1 per cent of the subsample for CARICOM member states and associate members. While the French territories data set did not include shotgun ammunition (see Annexe 1), the IRCGN separately noted that law enforcement agencies documented the use of 104 12-gauge shells in violent crimes in the three French territories between 2016 and 2021,¹¹¹ which would make this the second-most commonly used calibre in violent crime in this subregion. Shotgun calibres therefore appear to be more widely used in the French territories than in the CARICOM member states and associate members under review. This could be expected given that 12-gauge cartridges are also commonly used by criminals in mainland France (Florquin and Desmarais, 2018, p. 191).

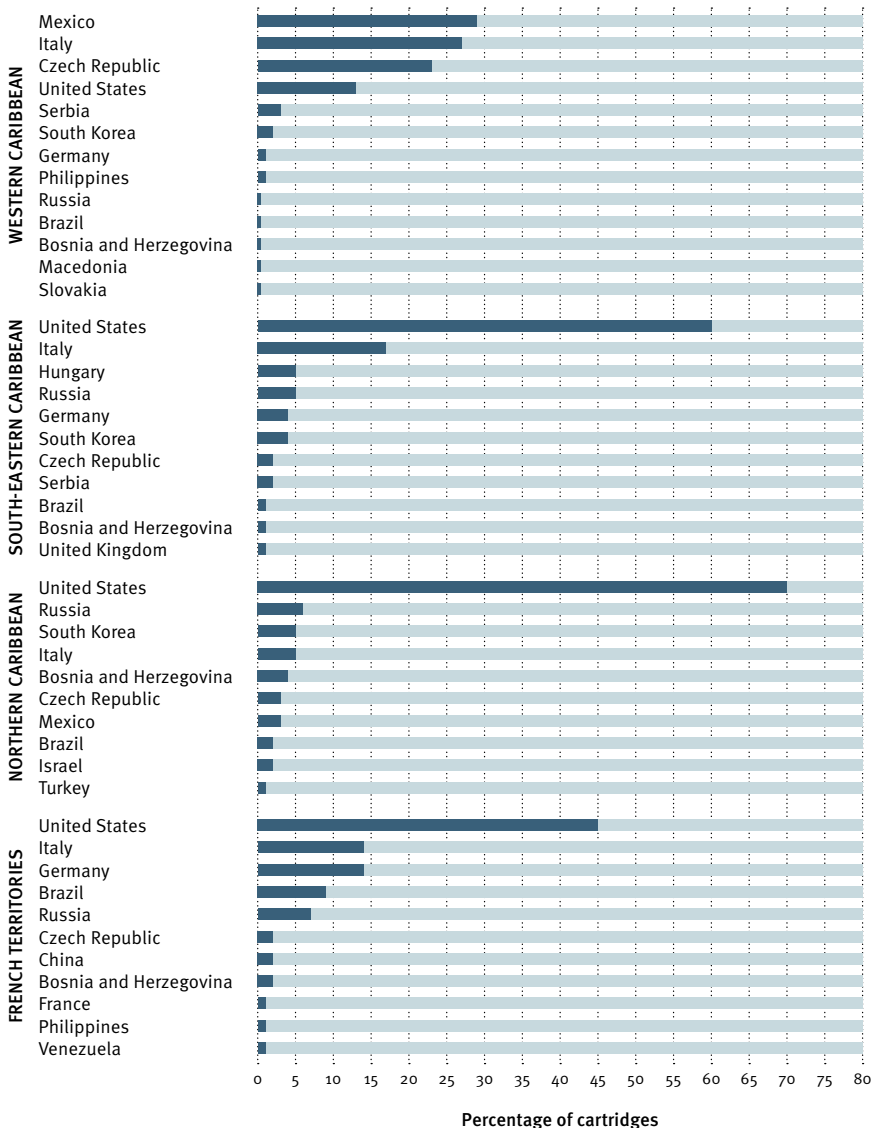
Countries of manufacture and makes

The ammunition under review includes cartridges manufactured in 23 countries, including four from the neighbouring regions of North (United States), Central (Mexico), and South America (Brazil and Venezuela). Ammunition from more distant regions—such as Western and Eastern Europe (13 manufacturing countries), the Middle East (Israel and Turkey), and as far as Asia (in descending order by number of cartridges, South Korea, China, the Philippines, and North Korea)—is also present. The sample is largely dominated by US-produced ammunition, however, which accounts for almost half (48 per cent) of the cartridges in the data set. The dominance of US ammunition is not surprising given that the United States is the largest exporter of small arms ammunition to the region (see Box 5). Italy (16 per cent), the Czech Republic (6 per cent), Germany (6 per cent), and Mexico (6 per cent) complete the top five manufacturing countries of the reviewed crime ammunition (see Figure 13a).¹¹²

This picture is not consistent across subregions, however.¹¹³ In the northern Caribbean, south-eastern Caribbean, and French territories, US-produced ammunition tops the subsets with 70, 60, and 45 per cent of documented cartridges, respectively (see Figure 13a). In Jamaica, this proportion reaches 83 per cent (see Figure 13b). In the western Caribbean, however, US-made ammunition represents only 13 per cent of the sample and ranks fourth behind cartridges produced in Mexico (29 per cent), which borders Belize;¹¹⁴ Italy (27 per cent); and the Czech Republic (23 per cent). In the full data set, the use of Mexican ammunition in violent crime appears to have increased markedly in 2021—representing 14 per cent of cartridges for that year, second only to

Figure 13a Top ten identified countries of manufacture of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by subregion, 2016–21

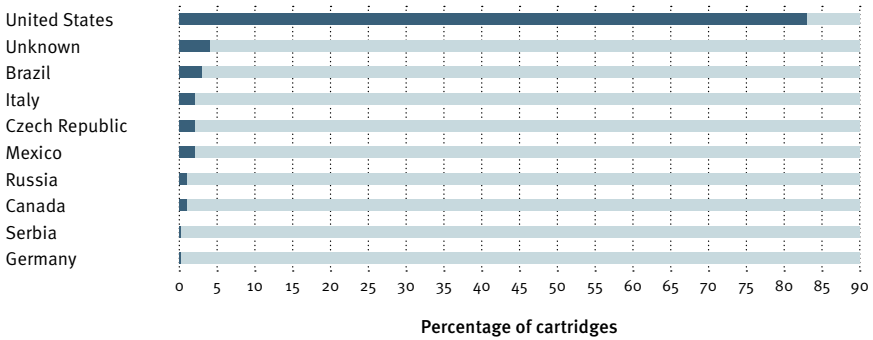
Main countries of manufacture, by subregion



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

Figure 13b Top ten identified countries of manufacture of 3,109 cartridges used in violent crime incidents in Jamaica, 2016–21

Main countries of manufacture



Source: Jamaica MNS (2022)

Box 5 Main reported exporters of ammunition to the seven CARICOM member states and associate members under review

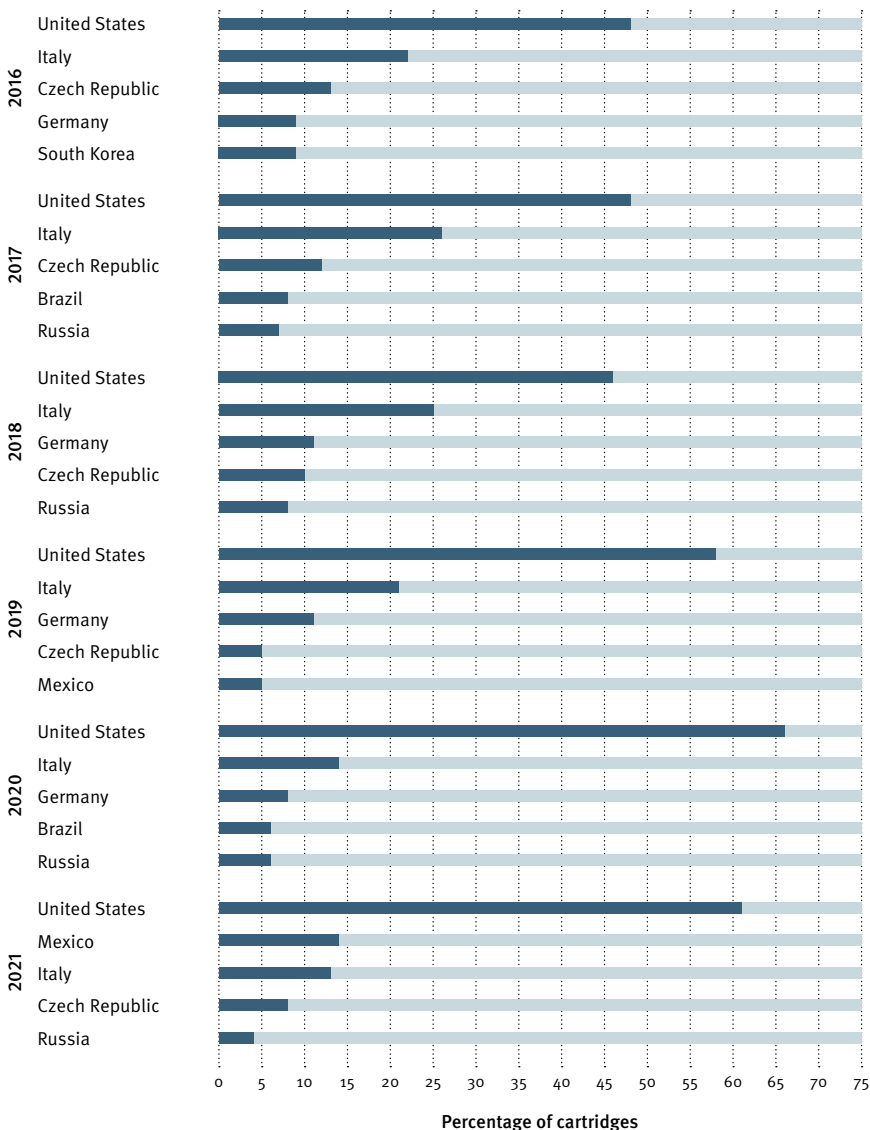
States voluntarily report customs data to the UN Commodity Trade Statistics Database (UN Comtrade), including data on the value of small arms ammunition transfers recorded under commodity codes 930630 (ammunition: cartridges and parts thereof) and 930621 (ammunition: shotgun cartridges). While voluntary and therefore incomplete, this data can provide useful background information on the main origins of ammunition legally imported into the region.

Based on the data reported by exporters to UN Comtrade, the seven CARICOM member states and associate members under review collectively imported almost USD 5 million worth of ammunition between 2011 and 2020 (UN, n.d.b). Barbados (USD 2 million), Belize (USD 1.3 million), and the Cayman Islands (USD 880,000) are the largest importers in this group of countries and territories. UN Comtrade data was not available for the three French territories under review.

While the United States is the main exporter to all three Caribbean subregions (see Figure 15)—as well as the main manufacturer of the illicit ammunition recovered in the region (see Figure 14)—the overlap between the exporters and producers of the ammunition retrieved in crime is only partial. This is to be expected, not only because some exporting states may export ammunition produced in other countries, but also because the ammunition used in crime might have been trafficked illicitly or legally imported decades earlier. In the absence of specific lot or batch numbers on individual cartridges, it is difficult to link cartridges seized in crime with particular transfers, and therefore identify the possible points of diversion.

Figure 14 Top five identified countries of manufacture of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by year of criminal incident

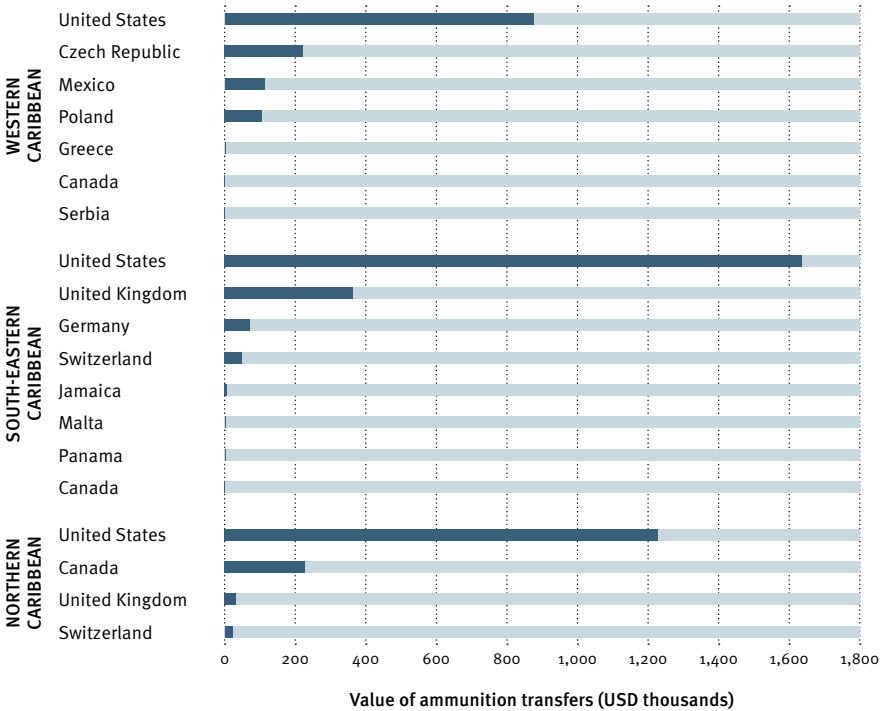
Main countries of manufacture, by year of criminal incident



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

Figure 15 Value of reported small arms ammunition exports to seven CARICOM member states and associate members,* by subregion, 2011–20

Exporters, by importing subregion



Note: * Anguilla, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos.

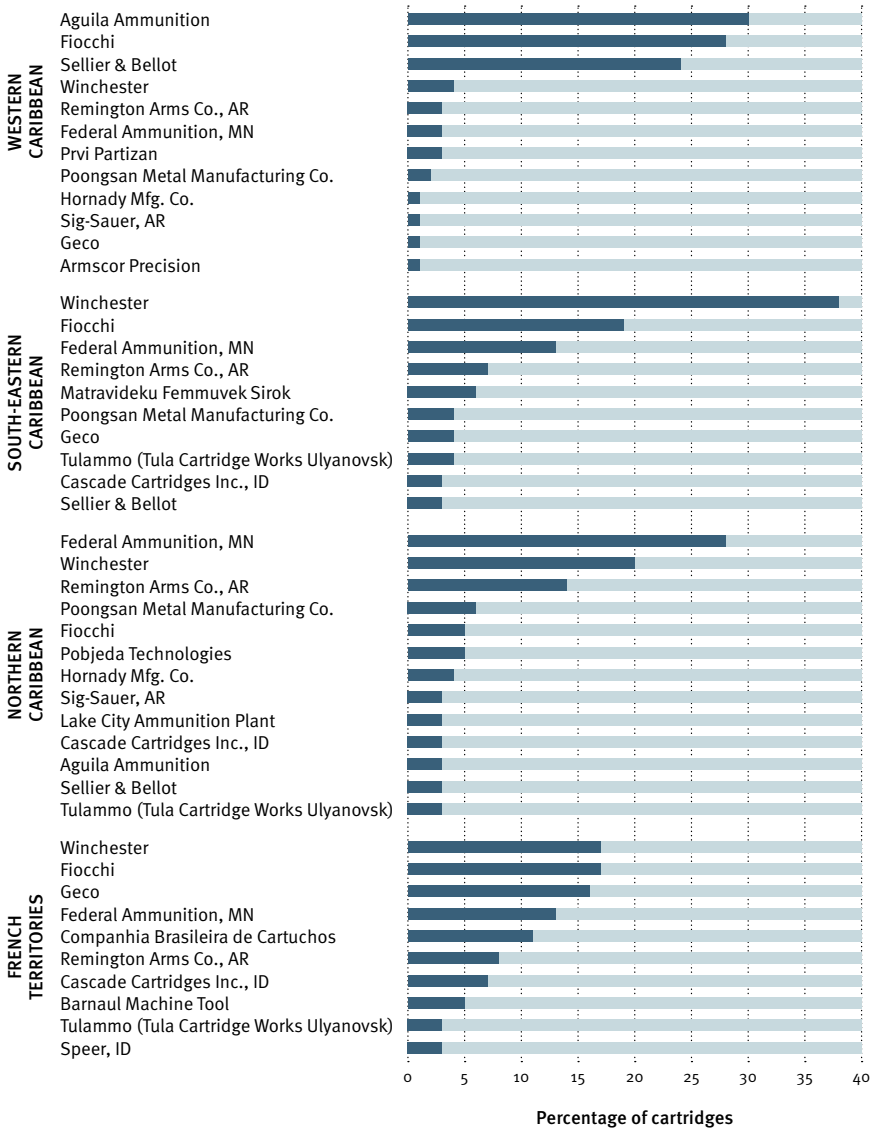
Source: Data as reported by exporters in UN (n.d.b)

US-made ammunition (61 per cent) (see Figure 14). Moreover, all but five of the 57 Brazilian- or Venezuelan-manufactured cartridges were documented either in the French territories, which include French Guiana in South America (48 units), or in the neighbouring south-eastern Caribbean (4 units). These patterns suggest that geographical proximity to neighbouring manufacturing countries can influence the types of ammunition misused in the Caribbean region.

The ammunition under review was produced by 61 makes or manufacturers. Almost two-thirds (65 per cent) of the full data set is accounted for by the top five manufacturers: Winchester (United States, 20 per cent); Fiocchi (Italy, 16 per cent); Federal Ammunition (United States, 11 per cent); Remington Arms Co. (United States, 7 per cent); and Sellier & Bellot (Czech Republic) and Aguila Ammunition (Mexico) (6 per cent each). In the northern and south-eastern Caribbean, US manufacturers dominate the

Figure 16a Top ten identified manufacturers of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by subregion, 2016–21

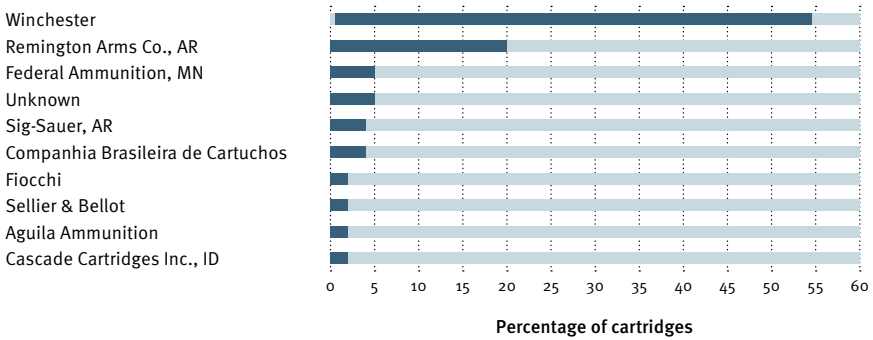
Main cartridge manufacturers, by subregion



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

Figure 16b Top ten manufacturers of 3,109 cartridges used in violent crime incidents in Jamaica, 2016–21

Main cartridge manufacturers



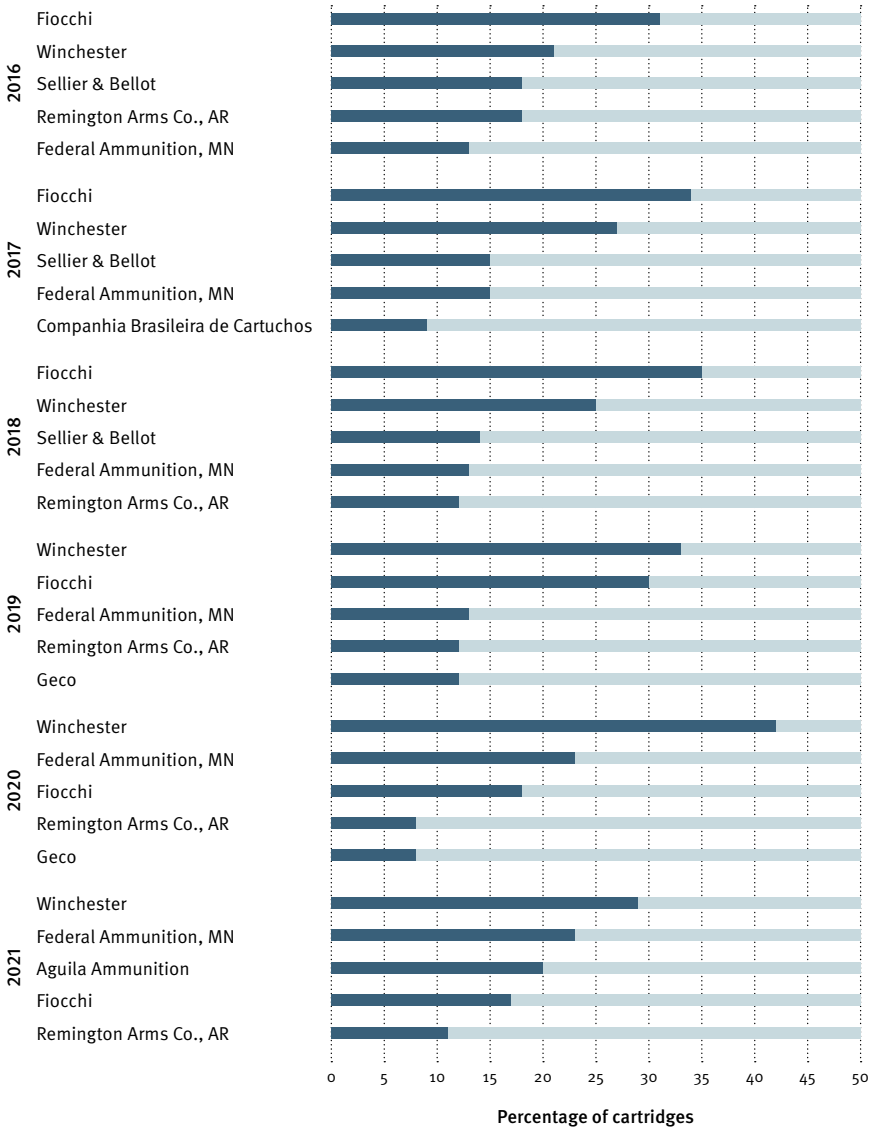
Source: Jamaica MNS (2022)

top three, while a South Korean (Poongsan Metal Manufacturing Co.) and a Hungarian (Matravideku Femmuvek Sirok) manufacturer make the top five in these respective subregions (see Figure 16a). The separate Jamaica data set reveals a similar picture; the top four manufacturers are US-based—which combined account for 38 per cent of the sample—followed by CBC (Brazil, 4 per cent), Fiocchi (Italy, 2 per cent), Sellier & Bellot (Czech Republic, 2 per cent), and Aguila Ammunition (Mexico, 2 per cent) (see Figure 16b). The western Caribbean stands out because of the absence of US manufacturers from the top three, which comprise Aguila Ammunition (30 per cent), Fiocchi (28 per cent), and Sellier & Bellot (24 per cent). In the French territories, the documented ammunition appears to be more diverse and evenly distributed among various manufacturers, with Geco (16 per cent, Germany) and CBC (11 per cent, Brazil) making the top five.

The profile of the main manufacturers evolved somewhat over time. Sellier & Bellot was present in the overall top three for the period 2016–18 but then disappeared from the top five manufacturers of the full data set, while Aguila Ammunition rose to the top three only in 2021 (see Figure 17). Although most (89 per cent) of the cartridges produced by Aguila Ammunition were documented in the western Caribbean, 11 per cent were recovered in the northern Caribbean and the French territories (6 and 5 per cent, respectively); none were recorded in the south-eastern Caribbean.¹¹⁵ Overall, the sample’s distribution by make underscores the inconsistent profiles of ammunition at the subregional level—including the prevalence of US manufacturers in both the northern and south-eastern Caribbean, a more diverse range of ammunition manufacturers in the French territories, and the rise of Mexican-produced cartridges as a significant source of ammunition in the western Caribbean.

Figure 17 Top five identified manufacturers of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by year of criminal incident

Main cartridge manufacturers, by year of criminal incident



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

Main varieties of headstamps

Another striking observation is the high concentration of specific headstamps¹¹⁶ in the countries and territories under review (see Images 36–40, and Map 4). Of the 261 unique headstamps identified, the 20 most common varieties represented more than half (51 per cent) of the total number of cartridges in the data set. Specific headstamps dominate the picture at the subregional level. In the western Caribbean, the top three headstamps accounted for almost three-quarters (73 per cent) of cartridges documented in this subregion, compared with 61 per cent in the south-eastern Caribbean, 48 per cent in the French territories, and 42 per cent in the northern Caribbean (see Figure 18).

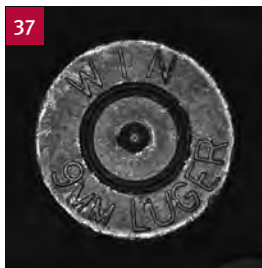
The widespread presence of certain varieties of ammunition is also noteworthy (see Images 36–40)—the marking ‘G.F.L. 9 mm LUGER’ (manufactured in Italy), for instance, features in the top two headstamps of three of the four subregions, and is overall

Images 36–40 Top five ammunition varieties (headstamps) encountered at violent crime scenes in the ten Caribbean countries and territories under review, 2016–21

‘G.F.L. 9 mm LUGER’ (Italy),
158 cases (11 per cent of the
sample of 1,429 cartridges)



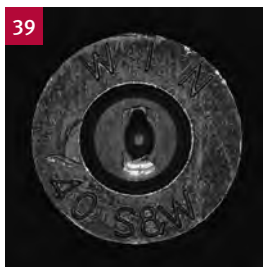
‘WIN 9 MM LUGER’ (US),
114 cases (8 per cent)



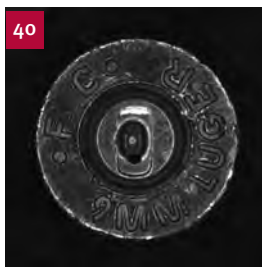
‘AGUILA 9 mm’ (Mexico),
61 cases (4 per cent)



‘WIN 40 S&W’ (US),
39 cases (3 per cent)



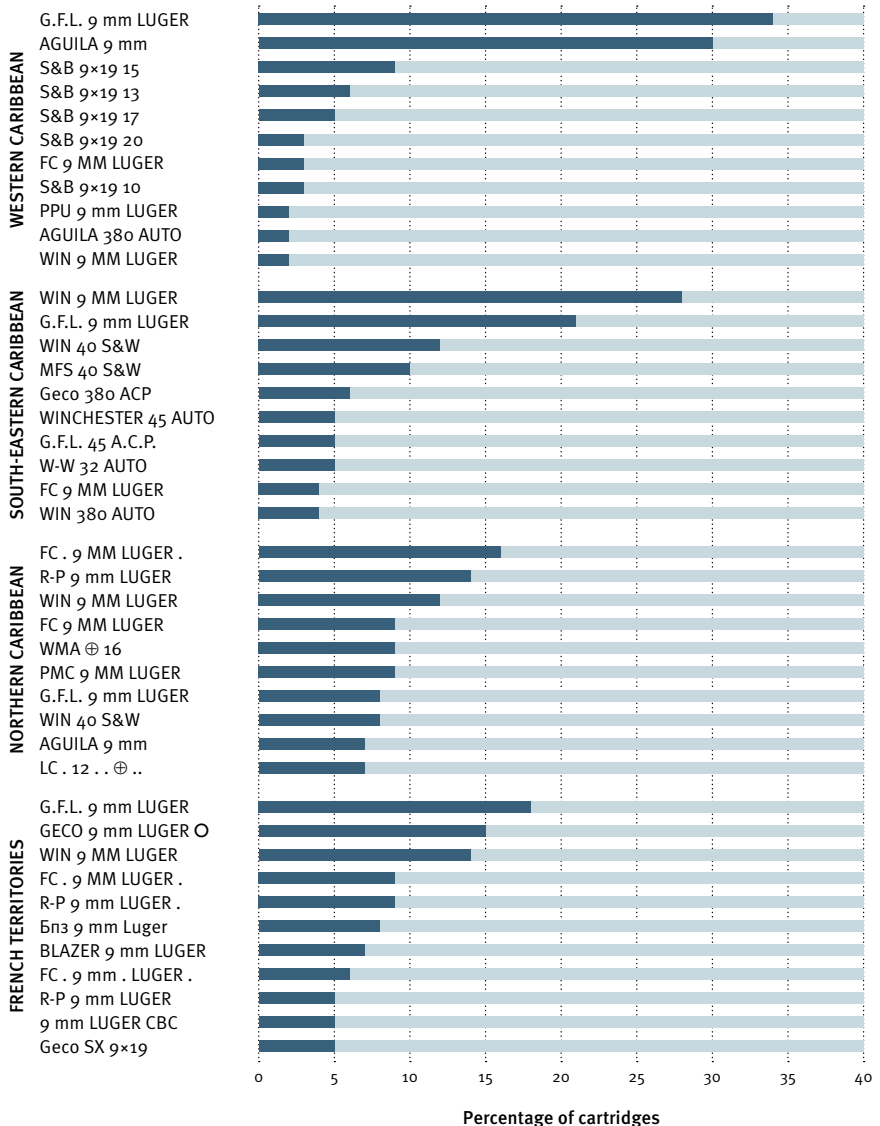
‘FC . 9 MM LUGER .’ (US),
37 cases (3 per cent)



Source: CARICOM IMPACS, 2023

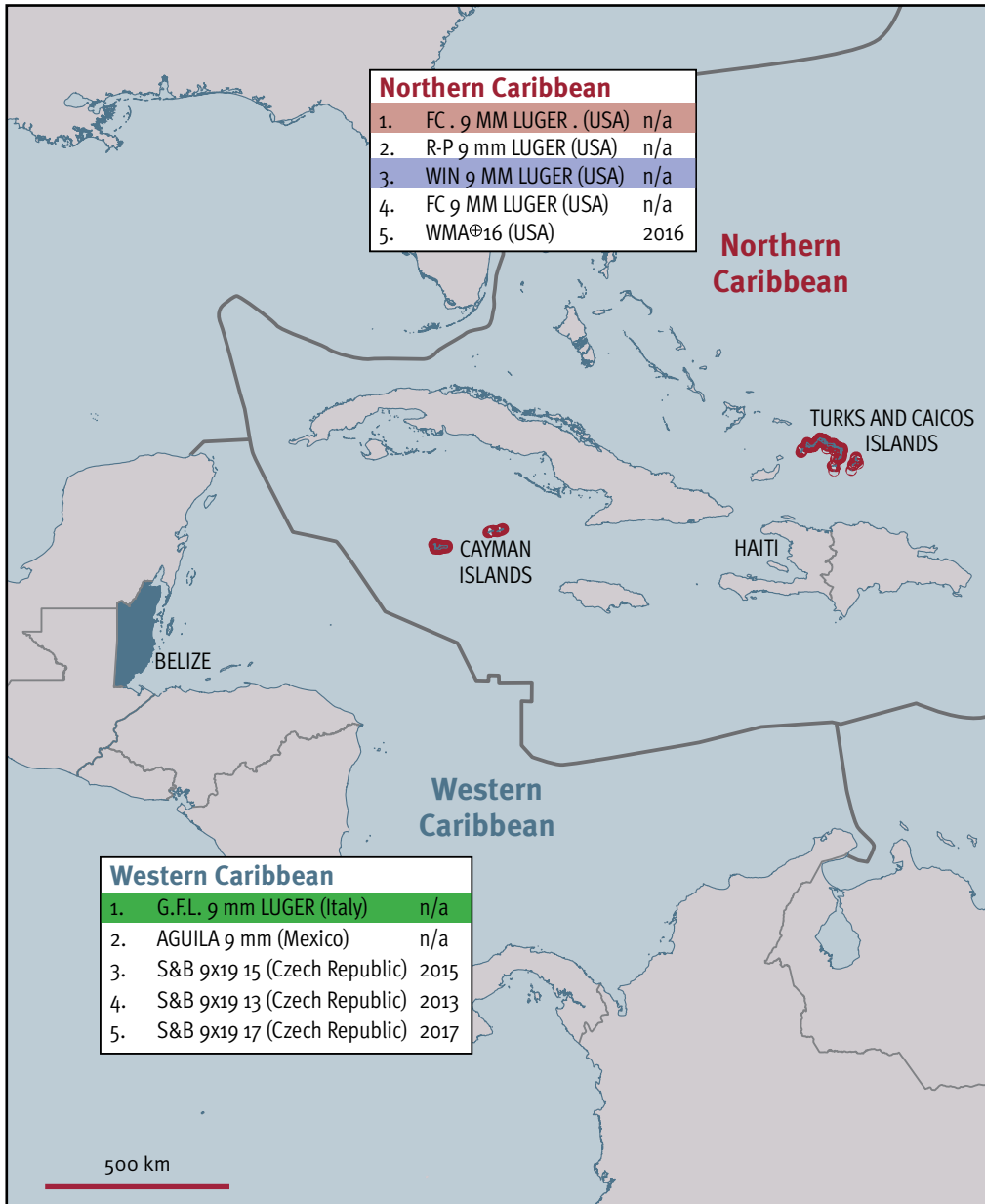
Figure 18 Top ten ammunition headstamps of 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by subregion, 2016–21

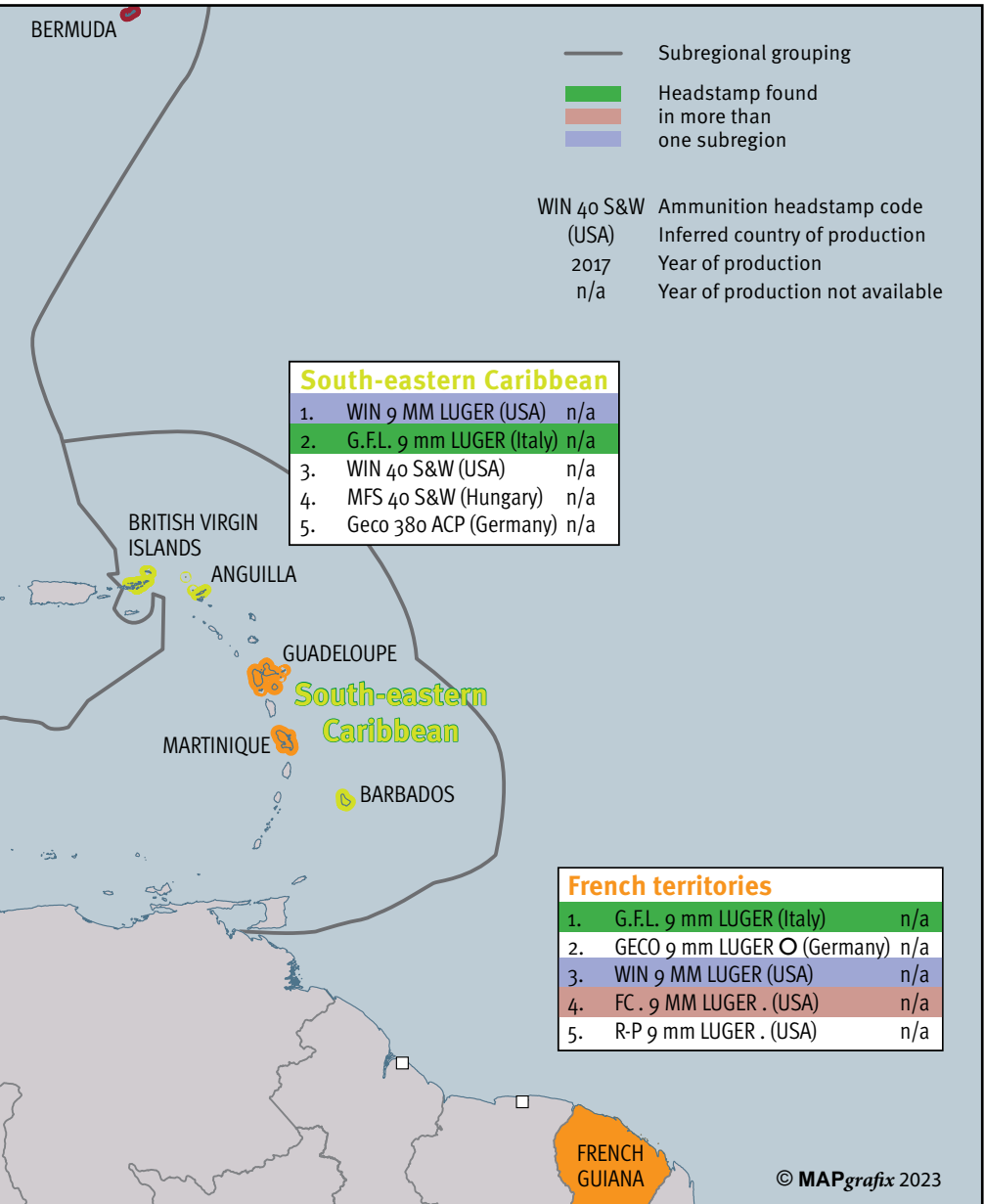
Main cartridge headstamps, by subregion



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

Map 4 Top five cartridge headstamps among the sample of ammunition used in violent crime under review, by subregion, 2016–21





the most common headstamp for the years 2016–19. The picture has shifted since 2020, however, and ‘AGUILA 9 mm’ (produced in Mexico) and ‘WIN 9 mm LUGER’ (produced in the United States) became the two most common headstamps in 2021 (see Figure 19). Further analysis of these evolving trends and the possible proximate sources for the most commonly misused ammunition headstamps in each subregion, country, and territory has the potential to help identify the sources of diversion and trafficking patterns of ammunition.

Ammunition headstamps can, but do not always, include a code indicating the year of production. Such markings are often present on the military-grade ammunition typically found in conflict zones,¹¹⁷ but are less common on the commercially available cartridges often collected at crime scenes. For instance, a recent study found that only 28 per cent of 3,130 rounds observed by four European ballistics laboratories indicated a year of manufacture (Desmarais et al., 2022, p. 6). In the present Caribbean data set, this proportion is even lower: only 158 cartridges—or 11 per cent of the 1,429 cartridges under review—included a year code, ranging from 1967 to 2020. This low proportion is due to the widespread presence of commercially available types of handgun ammunition in the data set, which often do not include such markings. While the data set includes ammunition that dates back to 1967, 77 per cent of the cartridges whose year of manufacture could be determined (121 out of 158 units) were produced between 2010 and 2020.

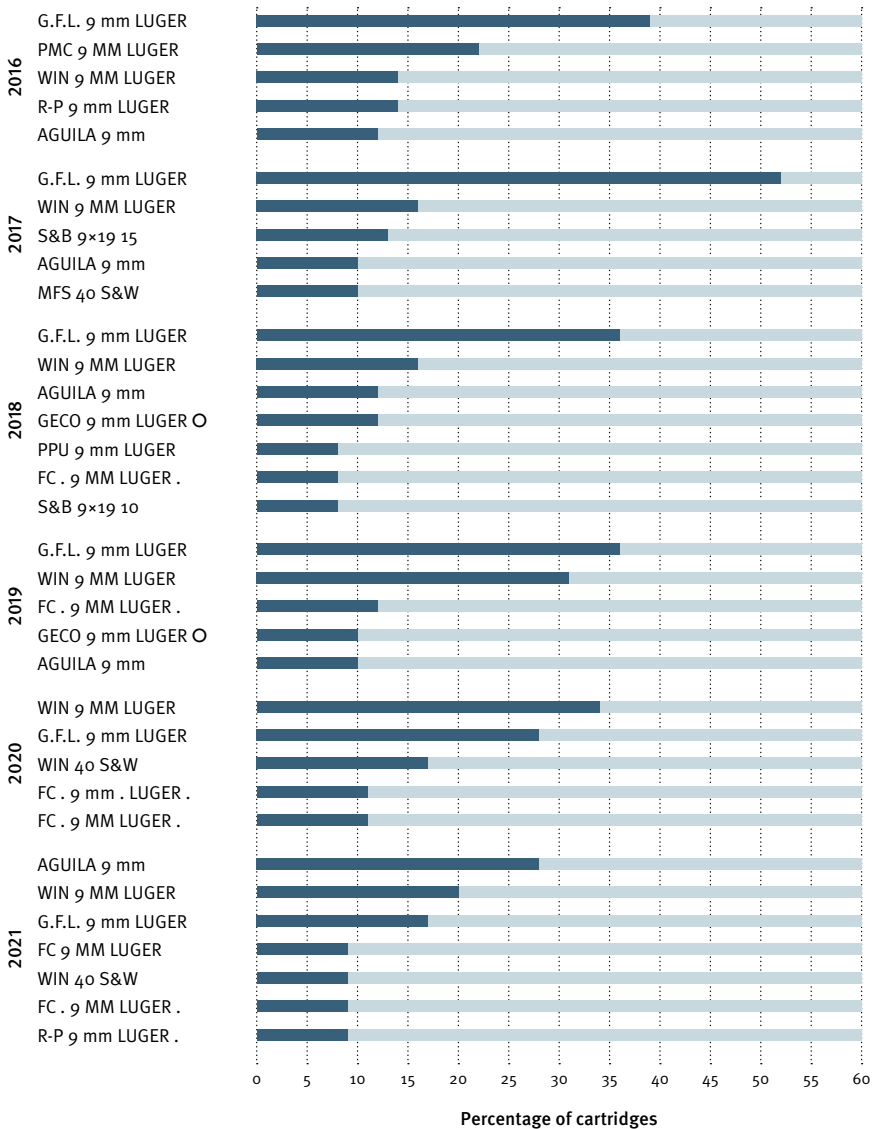
While the Caribbean subset of ammunition marked with the year of production is limited in size, it provides important insight into how quickly ammunition can be used in violent crime after being produced. This section calculates an ammunition-specific time-to-crime indicator based on the number of years separating the production of the cartridge and its use in a criminal incident. Overall, the average time-to-crime for these 158 cartridges is 8.5 years, ranging from 3 years in the western Caribbean (60 cartridges with an identified time-to-crime), 3.5 years in the northern Caribbean (20), 12 years in the south-eastern Caribbean (22), and 14.5 years in the French territories (56). These averages suggest that the diversion and misuse of newly produced ammunition for perpetrating violent crime can occur rapidly in the Caribbean. In contrast, the above-mentioned study found an average time-to-crime of 33 years for 864 rounds of illicit ammunition documented in four European countries (Desmarais et al., 2022, p. 11).

Sources of illicit ammunition

Determining the proximate sources of illicit ammunition is challenging, partly owing to the limited information that can be derived from ammunition headstamp markings. Barbados Police Service officials noted, for instance, that most of the ammunition

Figure 19 Top five ammunition headstamps among 1,429 cartridges used in violent crime incidents in the ten Caribbean countries and territories under review, by year

Main cartridge headstamps, by year of criminal incident



Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

makes used by violent criminals in the country tend to be available both on the commercial market and through regional trafficking networks, and that sources for illicit firearms and ammunition are generally the same.¹¹⁸ On the other hand, interviews undertaken with inmates suggest that illicit ammunition may be acquired from local sources to a greater extent than firearms. Among 77 interviewed individuals serving firearm-related sentences in Belize, Suriname, and Trinidad and Tobago, most (24) reported sourcing their ammunition together with their firearms. Others identified four main sources of illicit ammunition: the local community (including community members, shops, and the streets—20 responses vs. only 6 for firearms); the international criminality (16 vs. 27 for firearms); local criminality (including through their ‘bosses’ and dealers, 9 vs. 21 for firearms); and personal connections (including through family and friends, 5 vs. 21 for firearms) (Small Arms Survey, 2022b). A detailed look at some of the illicit ammunition documented in this section can point towards possible proximate sources.

Cartridges used in crime and featuring a relatively short time-to-crime period entered the illicit sphere relatively recently and may, as a result, allow possible proximate sources to be determined more easily. Law enforcement officials in Barbados noted, for instance, that the ‘WMA ⊕ 15’ cartridges listed in Table 17 are not commercially available on the domestic market and are usually reserved for the military. Their presence in the data set may therefore point to the leakage of military ammunition to the illicit market;¹¹⁹ however, in the absence of lot markings or other information on the specific batches of ammunition used in violent crime, additional investigations are needed to accurately determine whether such cartridges were diverted from state stockpiles or a licensed dealer, or whether they were trafficked from abroad—which remains a possibility. Interviewed police officials also commented that some of the makes of commercial ammunition documented earlier in this section were not available on the domestic legal market at the time that criminals used them in their country. It is therefore highly likely that they were trafficked into the country.¹²⁰

Officials also expressed concerns about ammunition diversion from shooting clubs. In several countries of the Caribbean, clients can buy ammunition at shooting ranges, in addition to what they keep at home. These cartridges must, however, be used at the range, and any unfired ammunition has to be returned after the session.¹²¹ While civilian ownership of ammunition is usually tightly controlled in the region, it can be challenging to verify that all the ammunition acquired at shooting ranges, and not used onsite, is returned.¹²² Some cases of diversion have occurred; over the last three to four years, for example, two persons affiliated with shooting clubs in Barbados were arrested and charged for buying ammunition at shooting clubs and selling it on the streets.¹²³ Local dealers represent another potential source of diversion of legal ammunition. Jamaican authorities are trying to address this type of leakage by strengthening controls on imports by registered dealers (Cross, 2022). Officials in another country noted that some of the ammunition documented in its ballistics system as having been

Table 17 Ammunition varieties with a time-to-crime value of five years or less encountered at violent crime scenes in the ten Caribbean countries and territories under review, 2016–21

Headstamp	Average time-to-crime period (years)
S&B 9×19 20	1
S&B 15 9P	1
XF 9P 19	1
LC . 16 ⊕	1
MXT 20 9×19	1
FC 15 40 S&W	1
S&B 9×19 18	2
FC . 9 MM LUGER .	2
AP 15 9 MM LUGER	2
WMA 18	2
SPEER 013 14 9×19	2
S&B 9×19 19	2
WMA ⊕ 15	2
S&B 9×19 15	3
WMA ⊕ 17	3
S&B 9×19 17	3
5,56 CBC 17	3
WCC ⊕ 13	3
WMA ⊕ 18	3
71 18	3
S&B 9×19 13	4
WMA ⊕ 16	4
WCC ⊕ 12	4
LC . 17 . . ⊕	4
WMA ⊕ 13	5
LC . 12 . . ⊕ . .	5

Source: Small Arms Survey and Arquebus Solutions (2022); Jongleux (2021)

used in violent crime is imported legally by licensed arms dealers, and is in fact different from the ammunition typically seized at its borders.¹²⁴

Lastly, the illicit ammunition documented for this Report included three makes known to produce empty shells used for hand-loading ammunition. Manufacturers such as Starline and Jagemann Sporting Group are believed to produce only unprimed cartridge cases, while other companies such as Hornady produce both loaded cartridges and empty shells (Desmarais et al., 2022, pp. 12–13). Turning these empty cartridge cases into real ammunition involves loading them with a primer and powder and crimping the bullets, which can be done with commercially available loading equipment (Desmarais et al., 2022, p. 12).

The presence of these makes of ammunition in the data set, although limited, suggests the criminal use of hand-loaded cartridges in the Caribbean.¹²⁵ As noted in Table 14, ammunition primers and loading equipment have also been seized on their way to the Caribbean in the past. Based on the images provided to the research team, it was not possible to determine whether the illicit ammunition under review also included reloaded ammunition—that is, previously spent cartridges that were subsequently reloaded by the user. ●



When exploring the full spectrum of consequences of violence, short-term and long-term economic, social, and psychological impacts—at the individual, familial, community, and societal levels—must be considered.”

6. The costs of gun violence

Section findings

- This study finds that direct medical costs and productivity losses due to firearm-related violence amount to at least USD 49 million in the Bahamas, USD 12 million in Barbados, and USD 135 million in Jamaica for the year 2019.
- The average medical expenditures for treating a single gunshot wound exceed health spending per capita, with ratios ranging from 2:1 to 11:1 in the Bahamas, Barbados, and Jamaica.
- On average, firearm wounds tend to result in higher medical costs than wounds inflicted by sharp instruments and other mechanisms, with different nuances depending on the country.
- Firearm homicides account for the largest share of the total estimated productivity lost due to violence-related wounds. This is because most homicides in the three case studies are perpetrated with firearms, and because fatal injuries generate higher productivity losses than non-fatal wounds.
- Data and methodological limitations prevent a detailed and systematic analysis of the average costs of different types of violence. Establishing injury surveillance systems that routinely collect more detailed and disaggregated data on injuries, the weapon used, the age of victims, and the associated cost indicators would help better inform public health and government decisions.
- While significant, medical costs and productivity losses represent only a small part of the total costs of firearm-related violence. A range of other direct and indirect costs also affect communities and societies as a whole.

Overview

This section examines the consequences of firearm-related violence in the region by focusing on certain socio-economic costs. Studies in a range of settings have estimated the cost of crime and violence in order to provide a better understanding of its impact on victims and communities, as well as on various sectors of societies, including public health, labour, education, and criminal justice. Such research can also help to identify which population groups bear the greatest burden, to assess the relative costs of violence perpetrated by different weapons or ‘mechanisms’ (for example, firearms vs. bladed weapons), and to evaluate the potential economic benefits of preventative policies—all of which provide valuable information for policymakers and practitioners (Butchart et al., 2008, p. 2).

The section begins by providing an overview of the main approaches used to estimate the costs of violence, both internationally and in the Caribbean. It then presents the results of new research undertaken for this Report, which focused on direct medical costs and productivity losses resulting from violence perpetrated with firearms and other weapons in the Bahamas, Barbados, and Jamaica. The George Alleyne Chronic Disease Research Centre (GA-CDRC) at the University of the West Indies coordinated the fieldwork presented here.

Approaches to estimating the costs of violence

International studies and guidance

Existing research has highlighted various types of costs that can be attributed to interpersonal violence and that affect people, communities, and societies as a whole. These costs are often classified according to whether they are tangible or intangible—that is, whether they have a monetary value (see Table 18). Tangible costs include medical care, policing and judicial expenses, and productivity losses, while quality of life is an example of an intangible cost. Costs can also be categorized as either direct or indirect. Direct costs stem directly from acts of violence and require payment from individuals or institutions, while ‘[i]ndirect costs refer to lost resources and opportunities resulting from violence’ (Florquin, 2006, pp. 190–91). When exploring the full spectrum of consequences of violence, short-term and long-term economic, social, and psychological impacts—at the individual, familial, community, and societal levels—must be considered (Duvvury et al., 2019, pp. 9, 23; Hemenway, 2012, p. 61; IEP, 2021, p. 7).

A recent study by Duvvury et al. (2019) offers an overview of methods used to estimate the economic and social costs of violence, with a focus on violence against women and girls in low- and middle-income countries. It describes the following five methods: accounting, econometric, quality of life losses, willingness to pay, and the social

Table 18 Examples of costs of interpersonal violence in existing literature

Cost category	Type of cost	Components
Direct costs	Tangible	Medical care: <ul style="list-style-type: none"> ● In-patient costs (hospitalization, surgery, physician fees, drugs, and laboratory tests) ● Out-patient costs ● Rehabilitation ● Ambulance fees
		Criminal justice: <ul style="list-style-type: none"> ● Costs of policing and incarceration ● Costs of legal services ● Direct perpetrator control costs ● Costs of foster care
		Other: <ul style="list-style-type: none"> ● Private security contracts ● Repairing and replacing damaged property
Indirect costs	Tangible	<ul style="list-style-type: none"> ● Productivity losses (earnings and time) ● Lost investments in social capital ● Life insurance costs ● Indirect protection costs ● Macroeconomic costs (reduced production, property values, tourist streams, and foreign investment)
	Intangible	<ul style="list-style-type: none"> ● Health-related quality of life (pain, suffering, and psychological costs) ● Other quality of life (reduced job opportunities, access to schools, public services, and participation in community life)

Sources: Butchart et al. (2008, p. 7); Duvvury et al. (2019, pp. 14–15); Florquin (2006, p. 191)

accounting matrix. It also recommends the use of qualitative approaches—such as interviews and focus group discussions—as a sixth method suitable for assessing intangible social costs (pp. 14–15).

Accounting methods are used the most to estimate tangible costs—such as medical and criminal justice costs—as well as productivity losses (Florquin, 2006, p. 193). This approach relies on incidence data that can be disaggregated by instrument (for example, a gun or knife), which makes it particularly relevant for examining the specific and relative costs of gun violence. The willingness-to-pay approach calculates, based on survey data and econometric techniques and modelling, the total amount that individuals would be willing to pay to reduce the risk of becoming a victim of a violent incident. Measuring quality of life losses—because of illness, injury, or premature death—is another approach used to estimate tangible and intangible

costs, such as a ‘disability-free’ life. The social accounting matrix calculates macro-economic loss across various economic sectors (Duvvury et al., 2019, pp. 15, 18–19).

The World Health Organization (WHO) developed guidance on estimating direct medical costs and loss of productivity due to injuries caused by interpersonal and self-directed violence (hereafter referred to as the ‘WHO model’) (Butchart et al., 2008). This manual includes a minimum set of data requirements for producing estimates in different settings, including low- and middle-income countries (p. 2), and forms the basis for the methodology applied in the case studies presented below. Direct medical costs relate to hospital treatment expenses (such as admissions, consultations, surgery, and medication) and transportation to hospital; lost productivity refers to the temporary or permanent reduction of income-generating activity (or inactivity in case of a fatal injury) (p. 13). Where it is possible to collect more granular data, medical costs can be disaggregated by the mechanism of injury (such as a firearm, bladed weapon, or blunt weapon) and by severity (fatal, serious, or slight). *Fatal* injuries are defined as those that cause death within 30 days; *serious* ones do not but require hospitalization; and *slight* injuries only require a visit to a hospital’s emergency and accident department (pp. 12–13). Table 19 summarizes the minimum data required in the WHO model.

Estimating total direct medical costs involves multiplying the total number of injuries for each severity category by their respective unit costs, and then adding up the results (Butchart et al., 2008, pp. 9, 14). Loss of productivity is calculated as the number of injuries multiplied by the average time lost (in days if non-fatal, and years if fatal) multiplied by the wage rate (p. 10). Estimates for some countries also account for unemployment as well as unpaid and informal work (pp. 15–16).

Previous research on the costs of violence in the Caribbean

Previous research has estimated the direct costs of violent crime in several Caribbean countries and shed light on some of the indirect costs. Jaitman and Torre (2017), for instance, examined such costs¹²⁶ for 2014 in 17 Latin American and Caribbean countries, including in the Bahamas, Barbados, Jamaica, and Trinidad and Tobago. These estimates covered the victims’ loss in quality of life; the prison population’s foregone income; private sector expenses for security and crime prevention paid by firms and households; and public spending on police services, the judiciary system, and the administration of prisons (pp. 20–24). This study’s upper estimates for crime-related costs for the Bahamas, Barbados, Jamaica, and Trinidad and Tobago amounted to 4.8, 2.7, 4, and 3.5 per cent of their GDP, respectively (or approximately 3.7 per cent for the full Caribbean sub-sample) (p. 27).¹²⁷ Costs for these Caribbean countries were generally higher than in the United States, where they reached 2.8 per cent of GDP, but lower than in Central America, estimated at more than 4 per cent (p. 26). The highest

Table 19 Minimum data requirements based on the severity of the injury (WHO model)

Category	Data	Severity of injuries		
		Fatal	Serious	Slight
Incidence	Number of incidents by age, sex, mechanism, and intent	x	x	x
Direct medical costs	Average cost per medico-legal investigation of violence-related deaths	x	n/a	n/a
	Percentage of violence-related deaths subject to medico-legal investigation	x	n/a	n/a
	Average cost for transportation to emergency department (ED) or ambulance service per ED visit	x	x	x
	Percentage of fatal violent injuries that involved hospital admission	x	n/a	n/a
	Average length of stay in hospital (days) for injuries due to interpersonal or self-directed violence	x	x	x
	Average cost per bed-day of hospital treatment, including 'hotel costs', physician fees, operations, blood transfusions, tests and examinations (such as X-rays), and drugs for violence-related cases	x	x	n/a
	Percentage of injuries due to interpersonal or self-directed violence that required transportation or ambulance service	n/a	x	x
	Average ED treatment cost per ED visit for violence-related cases	x	x	x
Indirect medical costs	Percentage of injuries due to interpersonal or self-directed violence admitted to hospital via ED	n/a	x	n/a
	Average age at death	x	n/a	n/a
	Average age at retirement (or ceasing to work)	x	x	x
	Average number of convalescent and/or rehabilitation days for a victim of a serious injury	n/a	x	n/a
	Average number of convalescent and/or rehabilitation days for a victim of a slight injury	n/a	n/a	x
	Daily wage rates (paid and unpaid)	x	x	x
	Discount rate, 3%*	x	n/a	n/a

Notes:

'x' indicates that the data is available; 'n/a' indicates that the data is not applicable.

* A discount rate of three per cent per year is used—which corresponds to the present value of money earned in the future, given that the value of money decreases with time (Butchart et al., 2008, p. 16).

Source: Butchart et al. (2008, p. 24)

expenditure in the Caribbean region as a whole, as well as in each of the surveyed Caribbean countries, was public spending. Jamaica's public spending on crime prevention and reduction, for example, ranged from 1.4 to 2.4 per cent of GDP in 2014 (p. 25), compared with 1.4 to 2 per cent in Barbados, and 1.2 to 1.9 per cent in the Bahamas. Most of these funds were used for police services, while relevant expenditures by the justice system amounted to only about 0.06 per cent of GDP on tackling crime (pp. 25–26). The findings also underscored the value of developing interventions that aim to reduce and prevent crime, as opposed to relying more heavily on reactive and repressive actions (p. 87).

Jamaica, which has developed a national injury surveillance system,¹²⁸ has been the subject of several studies on the costs of violence-related injuries (VPA, 2017; Ward et al., 2009; 2018). The most comprehensive report reviews cases of injuries caused by violence or road traffic collisions in seven major hospitals across the country for the second quarter of 2014 (VPA, 2017, p. 3). It estimates direct medical costs and loss of productivity based on the WHO model (see above). The findings indicate that nine per cent of 1,735 patients treated for violence-related injuries¹²⁹ between April and June 2014 had suffered gunshot wounds. In contrast, stab wounds and blunt trauma accounted for 31 and 36 per cent of all patients, respectively. Due to the severity and complexity of treating firearm-related injuries, the average medical cost of a gunshot wound (JMD 402,000, USD 3,212)¹³⁰ was more than twice that of a stab wound (JMD 194,000, USD 1,550), and more than three times that of a blunt trauma (JMD 115,000, USD 919).¹³¹ The average cost of gunshot wounds was also higher than that of injuries caused by road traffic crashes (p. 22). The study also found that Jamaican hospitals saw more than 25,000 cases of violence-related injuries (including all mechanisms) in 2014. This cost about JMD 8.6 billion (USD 68.7 million) in total: JMD 3.6 billion (USD 28.8 million) in direct medical costs and JMD 5 billion (USD 40 million) in productivity losses (p. 19). The medical expenses associated with violence-related injuries accounted for 22 per cent of the hospitals' annual budget (excluding compensation for hospital staff salaries) and two-thirds of the JMD 5.4 billion (USD 43.2 million) budget for goods and services allocated to them by the ministry of health (pp. 19, 23). Hospital stays were the most expensive medical cost overall, accounting for 44 per cent of the total cost for violence-related injuries (p. 21).

The costs of gun violence in the Bahamas, Barbados, and Jamaica

Methodology and data sources

Apart from the aforementioned studies, research on the specific costs of firearm-related violence in the Caribbean is limited. To fill this gap, the Small Arms Survey

collaborated with the GA-CDRC to collect data on direct medical costs and productivity losses resulting from violence-related injuries in the Bahamas, Barbados, and Jamaica.

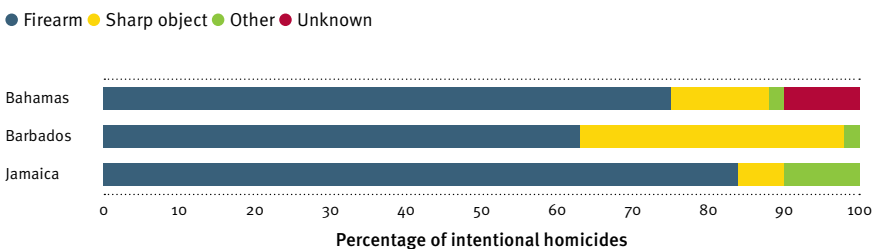
The assessment covered the year 2019 to ensure the results would not be affected by the consequences of the Covid-19 pandemic. Broadly speaking, the case study uses the WHO model presented above. It therefore does not endeavour to capture all the costs that can be attributed to firearm-related violence, but instead focuses on direct medical costs and productivity losses. The main reasons for this were twofold:

- the availability of data disaggregated by the type of weapon used allowed for a comparison between the costs of firearm-related violence and the costs of violence perpetrated with other weapons or means; and
- the region’s, and in particular Jamaica’s, prior experience in using the WHO model made it possible to compare results with indicators such as public health spending.

The research team selected the Bahamas, Barbados, and Jamaica as case studies to ensure some level of subregional representativeness among countries affected by relatively high levels violence, including firearm-related violence. Indeed, the Bahamas, Barbados, and Jamaica experienced levels of violence in 2019 that exceeded the regional average of 12.1 per 100,000 (see Figure 20), with national homicide rates of 24.4, 16.7, and 45.4 per 100,000 population, respectively (Jamaica Constabulary Force, n.d.; RBPF, 2019; Small Arms Survey, n.d.b). Firearms are also the weapon of choice for perpetrating homicides in all three countries. In 2019, in Jamaica, five intentional homicides out of six were committed with a gun, compared with three-quarters and almost two-thirds in the Bahamas and Barbados, respectively (see Figure 20).¹³²

GA-CDRC researchers retrospectively collected medical treatment data on a total of 298 patients who received care at hospitals for violence-related wounds in the Bahamas,

Figure 20 Percentage of intentional homicides by mechanism for the Bahamas, Barbados, and Jamaica, 2019



Sources: Jamaica Constabulary Force (n.d.); King (2022); RBPF (2019); Small Arms Survey (n.d.b); UNODC (n.d.); written correspondence with the Ministry of National Security of the Commonwealth of the Bahamas, 6 March 2023

Barbados, and Jamaica in 2019 (see Figure 21).¹³³ The following facilities participated in the research: Kingston Public Hospital, Jamaica; Princess Margaret Hospital, the Bahamas; and Queen Elizabeth Hospital, Barbados. Patients were selected according to several criteria:

- they suffered from an interpersonal violence-related injury;
- their injury was caused by a firearm discharge, a sharp instrument, or another object;¹³⁴ and
- they suffered a slight, serious, or fatal injury, as defined in the WHO model.

Previous experience of using the WHO model in the region and the available budget were key factors in determining the sample size of 100 patients per country. The proportion of patients that suffered from firearm wounds was intentionally over-represented to account for about half of the sample. This was intended to ensure better representativeness of the costs of different kinds of firearm wounds, but it also meant the costs of stabbings and other injuries were based on smaller samples and therefore potentially more affected by the presence of outliers. Depending on the study site and its overall population of patients treated for violent injuries, either a random or a convenience¹³⁵ sampling approach was used to determine the sample selection in the three countries.

The data collectors reviewed each patient's medical records and compiled data on the services used for treating their injuries. They then entered this information in RedCap, a secured and encrypted tablet-based questionnaire (Harris et al., 2019). It is worth noting that the assessment was purely retrospective and no interviews were conducted with patients. The research was approved by the ethical boards of the University of the West Indies, as well as those of the surveyed hospitals and ministries of health of each country (Agard et al., 2022).

Information on the costs of medical goods and services was generally obtained from the financial departments, pharmacies, and national drug formularies of the participating hospitals (Agard et al., 2022, p. 5).¹³⁶ It is important to note that some of the costing data was incomplete and full costs could not always be retrieved from the records available to the researchers. The medical costs documented in this study therefore represent only part of the picture and are likely to be underestimates.

To estimate productivity losses, the research team used publicly available official data on retirement age and income rates per capita. Researchers also collected data from the hospitals on the average number of days that patients were unable to resume their normal activities due to their injuries and treatment. All monetary costs were converted into USD.¹³⁷

The incidence data on the number of firearm homicides and estimated non-fatal firearm-related injuries presented below in Table 23 were compiled from both national

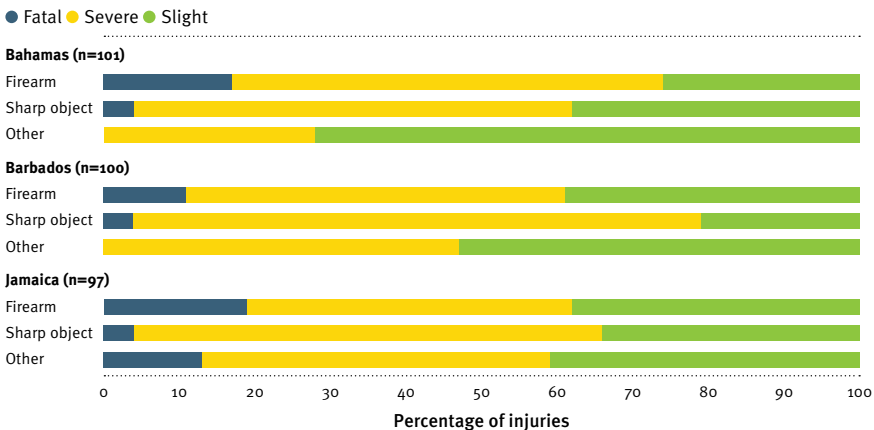
sources and the Global Violent Deaths database (Small Arms Survey, n.d.b). This data could not always be disaggregated by the demographic profile of the victims (for example, by age and sex). Information on non-fatal injuries in particular was often incomplete, and in cases unavailable, at the national level, which made it necessary to work with other proxies.

Case study results

The majority of patients in the sample under review were between 18 and 44 years old.¹³⁸ More specifically, half of the patients suffering from gunshot wounds were below 30. Among all 298 patients, the proportion of men was 92 per cent in Barbados, 85 in Jamaica,¹³⁹ and 76 in the Bahamas. Most of the victims suffered from serious injuries (about half of the sample), followed by slight injuries (about 40 per cent). Only a few (less than ten per cent) were fatally wounded (see Figure 21). On average, 47 per cent of the patients sustained firearm injuries; 26 per cent were wounded by sharp weapons; and 28 per cent suffered injuries caused by blunt weapons, bodily force, burns, or other means (GA-CDRC and Small Arms Survey, 2022).

Victims of gunshot wounds in all three countries were more likely to require blood transfusions, to be admitted to the intensive care unit (ICU), and to undergo tests and examinations than patients who were stabbed, cut, burned, pushed, shoved, or struck by a blunt object (see Table 20). Most victims of gunshot wounds in the Bahamas used ambulances to get to the hospital, as did most victims of stabbings in Barbados

Figure 21 Percentage of violent injuries in study sample, by mechanism and severity



Source: GA-CDRC and Small Arms Survey (2022)

Table 20 Impact by type of weapon on fatally and non-fatally wounded patient (outcomes and use of hospital services)

	Mechanism	Bahamas	Barbados	Jamaica
Percentage of patients who used an ambulance	Firearm	59	39	4
	Sharp object	38	58	0
	Other	38	43	42
Percentage of patients who required blood transfusions	Firearm	26	11	28
	Sharp object	19	8	4
	Other	0	3	4
Percentage of patients who required surgery	Firearm	52	37	36
	Sharp object	23	58	19
	Other	10	37	25
Percentage of patients who required tests or examinations	Firearm	96	93	96
	Sharp object	77	75	73
	Other	66	67	71
Percentage of patients who were admitted to ICU	Firearm	11	4	13
	Sharp object	4	0	0
	Other	3	0	4
Average number of days in hospital	Firearm	10.2	10.2	8.9
	Sharp object	6.7	6.7	3.6
	Other	10.5	4.2	10.2
Average number of inactive days	Firearm	36	21	19
	Sharp object	23	26	7
	Other	47	7	15
Percentage of patients left with a permanent disability	Firearm	20	7	9
	Sharp object	0	13	4
	Other	7	20	25
Percentage of male patients	Firearm	78	98	85
	Sharp object	88	96	85
	Other	62	83	83

Note: The most used mechanism for each country is set in bold.

Source: GA-CDRC and Small Arms Survey (2022)

Table 21 Average medical costs per non-fatal injury, by mechanism and service type (USD)

	Bahamas			Barbados			Jamaica		
	Firearm	Sharp object	Other	Firearm	Sharp object	Other	Firearm	Sharp object	Other
Ambulance	324	356	295	94	94	94	79	0	79
Hospital stay	3,203	1,900	2,955	1,131	787	519	731	254	795
Consultation	147	138	108	n/a	n/a	n/a	172	95	121
Blood transfusion	38	38	0	11	11	11	212	212	0
Surgery	2,699	1,731	2,324	1,137	1,012	1,203	2,298	1,512	1,309
Tests and examinations	309	147	998	231	284	465	152	104	168
Medication	353	120	56	212	206	127	65	18	37
Total	7,073	4,430	6,736	2,816	2,394	2,419	3,709	2,195	2,509

Notes: Costs for the three countries are not always comparable due to the limitations of available data and differences in the way costs are calculated. Hospital stay expenses only include public ward and admission costs. For Barbados, the cost of transfusions is underestimated as data was only available for certain materials. Similarly, not all costs were available for consultations, tests and examinations, surgeries, and medication in all three countries. In Barbados, private healthcare costs were used for two types of surgery, since they were closer to actual costs.

Sources: Calculations based on GA-CDRC and Small Arms Survey (2022); Statistical Institute of Jamaica (n.d.a); Ward et al. (n.d.)

and patients in Jamaica who suffered other types of wounds.¹⁴⁰ The use of private vehicles was prevalent in other cases where the means of transportation was known.

Firearm-related injuries required the most surgery in the Bahamas and Jamaica. Gunshot wound victims also experienced longer hospital stays compared to stabbing victims in all three countries. The difference is less evident for gunshot patients in the Bahamas and Jamaica, who spent only a day or a few hours less in hospital than those who sustained injuries caused by other mechanisms. On the other hand, a higher proportion of patients who sustained injuries other than gunshot wounds, cuts, or lacerations were left with a permanent disability as a result of their injury in Barbados and Jamaica (see Table 20).

Firearm injuries impose higher average medical treatment costs in all three case studies (see Table 21). These findings support those of other studies, such as Florquin (2006) and VPA (2017). The average expenditure to treat a gunshot wound was between 1.2 and 1.7 times higher than for a sharp object injury, and 1.05 to 1.5 higher than for other types of injuries. Interestingly, the average cost of tests and examinations was higher among patients injured by other mechanisms in all three countries. This is mainly due to checks for possible head trauma, which were performed more frequently on the patients in the study and are expensive.

To estimate productivity losses based on the WHO model, the research team collected data from patient records on their age, their occupation, their length of stay in hospital, the number of sick days required, and whether the injuries resulted in permanent disability. In addition, the team retrieved data on each country's gross domestic product (GDP) per capita, as a proxy for average wages, from the World Bank (n.d.a), as well as the average age of retirement from official sources. Finally, the discount rate of three per cent per year was used (see Table 19).

As shown in Table 22, in non-fatal cases in Barbados and Jamaica, gunshot wounds generally led to higher average productivity losses than injuries from sharp objects and other mechanisms—mainly due to the longer periods of hospitalization and inactivity imposed by these injuries. In the Bahamas, however, victims of non-fatal violence by other mechanisms suffered the highest productivity losses, for the same reason. For fatal and disabling injuries, the average age of the patient proved to be the decisive factor. Due to the very small sample of patients fatally wounded or permanently disabled by non-firearm mechanisms, it was not possible to estimate productivity losses for this category of patients. Indeed, the lack of such patients in the sample—sometimes only one or two—made it very difficult to estimate the average age of death or disability, and no such data was available at the national level. More complete national-level data on the age profile of the victims of violent injuries, disaggregated by mechanism, would be needed to compare productivity losses according to mechanism on a more systematic basis.

Table 22 Average productivity losses per injury, by severity and mechanism (USD)

	Bahamas			Barbados			Jamaica		
	Firearm	Sharp object	Other	Firearm	Sharp object	Other	Firearm	Sharp object	Other
Non-fatal (admitted only)	4,850	3,064	5,495	2,719	2,537	2,052	664	177	579
Time spent in hospital	944	608	1 474	532	350	230	175	35	182
Convalescence time	3,906	2,457	4,020	2,187	2,187	1,822	489	142	397
Fatal or leading to permanent disability	675,824	n/a	n/a	409,060	n/a	n/a	116,042	n/a	n/a

Notes: The annual GDP per capita in 2019 was USD 32,610 in the Bahamas, USD 19,003 in Barbados, and USD 5,588.12 in Jamaica; 'n/a' indicates that the data is not applicable.

Sources: Small Arms Survey calculations based on data from Agard et al. (2022); Bahamas Ministry of Public Service (n.d.); Bank of Jamaica (n.d.); Barbados National Insurance Scheme (n.d.); GA-CDRC and Small Arms Survey (2022); Jamaica (2016); Ward et al. (n.d.); World Bank (n.d.a)

The values presented in this section should be considered underestimates due to data and methodological limitations. Information in patient records was at times incomplete or inaccurate—one of the challenges inherent to the retrospective nature of the study, even though the study captured detailed breakdowns of costs for medications and services. The missing costs include those relating to the ICU daily rate, dressings and disposables, intravenous (IV) fluids, and medico-legal investigations for fatal injuries.¹⁴¹ From the available costs, it was not always clear what type of staff costs were accounted for. In addition, some costing data was obtained from government institutions and may therefore reflect subsidized costs that are lower than actual prices. To counter this problem, it was sometimes possible to use more comprehensive fees from 2016 from the University Hospital of the West Indies for Jamaica and to adjust the prices for inflation. The costs from Barbados were also particularly affected by this issue, which is why they at times seem lower compared to costs in other countries. For the Bahamas and Barbados, costing information from 2020–22 sometimes had to be used. Regarding productivity losses, the data for fatally wounded or permanently disabled patients is based on a limited number of patients; the average age of such victims may therefore not necessarily reflect national-level patterns. For non-fatal injuries, the main challenge was limited available data on convalescence days, especially in Barbados. Finally, the estimates did not include losses related to informal and unpaid work, which tend to disproportionately affect women.¹⁴² Peters (2017) estimates the informal economy to amount to 20–30 per cent of GDP in the Bahamas, 30–40 per cent in Barbados, and 35–44 per cent in Jamaica in 2014 (p. 2).

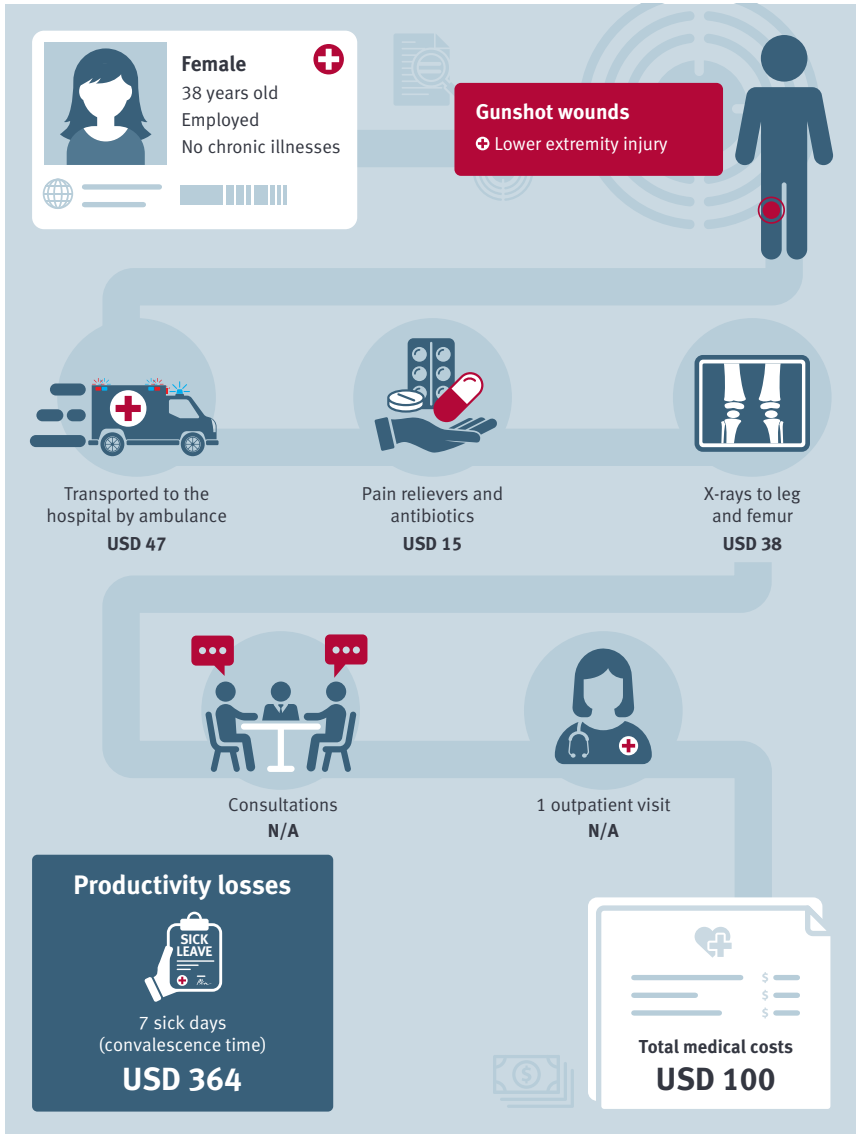
Understanding the burden of gun violence on society

Estimating economic costs only provides a glimpse of the impacts of armed violence on society. Other consequences not captured here include the social costs—such as fear of crime, lack of trust in official security providers, fragmented or violence-driven social cohesion, neighbourhood deterioration, psychological impacts due to exposure to violence, and restricted access to public space and its consequences (for example, limited access to food and other basic needs). These examples highlight that communities and society as a whole are also victims of violence—not just the individuals wounded or killed and their family. The biggest challenge is that it is nearly impossible to associate a monetary value to a number of these aspects; other methods are therefore better suited to capturing these impacts, which are equally important, especially for evidence-based policy.

Nevertheless, one interesting aspect of quantifying the costs of firearm-related violence is that it allows these costs to be compared with other economic indicators and placed in a broader context (see Figure 22 for examples of costs for one person). For example, the estimated national-level medical costs of and productivity losses

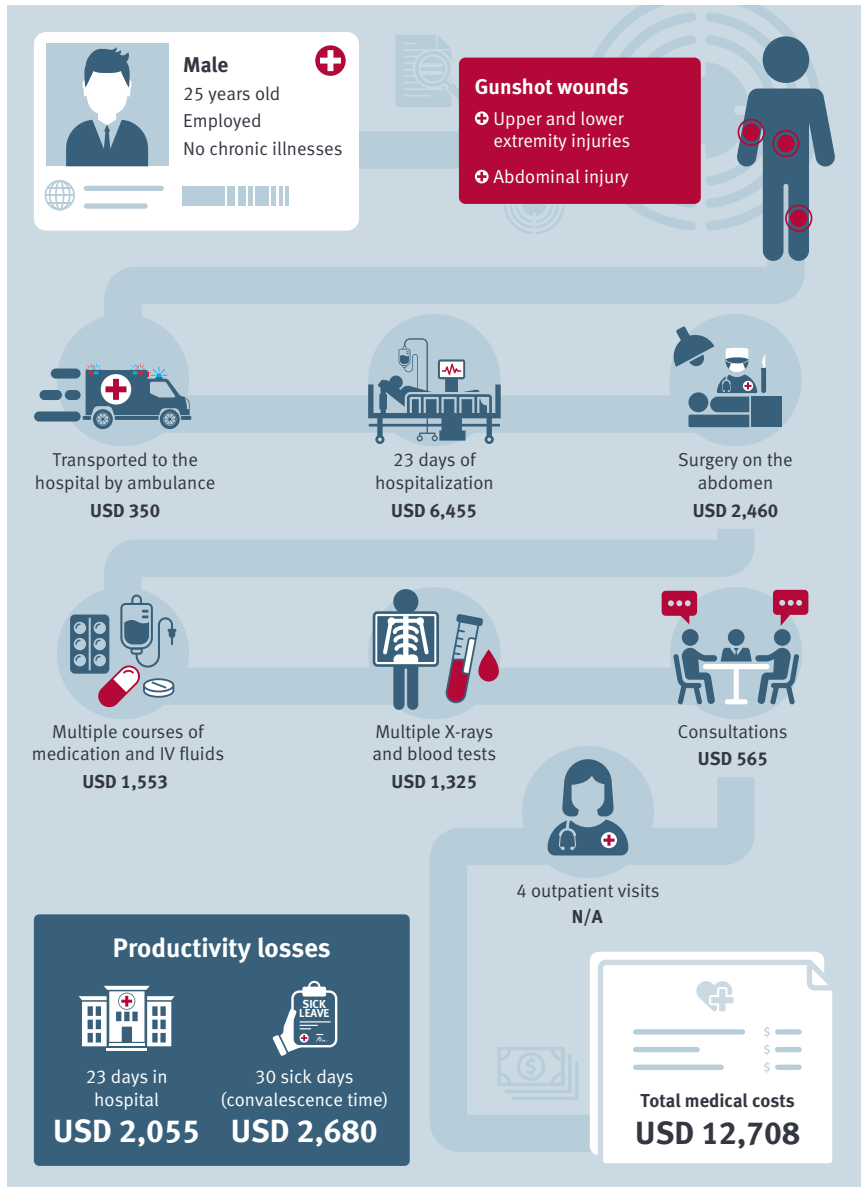
Figure 22 The medical costs inflicted by different types of firearm injuries, and how they affect work and productivity

Medical costs and productivity losses caused by a slight gunshot wound (urgent care only, Barbados)



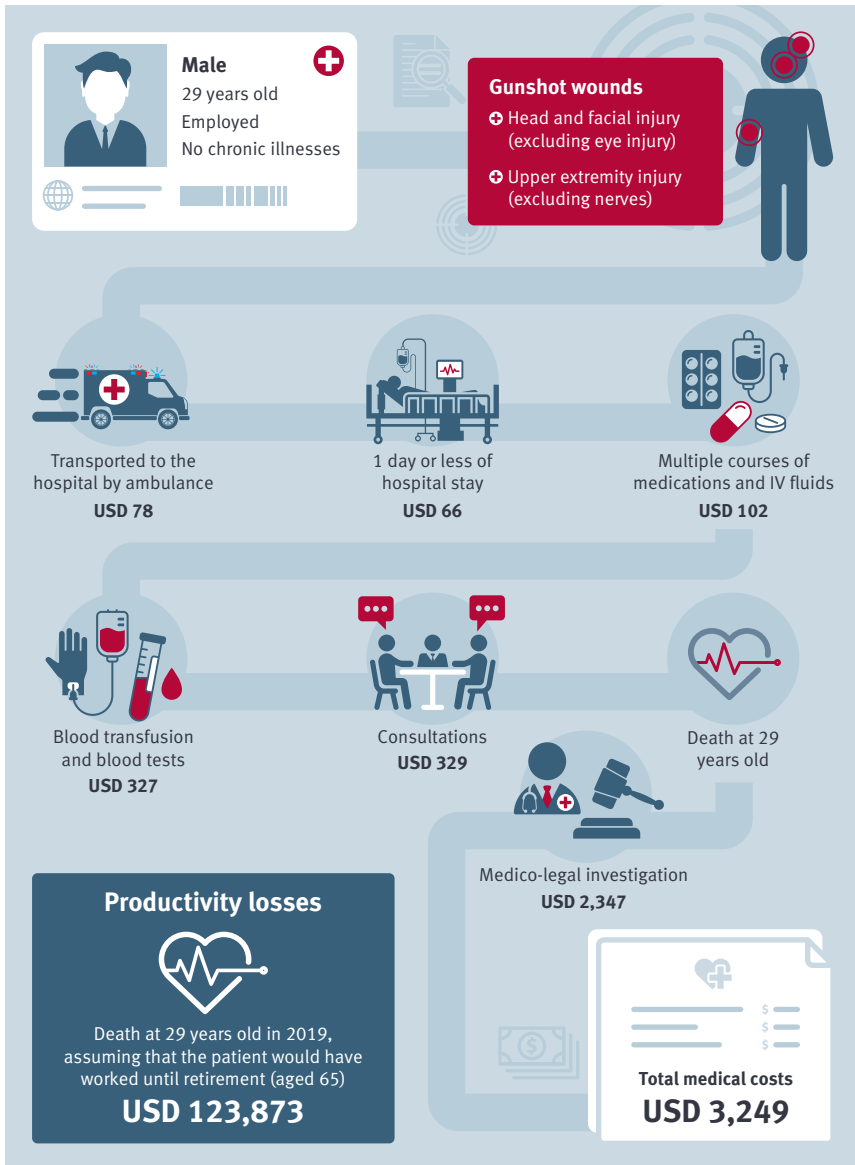
Note: Scenarios are based on real findings.

Medical costs and productivity losses caused by a serious gunshot wound (admitted patient, Bahamas)



Notes: Scenarios are based on real findings. 'Consultations' refers to consultations with doctors other than the doctor in the clinical speciality the patient is admitted to.

Medical costs and productivity losses caused by a fatal gunshot wound (death at the hospital, Jamaica)



Notes: Scenarios are based on real findings. ‘Consultations’ refers to consultations with doctors other than the doctor in the clinical speciality the patient is admitted to. ‘Medico-legal investigations’ refers to an investigation to determine the cause and manner of a suspicious or violent death.

Table 23 Estimated total medical costs and productivity losses from gun violence in 2019*

Type of injury	Number of cases and type of cost	Bahamas	Barbados	Jamaica
Non-fatal	Number of cases**	66	33	1,154 (year 2018)
	Average medical costs	7,071	2,815	3,709
	Total medical costs	466,711	92,905	4,280,269
	Average productivity losses	4,850	2,719	664
	Total productivity losses	320,101	89,714	766,775
	Total non-fatal cost	786,812	182,619	5,047,044
Fatal (non-hospitalized costs)	Number of cases (national)	71	30	1,119
	Average productivity losses	675,824	409,060	116,042
	Total fatal costs	47,983,522	12,271,793	129,850,622
Total	Total medical costs and productivity losses	48,770,334	12,454,412	134,897,666

Notes:

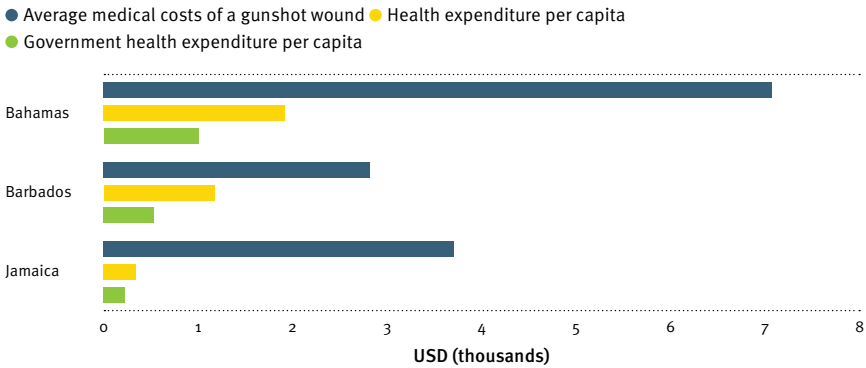
* Costs are in USD.

** The number of cases of non-fatal injury for the Bahamas is for the whole country; for Barbados, it is only for admitted patients in Queen Elizabeth Hospital (one of the two main hospitals in the country); and for Jamaica, this number covers the whole country but for 2018. Due to the heterogeneous nature of the data, comparisons between the countries should be avoided.

Sources: Small Arms Survey calculations based on data from Agard et al. (2022); Bahamas Ministry of Public Service (n.d.); Bank of Jamaica (n.d.); Barbados National Insurance Scheme (n.d.); GA-CDRC and Small Arms Survey (2022); Jamaica (2016); Jamaica Constabulary Force (n.d.); Small Arms Survey (n.d.b); Statistical Institute of Jamaica (n.d.a); Ward et al. (n.d.); World Bank (n.d.a); written correspondence with the Ministry of National Security of the Commonwealth of the Bahamas, 6 March 2023

attributable to gunshot wounds (see Table 23) amount to 0.4 and 0.9 per cent of the GDP¹⁴³ in the Bahamas and Jamaica, respectively. When it comes to the national-level cost of fatal injuries, gunshot wounds account for the greatest share of lost productivity, since the majority of homicides are perpetrated with a firearm in all three countries. Based on this study's estimates for 2019 and the number of homicides by firearms in

Figure 23 Current health expenditure per capita and average medical cost of a gunshot wound (USD)



Notes: Data is based on WHO (n.d.) estimates on current health expenditure and this study’s estimates of the average cost of care of a gunshot wound. Health expenditure is expressed in constant 2020 USD, while medical costs in this study are in current 2019 USD, which may result in slight differences in actual costs. For more information, see World Bank (n.d.c).

Sources: Calculations based on GA-CDRC and Small Arms Survey (2022); Statistical Institute of Jamaica (n.d.b); Ward et al. (n.d.); WHO (n.d.)

each country, the ratios of the total cost of fatal stabbing or cut wounds to the total cost of fatal firearm injuries are 1:5, 1:2, and 1:13 for the Bahamas, Barbados, and Jamaica, respectively, while the ratios for other type of wounds and firearm are 1:36, 1:32, and 1:13.

An alternative method of assessing the impact of the economic costs on society is to examine the average cost of healthcare spending for one person in a given country compared to the average cost of treating a type of injury. The average cost of a gunshot wound accounts for more than three times the health expenditure per capita in the Bahamas, more than twice in Barbados, and close to 11 times in Jamaica. These proportions are even higher for government health expenditure per capita, which highlights the significant medical costs that firearm-related violence inflicts on public health systems (see Figure 23). Another means of contextualizing direct medical costs is to look at the expenditures of ministries of health. For the fiscal year 2019–20, the Ministry of Health of Jamaica estimated expenditures of JMD 20.5 billion (USD 153 million) for the public healthcare programme (Jamaica MFPS, 2019, p. 742).¹⁴⁴ Direct medical costs for victims of non-fatal and fatal gun violence amount to at least five per cent of this budget.¹⁴⁵ In the Bahamas, the estimated average medical cost for a gunshot wound represents more than 20 per cent of annual median household income.¹⁴⁶ Other socio-economic indicators also illustrate the magnitude of the issue; on average, public spending for one pupil in primary school in Barbados and Jamaica, for example, was USD 3,637 and 2,256,¹⁴⁷ respectively, in 2019 (UNESCO, n.d.).

Future research in the Caribbean could usefully compare the costs of violence with those of violence prevention and reduction programmes that have been evaluated. This would give a broader perspective on the total cost incurred by violence. Violence is a societal phenomenon that impacts all aspects of life, both within a country and beyond its borders. It is therefore important to examine not only criminal justice aspects but also health and socio-economic aspects. As noted previously in this Report, a number of officials from the Caribbean have acknowledged that gun violence needs to be addressed from a public health perspective. There is also growing awareness of the need for further research on gun violence and health in the region. Such initiatives could benefit from the establishment of injury surveillance systems to capture more detailed and disaggregated data on an ongoing basis (Agard et al., 2022), as is the case in Jamaica, which could be used to inform public health and government-level decisions. This study has highlighted the methodological challenges that remain in measuring the cost of violence, particularly with regard to statistics on non-fatal injuries and on medical costs. This data varies according to the health financing systems used by each country, and emphasizes the importance of refining methodologies to understand the true costs of violence. ●



While the US domestic market is clearly a major source of illicit firearms in the Caribbean and is likely the largest source in some states and territories, it is not the only one.”

Conclusion

This regional firearms study has assessed the scope and scale of firearms holdings in the Caribbean region, documented the types of illicit arms and ammunition in circulation and the mechanics of arms trafficking, and shed light on the costs of firearm violence. It finds that, overall, the region suffers from high rates of violence, which is primarily associated with gangs and exacerbated by the availability and use of illicit firearms. Available data indicates that the overwhelming majority of illicit firearms in the Caribbean are handguns. With the notable exception of Haiti, the criminal use of rifles and associated ammunition remains relatively marginal compared to some Central and North American states.

Countries in the region generally exercise strict controls on legal civilian holdings of firearms, but face greater challenges in tackling illicit flows of arms and ammunition from abroad, including from the United States. The mechanics of international arms trafficking to the Caribbean are surprisingly simple. To evade detection, smuggled weapons simply need to be concealed well enough to blend in with the thousands of legitimate shipments passing through international ports every day. While the US domestic market is clearly a major source of illicit firearms in the Caribbean and is likely the largest source in some states and territories, it is not the only one. Firearms are also diverted from authorized end users in neighbouring states and trafficked to the Caribbean. In Belize, for instance, most illicit arms and ammunition appear to come from neighbouring states and are usually smuggled across the country's long and porous land borders.

To date, the emerging threats of the 3D printing of firearm parts and components, ghost guns, and conversion devices have yet to gain a foothold in much of the region, and for the most part the diversion of weapons from state and civilian holdings seems to be contained. Keeping these new challenges at bay and addressing existing threats will require Caribbean countries to invest in violence prevention programmes and activities and support affected communities, while mobilizing and maximizing the use of their intelligence, equipment, and regulatory resources.

As this Report has shown, the costs imposed by firearm-related violence on Caribbean societies are very high. National and regional institutions have the capacity to reduce these costs, but only if they are properly resourced. Unlike their counterparts in larger importing states, Caribbean countries cannot plan for a consistent flow of firearms. They must be able to cope with surges in firearms flows, mobilizing regulatory resources to deal with the sudden influxes that often define their situation. There may also be implications for street-level law enforcement and medical practitioners, for whom surges in illicit firearms or ammunition may lead to comparable surges in crime and violence. Policymakers in the Caribbean and their international partners should ensure that these institutions have the resources required to fully implement the Firearms Roadmap and related national and multilateral efforts aimed at reducing the flow of illicit firearms into and within the region, and the armed violence that feeds (and is fed by) demand for these weapons. ●

Annexe 1:

Scope and limitations of the illicit ammunition data set

Consistent with practices observed in other regions,¹⁴⁸ Caribbean countries often do not publish or collect detailed data on the specific makes and calibres of the illicit ammunition they seize or retrieve at crime scenes. In order to analyse trends related to the types and possible origins of cartridges used by criminals in the region, the assessment compiled data on 1,429 spent cartridge cases (hereafter referred to as ‘cartridges’) from the following two sources (see Table A.1):

- the ballistics databases of seven CARICOM members and associated members in the northern (Bermuda, Cayman Islands, and Turks and Caicos), south-eastern (Anguilla, Barbados, and the British Virgin Islands), and western (Belize) Caribbean;¹⁴⁹ and
- a data set of ammunition recovered by the police and gendarmerie in three French overseas territories in the Caribbean (French Guiana, Guadeloupe, and Martinique).

The cartridges in the complete merged data set were collected by forensic experts at the following types of violent crime scenes: homicides or murders (666 cartridges), assaults (430 cartridges), and attempted homicides (333 cartridges). These crimes occurred between January 2016 and November 2021 in the CARICOM member states and associate members, and from January 2016 to May 2021 in the French overseas territories. Images of the seized cartridge headstamp markings also made it possible to identify the ammunition make or manufacturer, the likely country of production, and—when available—the year of production.

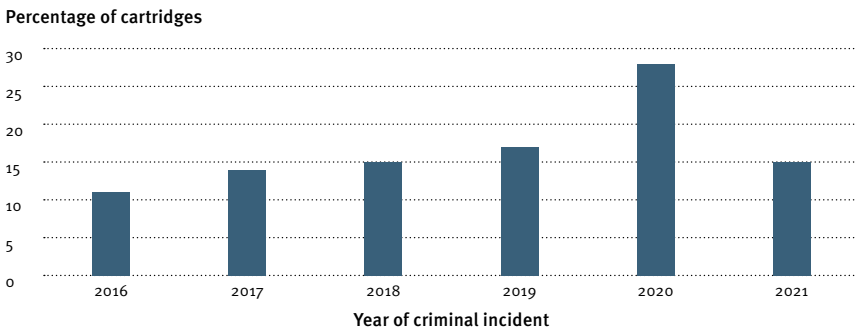
The distribution of recovered cartridges by year of incident shows a peak in 2020 (see Figure A.1), which can be attributed to the higher number of entries that year for six of the countries and territories under review: Barbados, Bermuda, French Guiana, Guadeloupe, Martinique,¹⁵⁰ and Turks and Caicos. The lower number of cases recorded in 2021 does not indicate a decrease in criminal use of ammunition given the data set’s only partial coverage of this calendar year.

Table A.1 Distribution of the illicit ammunition data set, by subregion and country or territory

Subregion and country	Number of cartridges
Northern Caribbean	173
Bermuda	37
Cayman Islands	62
Turks and Caicos	74
South-eastern Caribbean	539
Anguilla	34
Barbados	438
British Virgin Islands	67
Western Caribbean	248
Belize	248
French overseas territories	469
Guadeloupe	169
French Guiana	56
Martinique	244
Total	1,429

Source: Jongleux (2021); Small Arms Survey and Arquebus Solutions (2022)

Figure A.1 Distribution of 1,429 cartridges used in violent crime incidents in ten Caribbean countries and territories, by year of criminal incident



Source: Jongleux (2021); Small Arms Survey and Arquebus Solutions (2022)

The 1,429 cartridges under review were associated with 734 criminal cases, resulting in an overall average of 2 cartridges per criminal incident (minimum: 1; maximum: 20) for the full data set, with subregional averages of 1.2 cartridges per case for the western Caribbean (max. 3), 1.8 for the northern Caribbean (max. 9), 2 for the south-eastern Caribbean (max. 8), and 2.9 for the French territories (max. 20).¹⁵¹

The way in which cartridge cases are selected at crime scenes for inclusion in ballistics data sets varies across countries and may result in some bias in the data set. Indeed, in cases where a single firearm fires several cartridges, forensic teams often select only a limited sample of the spent cartridges for inclusion in the national ballistic system—typically two, although recent studies recommend a higher number where possible (Gagliardi, 2019, pp. 146, 160; Law, Morris, and Jelsema, 2018). This practice is justified by data storage costs and the need not to overwhelm ballistics systems with too many entries per firearm, since this would affect the results of ballistics analysis. Barbados police officials, for instance, explained that they typically process two cartridges per crime scene: one displaying the best ballistics traces, and another with the least visible marks.¹⁵² Regional observers note that other countries in the Caribbean often do not have specific standard operating procedures for selecting cartridges found at crime scenes and tend to record most of what is retrieved—which would appear to be corroborated by the high ‘maximum’ figures found in the data set.¹⁵³ Officials also note that over the last ten to 15 years, when multiple rounds are used in a shooting, the cartridges have tended to be the same brand or variety, although there are exceptions.¹⁵⁴

The ammunition data set is also not comprehensive in that it does not cover several of the most populated countries in the region, which did not provide access to similar data sets in time for inclusion in this assessment. Moreover, the data set only accounts for cartridges fired at violent crime scenes, and therefore excludes other types of illicit ammunition circulating in the participating countries and territories, such as unspent ammunition seized in trafficking cases. Finally, the data on the French territories does not include shotgun ammunition (Jongleux, 2021), although French authorities separately provided details on the number of 12-gauge cartridges used in violent crime in the three territories for comparative purposes.

Determining the country of manufacture of a round of ammunition based solely on headstamp markings can also be difficult in some cases. This is especially true for makes and brands established in both the Americas and Europe for which determining the country of manufacture with certainty would require being able to examine the ammunition boxes and packaging (Desmarais et al., 2022, p. 4). Nevertheless, the authors worked with ammunition specialists to infer the countries of manufacture based on the information available to them, and any errors are unlikely to affect the general distributions presented in this section.

Despite these limitations, the data set is the first of its kind for the Caribbean region, and provides new insights into the types of cartridges and associated firearms used in violent crime in the selection of countries and territories under review. ●

Annexe 2:

Qualitative research with inmates serving firearm-related sentences

Interviews with inmates undertaken for this study aimed to generate first-hand qualitative information on firearms traffickers, end users, sources, and trafficking schemes. The project coordinated interviews with 77 prison inmates serving firearm-related sentences in Belize (17 interviews), Suriname (30), and Trinidad and Tobago (30). The inmates were incarcerated in the Belize Central Prison (Belize); the Penitentiary Duisburg, the Central Penitentiary, and the House of Remand (Suriname); and the Port of Spain Prison, the Maximum Security Prison, and the Carrera Prison (Trinidad and Tobago).

Local research teams selected the prisons in each country, and the Small Arms Survey and CARICOM IMPACS formally requested permission from the relevant authorities to access the facilities. A common ‘semi-structured’ questionnaire and a list of ‘ethical considerations for prison interviews’ were prepared and shared with the participating authorities. The research teams used these common protocols when conducting all three case studies. The teams worked from the prisons’ list of inmates to select participants serving sentences for firearm-related offences in each country. While the initial aim was to complete 30 interviews per country, a limited number of inmates met the study criteria—primarily, aged 18 and above and incarcerated due to firearm-related charges—in Belize, which explains why only 17 interviews could be completed there. Interviews were recorded and transcribed using anonymous coding (no names were recorded), before being submitted to the Survey for analysis via a secure server. The transcripts from Suriname were translated from Dutch, Sranan, and other dialects into English.

The respondents were exclusively male, predominantly between the ages of 20 and 50 (n=64). Most of them were married—either formally (n=8) or by common law (n=41)—and only a minority were single (n=26). The highest level of educational attainment was generally low, mostly primary (n=46) or secondary (n=22) education. Respondents mainly reported employment in unskilled (n=40) or semi-skilled (n=16) sectors, while several (n=12) interviewees were unemployed. All interviews were undertaken between February and May 2022.

The semi-structured questionnaire used in the study comprised two main sections: one on firearm possession, and the other on firearms trafficking. The Survey elaborated a first draft of the questionnaire, with the aim of filling knowledge gaps related to the motivations for and the dynamics of illicit firearm possession and trafficking, and to triangulate the data received from the other sources used in this Report. The questionnaire design phase also considered existing literature on prison firearm surveys, including CELIV and National University of Tres de Febrero (2020); Hales, Lewis, and Silverstone (2006); and Wells, Katz, and Kim (2010). The draft questionnaire was discussed and reviewed in detail with the three local research teams, who also tested it with one to two respondents in each location before its finalization. During the fieldwork phase, almost all the interviewees (n=70) answered the questions in the possession section (the first section of the questionnaire). Fewer respondents (n=27) answered the questions in the trafficking section. This is because 46 interviewees reported not having been involved in trafficking activities, while four respondents responded to the trafficking questions based on their indirect knowledge of this illicit activity. ●

Endnotes

- 1 This figure includes the following countries and territories: Anguilla, Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Bermuda, the British Virgin Islands, the Cayman Islands, Curaçao, Dominica, Dominican Republic, French Guiana, Grenada, Guadeloupe, Guyana, Haiti, Jamaica, Martinique, Montserrat, Puerto Rico, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, and the US Virgin Islands.
- 2 The Bahamas, Belize, Jamaica, St Kitts and Nevis, St Vincent and the Grenadines, and Trinidad and Tobago.
- 3 Grenada's rate increased by 10 per cent; Guyana's by 8 per cent; and Haiti's by 27 per cent. For Haiti, the homicide data for 2020 is based on the UN Integrated Office in Haiti data given in UNSC (2021) and the population data is based on UN (n.d.b). It is worth noting that Wisler et al. (2021, p. 20) indicate that the figures for Haiti are likely underestimated.
- 4 Author written correspondence with the Jamaica Constabulary Force, 14 July 2022. The figure was about 76 per cent for the period 2010–18 (CAPRI, 2020, p. 28).
- 5 RBPF (2022, p. 5); TTPS (2021c; n.d.c); Wisler et al. (2021, p. 20); written correspondence with the Bahamas Ministry of National Security.
- 6 This figure is for 2020 and is based on Global Violent Deaths data (Small Arms Survey, n.d.b) and data from author written correspondence with Ms Jasmin Louisy, research officer, focal point SALW-Q, Guyana Ministry of Home Affairs, 22 July 2022. In Guyana homicides are more likely to be committed with knives or blunt objects.
- 7 In Jamaica the use of firearms in armed robberies is second only to that of sharp objects such as knives, at 61 and 46 per cent, respectively, according to the 2019 Jamaica national victimization survey. Victims of armed robberies do not systematically report the crime to the police, so these figures are likely to be underestimated (Statistical Institute of Jamaica, 2020, pp. 48–49).
- 8 See Sutton and Ruprah (2017, p. 92); UNODC (2019b, p. 44); UNODC and World Bank (2007); and Wallace (2022, p. 4). According to the CARPHA (2017, p. 37), assault was the leading cause of death among men aged 15–24 for the period 2000–16. Similar results were found for men aged 30–44, which can sometimes even account for most homicide victims, such as in Jamaica in 2017 (UNODC, 2019b, p. 12) and Guyana in 2020–21. However, in terms of homicides committed with a firearm, in Guyana males who were both younger and older than 30 years were victims in similar proportions (data from author written correspondence

- with Ms Jasmin Louisy, research officer, focal point SALW-Q, Guyana Ministry of Home Affairs, 22 July 2022).
- 9 See St. Bernard (2022, p. 63); Baird, Bishop, and Kerrigan (2021, p. 2); Gentle-Genitty et al. (2017, p. 746); and UNODC (2019a, p. 27).
 - 10 The Belize Policy Proposal 2012–22 had highlighted previously the relationship among firearms, youth, and inequality in urban Belize. As a youth in a detention centre stated: ‘Money controls Belize. Vanity is everything; money is power; it determines your self-value and respect in Belize. So, you need to pick up a gun to get what you want because no one will provide you with it or with the opportunities to get it, so you just have to go get what you need. Guns equal to power on the streets. Without guns how will a youth survive?’ (SISCA and Interpeace, 2013, p. 27).
 - 11 See Rampersad (2022); Linton (2021); and UNICEF (2021).
 - 12 Author written correspondence with the Jamaica Constabulary Force, 14 July 2022.
 - 13 A state of public emergency is usually temporary (14 days in Jamaica, for example) and for a delimited area (for example, a specific parish). It gives security forces additional leverage when carrying out searches and arresting and detaining crime suspects, and ‘limit[s] the right of detained persons to due process’ (JIS, 2022; Loop Caribbean News, 2022). Recent examples were states of emergency in Belize City, Belize, in 2020 and 2021 (Amandala, 2020; 2021) and Kingston, Jamaica, in 2019 and 2020 (Jamaica Gleaner, 2020). The recurrent use of this measure has sparked several controversies, particularly with regard to human rights abuses (Jamaica Gleaner, 2021).
 - 14 According to the American Barometer, three out of five Haitians do not feel safe in their neighbourhoods, although only one in five report gang presence there (LAPOP, 2020, pp. 23–24).
 - 15 In Belize, for example, South Side, Belize City is the area most affected by gang violence involving gun violence (Young, 2019, p. 7). Haiti’s Ouest Department, which includes Port-au-Prince, is the most prone to gang violence (Wisler et al., 2021, pp. 16–17; UN, 2022a).
 - 16 This is the case in the Bahamas and Guyana, for instance. Interviews with officials from the Ministry of National Security of the Bahamas, 19 July 2022, and from the Ministry of Home Affairs of Guyana, 12 July 2022, by video conference.
 - 17 The Government of the Bahamas indicated ‘0’ for the number of registered handguns (Bahamas, 2022).
 - 18 In 2017, Prime Minister Gaston Browne of Antigua and Barbuda responded to media reports about a plan to begin producing Italian-designed firearms there, which would be the first in the region. He stated that the firearms would be produced for export only, but the plan appears to have been abandoned (Parker, 2017).
 - 19 See UN Security Council Resolutions 841 and 2645 (UNSC, 1993; 2022b).
 - 20 There may be similar implications for street-level law enforcement and medical practitioners related to sudden surges in illicit firearm flows and diversion, which may lead to comparable surges in trafficking, crime, and violence. In Haiti, for instance, authorized ammunition shipments registered by the UN and national police were found to statistically influence the price of ammunition on the illicit civilian market during the period 2004–12 (McDougal et al., 2014).
 - 21 Interviewers in Jamaica expressed concern about the section on the ‘possession of firearms’. In response to their resistance ‘it was decided that the question in Section D which asked how many persons in their community they “know” have guns would not be fielded’ (JNCVS, 2020, p. 10).

- 22 Licensing and surveys confirm a gender gap in gun ownership. They typically show that women account for a smaller proportion of gun owners than men, and that women are not as aware—or perhaps not as willing to acknowledge—the presence of firearms in their household or community (Dönges and Karp, 2014). In another dimension of variation in gun ownership, country surveys consistently reveal that rural households are more likely to report firearm ownership than urban respondents. According to the most comprehensive study on the issue—the International Crime Victimization Survey, a series of surveys conducted between 1989 and 2005—total firearm ownership in 30 countries averaged between 12.4 and 18.7 per cent of all households countrywide, depending on the survey. In urban areas, firearm ownership for the same 30 countries was found to average just seven per cent of households (van Dijk et al., 2007, p. 279).
- 23 Population rates are drawn from the UN’s *World Population Prospects 2022* (UN, 2022c). Household sizes are drawn from the UN’s Household Size and Composition database (UN, 2022b).
- 24 In Haiti, a survey asked about total numbers of firearms per owning household and found an average response of 2.7 guns per owning household (Kolbe and Muggah, 2011, p. 247).
- 25 This analysis is based on Carroll, Brennen, and Hutcheson (2011, p. 10) and Hutcheson et al. (2011).
- 26 Officials in Bermuda, an associate member of CARICOM, criticized previous Survey estimates, which seemed higher than the conventional wisdom (Burgess, 2018). Other commentators interpreted this criticism as a denial of visible gun proliferation, to avoid discouraging tourism (Bermudiana, 2018). The same concern affects perceptions of firearms data elsewhere in the region, such as Barbados, Jamaica, and Trinidad and Tobago (Smith, 2017; TTPS, 2021b; Vanci, 2016).
- 27 This is consistent with data on firearms seized by authorities in the British Virgin Islands from January 2021 to February 2022. Handguns accounted for 24 of the 31 seized firearms (77 per cent), most of which were pistols. Rifles comprised the rest of the seized firearms (23 per cent). No shotguns, sub-machine guns, or homemade firearms are listed in the data (British Virgin Islands, 2022).
- 28 In Belize and Trinidad and Tobago, 75 per cent and 63 per cent, respectively, of respondents indicated that they had acquired handguns at some point, as compared to rifles (12 per cent of inmates in Belize and 19 per cent in Trinidad and Tobago). Inmates in Suriname also identified pistols more frequently than other firearms but at a much lower rate; only 47 per cent of respondents indicated that they had acquired pistols (Small Arms Survey, 2022b).
- 29 See US ATF (2017a; 2017b; 2018a; 2018b; 2019a; 2019b; 2020a; 2020b; 2021b; 2021c). It should be noted that not all governments submit data on all seized firearms to the ATF, and therefore the percentage of seized firearms traced to the United States may be overrepresented in the trace data published by the ATF.
- 30 Data on firearms seized by authorities in Antigua and Barbuda and the British Virgin Islands from January 2021 to February 2022 is largely consistent with the data in Figure 8. The top four makes of handguns seized in the British Virgin Islands, in descending order, were Glock, Ruger, Beretta, and Smith & Wesson, with Glock pistols accounting for 14 of the 24 handguns (58 per cent) seized during this time period. Data on makes of firearms seized in Antigua and Barbuda is not entirely comparable to the other data sets because it is not disaggregated by firearm type. Nonetheless, four of the top six makes were Beretta, Smith & Wesson, Glock,

- and Taurus. Written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022, and the Royal Virgin Islands Police Force, 27 February 2022.
- 31 Note that the data may not consistently identify semi-automatic firearms converted into automatic weapons. The quantity of seized automatic firearms may therefore be higher than the quantities listed here.
- 32 The two firearms were a Rock River Arms rifle with ‘semi and fully automatic [sic] modes’ and a Tanfoglio automatic pistol (Belize National Forensic Science Service, 2021).
- 33 See, for example, US DOJ (2018) and Armament Research Services (2019).
- 34 Antigua and Barbudan authorities seized just one blank-firing gun (identified as a starter pistol) from January 2018 to May 2022 (written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022). Note that the blank-firing guns are not reflected in the data in Table 10 because the table draws on a different data set that excludes blank-firing guns and other weapons that are not firearms.
- 35 Written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022, the Royal Bahamas Police Force, 31 July 2022, and the Royal Turks and Caicos Islands Police Force, 21 August 2022; interview with Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022; and meeting with a representative of the Direction de la Coopération Internationale de Sécurité (DCIS), 21 July 2022.
- 36 Written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022.
- 37 See, for example, Mistler-Ferguson (2022) and USDC District of Massachusetts (2022, p. 3).
- 38 See, for example, Parsons and Vargas (2018).
- 39 Interview with US government official, 3 June 2022. Recent media accounts of trafficking in the Caribbean include similar claims by US officials. In an August 2022 interview with *Stars and Stripes*, former ATF field office director Carlos A. Canino described the United States as ‘the biggest gun store in the Western Hemisphere—by volume, by manufacturing, by culture’ (Charles and Weaver, 2022).
- 40 See Ward (2022); interview with Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022; and written correspondence with the Royal Bahamas Police Force, 31 July 2022, and the Barbados Police Service, 30 August 2022. Bahamian officials elaborated on trafficking from the United States in an interview with the Survey: ‘Trafficking to the Bahamas is a combination of illicit shipments from the US, South America, and other Caribbean states and this is not necessarily a new phenomenon. Improvement in tracing and detection has allowed for the collection of more accurate data. The data also suggests that while firearms may originate or be manufactured in other countries/territories, they are all transited through the United States before arriving in the Bahamas. The data also suggests that the incidences of firearms being trafficked from other jurisdictions other than the United States is negligible, as evidenced from tracing’ (phone interview with officials from the Ministry of National Security of the Commonwealth of the Bahamas, 19 July 2022). Similarly, a representative of the DCIS told the Survey that almost all of the illicit firearms and ammunition in Haiti come from the United States (meeting with a representative of the DCIS, 21 July 2022).
- 41 Interview with Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022.
- 42 Written correspondence with the Royal Bahamas Police Force, 31 July 2022.

- 43 Meeting with a representative of the DCIS, 21 July 2022. Written correspondence with the Jamaica Constabulary Force, 14 July 2022, and the Royal Police Force of Antigua and Barbuda, 6 July 2022.
- 44 These firearms are grouped under the heading ‘traced to a foreign country’. As defined by the ATF, this subcategory comprises firearms that were ‘transferred from a U.S. federal firearms licensee to a foreign government, law enforcement, dealer or entity’ (US ATF, 2021b).
- 45 See US ATF (2018a; 2018b; 2019a; 2019b; 2020a; 2020b; 2021b; 2021c).
- 46 Interview with an official from the BVI, 6 July 2022.
- 47 Written correspondence with the Belize Police Department, 25 July 2022.
- 48 Roughly 25 per cent of the firearms seized by Belizean authorities and submitted for tracing to the ATF were successfully traced to a retailer purchaser in the United States as compared to 95 per cent for the Bahamas and 48 per cent for Jamaica. The figures for Trinidad and Tobago (30 per cent) and the Dominican Republic (23 per cent) are closer to Belize. See US ATF (2018b; 2019b; 2020b; 2021c).
- 49 In this context, ‘source country’ refers to countries from which firearms (1) originate; (2) are illicitly trans-shipped; or (3) are re-transferred. Most data sources available to the Survey do not differentiate between these three categories.
- 50 These states are Anguilla, British Virgin Islands, the Cayman Islands, Dominica, Guyana, Haiti, Jamaica, Suriname, and Trinidad and Tobago.
- 51 Meetings with Ms Jasmin Louisy, research officer, focal point SALW-Q, Guyana Ministry of Home Affairs; Ms Leandra Garraway, statistician, Guyana Police Force, 12 July 2022; and a representative of the DCIS, 21 July 2022. Interviews with an official from the BVI, 6 July 2022, and Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022. Written correspondence with the Jamaica Constabulary Force, 14 July 2022; the Korps Politie Suriname, 20 July 2022; the Royal Grenada Police Force, 22 July 2022; the Royal Police Force of Antigua and Barbuda, 6 July 2022; the Royal St Christopher and Nevis Police Force, 26 July 2022; and the Royal Turks and Caicos Islands Police Force, 21 August 2022.
- 52 These findings are consistent with statements made by government officials interviewed by the Survey. According to one US official, ‘[t]hese three modalities are the most common, although the order of importance varies from year to year’ (phone interview with US government official, 3 June 2022).
- 53 According to Bahamian authorities, 90 per cent of firearms recovered in the Bahamas were purchased in the state of Florida. Law enforcement officials from Antigua and Barbuda and Jamaica also identified Florida as a significant source of illicit firearms (written correspondence with the Jamaica Constabulary Force, 14 July 2022; the Royal Bahamas Police Force, 31 July 2022; and the Royal Police Force of Antigua and Barbuda, 6 July 2022).
- 54 See Schroeder (2016, p. 8).
- 55 A US official interviewed by the Survey noted that ‘smuggling via mail/fast parcel is more common than trafficking via commercial airliners, but there are cases, including recent cases, of smuggling via commercial airliners’ (telephone interview with US official, 3 June 2022).
- 56 Although the criminal use of hand-loaded ammunition appears to be limited in the Caribbean, such ammunition has been found at crime scenes (see Section 5 for details on sources of illicit ammunition).
- 57 See USAO Northern District of Georgia (2022) and USDC Northern District of Georgia (2020).

- 58 See also Gillead (2017).
- 59 Interview with Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022; meeting with a representative of the DCIS, 21 July 2022; and written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022.
- 60 Interview with officials from the Customs & Excise Department of Belize, 6 July 2022.
- 61 Written correspondence with the Korps Politie Suriname, 20 July 2022; the Royal Bahamas Police Force, 31 July 2022; the Royal Grenada Police Force, 22 July 2022; and the Royal St Christopher and Nevis Police Force, 26 July 2022.
- 62 Meeting with a representative of the DCIS, 21 July 2022.
- 63 Interview with Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022. Barbadian authorities also noted that firearms trafficked through postal and fast parcel services have a very short time-to-crime: 'We have had time to crimes as short as two (2) days' (email correspondence with the Barbados Police Service, 30 August 2022).
- 64 Email correspondence with the Royal St Christopher and Nevis Police Force, 23 September 2022.
- 65 Interview with officials from the Customs & Excise Department of Belize, 6 July 2022. Meeting with Ms Jasmin Louisy, research officer, focal point SALW-Q, Guyana Ministry of Home Affairs, and Ms Leandra Garraway, statistician, Guyana Police Force, 12 July 2022.
- 66 Meeting with Ms Jasmin Louisy, research officer, focal point SALW-Q, Guyana Ministry of Home Affairs, and Ms Leandra Garraway, statistician, Guyana Police Force, 12 July 2022.
- 67 According to Grenadian authorities, traffickers sometimes use children to transport illegal firearms (written correspondence with the Royal Grenada Police Force, 22 July 2022).
- 68 Written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022, and the Royal Bahamas Police Force, 31 July 2022.
- 69 Written correspondence with the Jamaica Constabulary Force, 14 July 2022.
- 70 In the criminal complaint from this case, there is a discrepancy between the itemized list of firearms found in the van (63) and the total number of seized firearms (64) referenced earlier in the document. See USDC Middle District of Florida (2011, pp. 2–3).
- 71 Authorities arrested the trafficker and seized the firearms before they were shipped to Jamaica.
- 72 Interview with officials from the Customs & Excise Department of Belize, 6 July 2022.
- 73 Written correspondence with the Royal Bahamas Police Force, 31 July 2022; the Royal Grenada Police Force, 22 July 2022; and the Trinidad and Tobago Police Service, 25 July 2022. Interview with Graham Husbands, senior superintendent of police/firearms examiner of the Barbados Police Service, 27 June 2022.
- 74 See USDC Southern District of Florida (2011, p. 3).
- 75 These items are variously referred to as 'receiver blanks', 'unfinished receivers', and '80 per cent receivers'.
- 76 See US ATF (2022, p. 39).
- 77 Written correspondence with a former law enforcement official, 26 May 2022.
- 78 P80, or Polymer80, is a producer of firearms, firearms components, and parts kits. Note that not all P80 pistols are unserialized.
- 79 Data provided to the Survey by the French Institut de Recherche Criminelle de la Gendarmerie Nationale (IRCGN), 21 June 2022. There is some ambiguity in the data regarding the seizure year. The data does not include a seizure date per se, but rather a procedure number for

each weapon, which usually includes the year of the procedure (such as 2022/28/32). The year specified in the procedure number is very often the year of seizure, but there may be some exceptions. The IRCGN provided a hypothetical example of a pistol found in 2020 but linked to a robbery in 2018. The procedure number for that pistol may reflect the year of the robbery rather than the year in which the pistol was found.

- 80 As previously noted, the Survey sent a questionnaire on holdings and seizures of illicit types of firearms to all CARICOM member states and associate members.
- 81 Interview with officials from the Customs & Excise Department of Belize, 6 July 2022. Meeting with a representative of the DCIS, 21 July 2022.
- 82 As noted previously, not all P80 firearms are unserialized.
- 83 See TTPS (n.d.a). Another example is St Lucia, where ‘semi-automatic firearms are readily available in the criminal milieu and therefore, the syndicates have no need to resort to alternatives such as ghost guns’, according to the UNODC. ‘[R]oughly 90% of the firearms seized [in St Lucia] are brand new weapons and in the last 9 years no ghost guns have been seized’ (written correspondence with a UNODC official, 28 June 2022).
- 84 Telephone interview with a US government official, 3 June 2022.
- 85 An even larger trafficking network servicing clients in Mexico was dismantled by US authorities four years earlier. Participants in the network ordered large quantities of firearm parts online and illegally shipped them across the border to Nuevo Laredo, where they were assembled into functional firearms for two drug cartels: the Cartel Del Noreste and the *Cártel Jalisco Nueva Generación*. The network also used the trafficked parts to repair damaged firearms and convert semi-automatic guns into fully automatic weapons (USDC Eastern District of Arkansas, 2022, p. 2; US DOJ, 2022a). The operation was so large that ‘cartel firearm availability was impaired’ by the arrest of the traffickers, according to the US Justice Department (US DOJ, 2021a).
- 86 Written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022, and the Royal Grenada Police Force, 22 July 2022. See also NationNews (2021) and Winker (2013).
- 87 Written correspondence with the Royal Police Force of Antigua and Barbuda, 6 July 2022.
- 88 Written correspondence with Gregory Williams, head of the forensics unit, Royal Police Force of Antigua and Barbuda, 6 September 2022.
- 89 Telephone interview with a US government official, 3 June 2022.
- 90 An example is the use of FGC-9 rifles by well-established armed groups in Myanmar, including during battles with government forces (see Hanrahan, 2021).
- 91 A US government official noted that 3D-printed firearms ‘are not currently a significant issue in the Caribbean’; however, they also raised the possibility that ‘some 3D-printed firearms or components have been seized and misidentified as factory-built firearms’ (telephone interview with a US government official, 3 June 2022).
- 92 See, for example, US DOJ (2021a).
- 93 Telephone interview with a US government official, 3 June 2022.
- 94 US government officials indicated that the proliferation of conversion devices in the Caribbean appears to be quite limited. ‘We are only aware of seizures of conversion devices in Trinidad and Tobago’, one official told the Survey (telephone interview with a US government official, 3 June 2022). See also *St. Lucia Times* (2022).
- 95 Similarly, officials interviewed by the Survey indicated that they were not aware of any trafficking of conversion devices in Belize or Haiti (interview with officials from the Customs &

- Excise Department of Belize, 6 July 2022, and meeting with a representative of the DCIS, 21 July 2022).
- 96 In 2022, Shervon Matthieu of the Royal Saint Lucian Police Force explicitly referenced the threat posed by selector switches for Glock pistols, describing them as ‘a point of concern for us’ (*St. Lucia Times*, 2022).
- 97 The ‘crime evidence’ category includes incidents where a weapon was discharged during a robbery or the malicious destruction of property with aggravation. Correspondence with Jamaican Ministry of National Security (MNS) official, 6 September 2022.
- 98 In this section, ‘time to crime’ refers to the time elapsed between the production of the ammunition (identified primarily through the year marking on some ammunition headstamps) and its use in a criminal incident.
- 99 In this section, calibre designations are based on the terminology used by the Permanent International Commission for the Proof of Small Arms (CIP) (CIP, n.d.).
- 100 This calibre is also uncommon in mainland France, based on 2015–16 data (Florquin and Desmarais, 2018, p. 191).
- 101 The top calibre—representing 86 per cent of cartridges retrieved at crime scenes in the Dominican Republic in 2017—was found to be 9 mm Luger, while handgun calibres combined accounted for 96 per cent of that study’s data set (UNLIREC, n.d., p. 46).
- 102 See Florquin and King (2018, pp. 9–29).
- 103 Six of the seven cases occurred between 2016 and 2018, with only one case in 2020.
- 104 Written correspondence with forensic expert from the IRCGN, 21 June 2022.
- 105 Written correspondence with Jamaican ballistics specialist, 30 June 2022.
- 106 Written correspondence with the Royal Grenada Police Force, 22 July 2022.
- 107 Meeting with a representative of the DCIS, 21 July 2022.
- 108 The survey found six of these cartridges in Barbados, six in Guadeloupe, four in Turks and Caicos, two in the Cayman Islands, and two in the British Virgin Islands.
- 109 Tulammo and Wolf 7.62 × 39 mm cartridges are relatively common in Jamaica. Written correspondence with Jamaica MNS official, 30 June 2022.
- 110 Interview with Barbados Police Service officials, 28 June 2022.
- 111 Written correspondence with forensic expert from the IRCGN, 21 June 2022.
- 112 It is noteworthy that, apart from Italy, these countries have all exported small arms ammunition to the CARICOM member states and associate members under review between 2011 and 2020 (see Box 5).
- 113 A previous study on ammunition retrieved at crime scenes in the Dominican Republic in 2017 found that the United States, Mexico, and Brazil were the main manufacturers of these cartridges, which combined account for at least 50 per cent of the data set (UNLIREC, n.d., p. 46).
- 114 Mexico exports some ammunition to Belize. Exports from Mexico represent 8.5 per cent of all reported small arms ammunition exports to the Caribbean nation between 2011 and 2020 (UN, n.d.b).
- 115 Aguila also stood out as the main manufacturer of 9 mm Luger and 5.56 × 45 mm ammunition retrieved at crime scenes in the Dominican Republic in 2017 (UNLIREC, n.d., p. 46).
- 116 Headstamps refer to markings placed by the producer on the base of the cartridge and typically consist of alphanumeric codes referring to the ammunition manufacturer, calibre, and/or year of production of the ammunition (Florquin and Leff, 2014, p. 186).

- 117 A 2014 Small Arms Survey meta-analysis of ammunition documented in seven countries in conflict in Africa and the Middle East found that 93 per cent of 560 documented headstamps contained a year of manufacture (Florquin and Leff, 2014, table 6.2, p. 188).
- 118 Interview with Barbados Police Service officials, 28 June 2022.
- 119 Interview with Barbados Police Service officials, 28 June 2022.
- 120 Interview with Barbados Police Service officials, 28 June 2022.
- 121 Interview with Barbados Police Service officials, 28 June 2022.
- 122 Personal ammunition ownership is highly restricted in Barbados to only 50 handgun cartridges per person. Before buying more ammunition, a firearm owner must show that they used their previous allowance by submitting a report on their use of the cartridges, which is examined and recorded by the police. Ownership of shotgun cartridges is less restricted at roughly 250 per person. The only exception is shooting ranges or clubs, which can buy and issue ammunition independently. While this approach enables shooting sports to be carried out exclusively at ranges, it also creates control issues. Interview with Barbados Police Service officials, 28 June 2022.
- 123 Interview with Barbados Police Service officials, 28 June 2022. According to an international firearms expert, there have been cases elsewhere in Latin America where shooting ranges have reloaded spent cartridges to replace others that were sold illegally and to ensure that their records are in order (correspondence with international firearms expert, 7 September 2022).
- 124 Interview with CARICOM member state customs official, 6 July 2022.
- 125 Two cartridges (9 mm Luger and 40 Smith & Wesson calibres) bear Starline headstamps, and were recovered in homicide cases in Martinique and the British Virgin Islands, respectively. Three cartridges (9 mm Luger) were produced by Jagemann and were collected in three different cases of attempted homicide, homicide, and assault in Martinique. Finally, 16 Hornady cartridges in 5 handgun calibres—40 Smith & Wesson (5 cartridges), 45 Automatic (4), 380 Automatic (3), 9 mm Luger (3), and 357 SIGg (1)—were used in violent crimes in Barbados (2 cartridges), Belize (2), Guadeloupe (4), Turks and Caicos (6), and the British Virgin Islands (1). An additional 19 Hornady, four Starline, and one USAC cartridges were also documented in the separate Jamaica data set (Jamaica MNS, 2022).
- 126 Jaitman and Torre (2017) define violent crime as homicides, assaults, robberies, and rapes (p. 19).
- 127 The authors did not share the lower estimates in the report.
- 128 The Jamaican Injury Surveillance System collects data on patients treated at accident and emergency departments of government-run hospitals. For violence-related injuries, the data includes details on the circumstances of the injury; the demographic profile of the victims (such as their age and gender); the relationship of the perpetrator to the victim; the location of the incident (home, work, public place); the mechanism of injury (gun, strangulation, blunt object, stabbing); and whether the use of alcohol or drugs was involved (VPA, 2017, pp. 4–5).
- 129 It is worth noting that suicide is not included in violence-related injuries, but is categorized separately (VPA, 2017, p. 4).
- 130 Jamaican dollar (JMD) values in this paragraph have been converted to USD based on the exchange rate in 2016 from Bank of Jamaica (n.d.), which was 125.14 JMD for 1 USD.
- 131 Similar cost differences between firearm injuries and bladed weapons were found in Small Arms Survey research in Brazil and Colombia in 2005 (Florquin, 2006, p. 204).

- 132 In 2019, of the 95, 48, and 1,339 victims of homicides in the Bahamas, Barbados, and Jamaica, respectively, 71, 30, and 1,119 were shot.
- 133 The data was collected between June and September 2022.
- 134 In accordance with WHO's International Classification of Diseases, in its 10th revision, this includes blunt objects, bodily force, being pushed, and chemical and thermal burns (codes X96-98, Y00-04, and Y08-09). The codes for firearm injuries are X93-95 and X99 for assault by sharp object (WHO, 2016).
- 135 The patient notes in Jamaica were not selected randomly through the use of a random number generator, since multiple patient lists had to be developed due to a lack of available notes.
- 136 In the case of Jamaica, costs for 2016 were obtained from the University Hospital of the West Indies and then adjusted to 2019 prices, using the annual rate of health inflation as determined by the Statistical Institute of Jamaica (n.d.a).
- 137 The exchange rate from the Bank of Jamaica (n.d.) was used to convert Jamaican dollars, while Bahamian and Barbadian dollars both have a fixed parity with the US dollar of 1:1 and 1:2, respectively. See UNCTAD (n.d.).
- 138 Only a few patients were minors (about three per cent of the sample) or 45 years old or above (17 per cent of the sample). For Jamaica, the age of two patients was unknown.
- 139 In Jamaica, the gender of one of the patients was unspecified.
- 140 It is worth noting that this information was often unavailable in Jamaica for all mechanisms of injury.
- 141 For Jamaica, VPA (2017) estimated the cost of a medico-legal investigation at JMD 300,000 and the ICU daily rate at JMD 100,000 (this would represent more than USD 2,300 and 780, respectively, in 2019, using the health sector inflation rate from Statistical Institute of Jamaica (n.d.a)). They also estimated dressings and disposables to account for 13 per cent of the cost of all violence-related injuries (p. 21).
- 142 See CEPAL (2016).
- 143 GDP data from World Bank (n.d.b).
- 144 The 2019–20 fiscal year for Jamaica is from 1 April 2019 to 31 March 2020—the fiscal period with the most months in 2019 and the least overlap with the Covid-19 pandemic period.
- 145 This estimate also includes direct medical costs for victims of fatal shootings who died while being treated in the hospital (about USD 5,318) and for patients that only underwent medico-legal investigations (USD 2,356). The data for medico-legal investigations was retrieved from Ward et al. (n.d.) and inflated to 2019 health prices. According to VPA (2017), a medico-legal investigation is performed on all deaths from violent incidents (p. 37). Assuming that five per cent of the fatally wounded victims received treatment at the hospitals before their death, the cost at the national level would be USD 7 million. This percentage was extrapolated from the proportion of gunshot wounds victims that died while being treated at the nine largest hospitals (written correspondence and interview with health experts, 18 and 25 November 2022).
- 146 According to the Bahamas Department of Statistics (2019), the median household income was BSD 33,352—which is the same amount in USD—in 2019 (p. 20).
- 147 The USD is expressed in purchasing power parity (based on the year 2017)—meaning that it takes into account the cost of living.
- 148 See Desmarais et al. (2022) and LeBrun et al. (2022).
- 149 Subregional groupings are based on WRI (n.d.).

- 150 For the three French territories, the 2020 peak can potentially be explained by the backlog of cases processed that year (written correspondence with IRCGN officials, 27 June 2022). For CARICOM member states and associate members, the year corresponds to the year of the incident rather than its entry into the ballistic system, so the peak reflects the real figures for that year.
- 151 Regarding the aggregated data on cartridges recorded in the Jamaican national ballistics database (presented separately in Section 5 of this Report), officials explained that, in most cases, only one cartridge is selected for entry into the system.
- 152 Interview with Barbados Police Service officials, 1 June 2021.
- 153 Interview with two regional law enforcement experts, 12 April 2022.
- 154 Interview with Barbados Police Service officials, 1 June 2021.

References

- Agard, Joeleita, Simon Anderson, Georgiana Gordon-Strachan, Madeleine Joseph, Reginald King, Natasha Sobers, Jason Toppin, and Hugh Wong. 2022. *The Costs of Firearm and Non-firearm Violence: A Three Country Case Study*. Unpublished background paper. Bridgetown: George Alleyne Chronic Disease Research Centre. September.
- Ahmed, Azam. 2019. 'How American Gun Laws Are Fueling Jamaica's Homicide Crisis.' *New York Times*. 25 August.
- Amandala. 2020. 'State of Emergency Declared for Southside Belize City.' 11 July.
- . 2021. 'SOE Declared in Southside Belize City.' 21 August.
- Armament Research Services. 2019. 'Weapons Used by Sinaloa Cartel Sicarios in Culiacán, Mexico.' The Hoplite (ARES company blog). 18 October.
- ATT (Arms Trade Treaty). 2022. 'States Parties to the ATT.' 26 September.
- Bahamas. 2022. 'The Commonwealth of The Bahamas National Small Arms Questionnaire 2021.' Received by the Small Arms Survey, 13 April 2022.
- Bahamas Department of Statistics. 2019. *Labour Force Survey Report*. May.
- Bahamas Ministry of Public Service. n.d. 'Applying for Pension and Gratuity Awards (Retiring from the Public Service).'
- Baird, Adam, Matthew Bishop, and Dylan Kerrigan. 2021. "'Breaking Bad"? Gangs, Masculinities, and Murder in Trinidad.' *International Feminist Journal of Politics*, Vol. 24, No. 4. 15 June.
- Bank of Jamaica. n.d. 'Average Exchange Rates.'
- Barbados. 2019. *Estimates 2018–2019: Revenue and Expenditure*.
- . 2022. 'Barbados National Small Arms Questionnaire 2021.' Received by the Small Arms Survey, 1 February 2022.
- Barbados National Insurance Scheme. n.d. 'Old Age Contributory Benefits.'
- BCO (Belize Crime Observatory). 2020. 'Major Crime Stats and Murder Analysis 2019.' 9 January.
- . 2021. *BCO Crime Report*. National Repository of Crime Data and Information. 6 January.
- . 2022. 'Reported Crimes Comparative Statistics: January–December (2020–2021).'
- and Infosegura. 2022. *Belize: Analysis of the State of Citizen Security*.
- Belize National Forensic Science Service. 2021. 'Data on Firearms Seized from 2016 through 2020.' Received by the Small Arms Survey, 24 September 2021.
- Berman, Eric and Kerry Maze. 2016. *Regional Organizations and the UN Programme of Action on Small Arms*, 2nd edn. Handbook. Geneva: Small Arms Survey. August.

- Bermudiana. 2018. 'Shootings Continue to Rise in Bermuda as They Try to Paint the Island as Being a "Safe" Destination to Travel To!!!!!!' Blog. 23 September.
- Boodram, Kim. 2022. 'More Gun Attacks on Women.' *Daily Express* (Trinidad). 30 July.
- Botelho, Jessica. 2022. 'Providence Police Announce Arrests of 2 Suspects Connected to Gun Trafficking.' *WJAR*. 11 March.
- British Virgin Islands. 2022. 'Firearms Recovered from January 2021–Present-1.'
- Burgess, Don. 2018. 'Local Officials: Report Is Inaccurate, Not Credible.' *Bernews*. 17 September.
- Butchart, Alexander, et al. 2008. *Manual for Estimating the Economic Costs of Injuries due to Interpersonal and Self-directed Violence*. World Health Organization and US Centers for Disease Control and Prevention.
- CAPRI (Caribbean Policy Research Institute). 2020. *Guns Out: The Splintering of Jamaica's Gangs*. Kingston: CAPRI. February.
- CARICOM (Caribbean Community). 2019. *Caribbean Summit on Youth Violence Prevention: Youth as Partners and Innovators*. Report. January.
- CARICOM IMPACS (Caribbean Community Implementation Agency for Crime and Security) and UNLIREC (United Nations Regional Centre for Peace, Disarmament and Development in Latin America and the Caribbean). 2020. Roadmap for Implementing the Caribbean Priority Actions on the Illicit Proliferation of Firearms and Ammunition across the Caribbean in a Sustainable Manner by 2030. UNLIREC.
- . 2022. 'Caricom Member States Deepening Cooperation to Fight Crime; Ministers of National Security Zero in on Firearms Trafficking.' 17 October.
- CARPHA (Caribbean Public Health Agency). 2017. *State of Public Health in the Caribbean Region 2014–2016—Building Resilience to Immediate and Increasing Threats: Vector-borne Diseases and Childhood Obesity*. Port of Spain: CARPHA.
- Carroll, Marie, Shane Brennan, and Stephanie Hutcheson. 2011. 'Guns in the Bahamas: (2) About the Weapon.' College of The Bahamas, Nassau. Draft paper for Violence Research Symposium, 3 November.
- CBC (Caribbean Broadcasting Corporation). 2022. 'Attorney-General's Press Conference—July 8, 2022.' YouTube. Posted 8 July.
- CDB (Caribbean Development Bank), CARICOM, and UN Women. n.d. 'Caribbean Women Count: Ending Violence against Women and Girls Data Hub.'
- CELIV (Center for Latin American Studies on Insecurity and Violence) and National University of Tres de Febrero. 2020. *Regional Comparative Report: Survey of Individuals Deprived of Liberty: Caribbean (2016–2019)—The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago*. Discussion Paper No. IDB-DP-800. September.
- Central Statistical Office of Saint Lucia. 2020. *Saint Lucia National Crime Victimization Survey (SLNCVS) 2020: Main Results*.
- . n.d. 'Crime Statistics by Type and Outcome, 2019.'
- CEPAL (Economic Commission for Latin America and the Caribbean). 2016. 'Situation of Unpaid Work and Gender in the Caribbean.' 7 March.
- Charles, Jacqueline and Jay Weaver. 2022. 'How US Gun Laws and South Florida Ports Help Fuel Haiti's Escalating Gang Violence.' *Stars and Stripes*. 19 August.
- Christopher, Peter. 2019. 'Four out of Five Murder Victims Die by Gun.' *Trinidad and Tobago Guardian*. 15 July.
- CIP (Permanent International Commission for the Proof of Small Arms). n.d. 'List of TDCC - Tab I - Rimless Cartridges.' Accessed December 2022.

- Cross, Jason. 2022. 'Dalling Cites Rift between Some Gun Dealers and FLA.' *Jamaica Observer*. 16 February.
- Desmarais, André, et al. 2022. 'Monitoring Illicit Ammunition through the Ballistic Datasets of Four European Countries.' *Forensic Science International*, Vol. 330, 111133.
- van Dijk, Jan, John van Kesteren, and Paul Smit. 2007. *Criminal Victimization in International Perspective: Key Findings from the 2004–2005 ICVS and EU ICS*. The Hague: Wetenschappelijk Onderzoek- en Documentatiecentrum.
- Dönges, Hannah and Aaron Karp. 2014. *Women and Gun Ownership*. Research Note No. 45. Geneva: Small Arms Survey. September.
- DPI (Department of Public Information, Guyana). 2022. '18.8 Percent Decrease in Serious Crimes – Top Cop'. 11 March.
- Duvvury, Nata, et al. 2019. *Guidance on Methods for Estimating Economic and Social Costs of Violence against Women and Girls in Low and Middle Income Contexts*. Galway: NUI Galway.
- Florquin, Nicolas. 2006. 'The Instrument Matters: Assessing the Costs of Small Arms Violence.' In Small Arms Survey. *Small Arms Survey 2006: Unfinished Business*. Oxford: Oxford University Press, pp. 188–213.
- and André Desmarais. 2018. 'Lethal Legacies: Illicit Firearms and Terrorism in France.' In Nils Duquet, ed. *Triggering Terror: Illicit Gun Markets and Firearms Acquisition of Terrorist Networks in Europe*. Brussels: Flemish Peace Institute, pp. 169–235.
- , Elodie Hainard, and Benjamin Jongleux, 2020. *Trade Update 2020: An Eye on Ammunition Transfers to Africa*. Report. Geneva: Small Arms Survey. December.
- and Benjamin King. 2018. *From Legal to Lethal: Converted Firearms in Europe*. Report. Geneva: Small Arms Survey. April.
- and Jonah Leff. 2014. 'Across Conflict Zones: Ammunition Profiling.' In Small Arms Survey. *Small Arms Survey 2014: Women and Guns*. Cambridge: Cambridge University Press, pp. 178–211.
- GA-CDRC (George Alleyne Chronic Disease Research Centre) and Small Arms Survey. 2022. Database Analysis for the Caribbean Firearms Study on the Pilot Hospital Research. Unpublished document.
- Gagliardi, Pete. 2019. *The 13 Critical Tasks, an Inside-out Approach to Solving More Gun Crime*. 3rd Edition. Côte-Saint-Luc: Ultra Electronics Forensic Technology.
- Gentle-Genitty, Carolyn, et al. 2017. 'Comprehensive Assessment of Youth Violence in Five Caribbean Countries: Gender and Age Differences.' *Journal of Human Behavior in the Social Environment*, Vol. 27, No. 7, pp. 745–59.
- Gillead, Corporal. 2017. 'A Discussion on Firearms Trends within Trinidad and Tobago.' *TTPS Quarterly*, No. 5. July–September.
- Gomez, Dolfi. 2020. 'Comercio de armas de fuego en República Dominicana: ¿Cuál es su impacto en la economía?' *elDinero*. 14 January.
- Gonzalez, Elizabeth. 2022. 'CoP: I Have Faith in GRACE against Gang Violence.' *Trinidad and Tobago Newsday*. 7 September.
- Greenberg, Andy. 2020. 'The FBI Says "Boogaloo" Extremists Bought 3D-Printed Machine Gun Parts.' *Wired*. 4 November.
- Grzybowski, Janis, Nicholas Marsh, and Matt Schroeder. 2012. 'Piece by Piece: Authorized Transfers of Parts and Accessories.' In Small Arms Survey. *Small Arms Survey 2012: Moving Targets*. Cambridge: Cambridge University Press, pp. 240–81.
- Guyana. 2022. 'Guyana National Firearms Questionnaire 2021.' Received by the Small Arms Survey, 4 May 2022.

- Hainard, Élodie and Olena Shumska. 2021. *The 2021 Small Arms Trade Transparency Barometer*. Briefing Paper. Geneva: Small Arms Survey. December.
- Haiti Libre. 2016. 'Haiti – Security: On [sic] Over 250,000 Illegal Weapons in Haiti, Only 15% Are Legalized.' 19 September.
- . 2019. 'Haiti—Flash: About 500,000 Illegal Firearms in the Country.' 13 November.
- . 2020. 'Haiti—Insecurity: More than 270,000 Weapons in the Hands of Haitians, the UN Concerned.' 9 February.
- Hales, Gavin, Chris Lewis, and Daniel Silverstone. 2006. *Gun Crime: The Market in and Use of Illegal Firearms*. Home Office Research Study No. 298. London: Home Office.
- Hanrahan, Jake. 2021. Twitter. 9 December.
- Harris, Paul A., et al. 2019. 'The REDCap Consortium: Building an International Community of Software Platform Partners.' *Journal of Biomedical Informatics*, Vol. 95, 103208.
- Hemenway, David. 2012. 'Costs of Firearm Violence: How You Measure Things Matters.' In Institute of Medicine and National Research Council, ed. *Social and Economic Costs of Violence: Workshop Summary*. Washington, DC: National Academies Press.
- Hoeffler, Anke. 2017. 'What Are the Costs of Violence?' *Politics, Philosophy & Economics*, Vol. 16, No. 4, pp. 422–45.
- Hutcheson, Stephanie, et al. 2011. 'Guns in the Bahamas: (1) Firearms in Bahamian Homes.' College of The Bahamas Violence Research Symposium, Nassau, 3 November.
- IEP (Institute for Economics and Peace). 2021. 'Economic Value of Peace 2021: Measuring the Global Economic Impact of Violence and Conflict.' Sydney: IEP. January.
- Jaitman, Laura and Iván Torre. 2017. 'A Systematic Approach to Measuring the Costs of Crime in 17 Latin American and Caribbean Countries.' In Laura Jaitman, ed. *The Costs of Crime and Violence: New Evidence and Insights in Latin America and the Caribbean*. Washington, DC: IDB, pp. 19–29.
- Jamaica. 2016. National Insurance Act.
- Jamaica Constabulary Force. n.d. 'Crime Statistics: Serious Crimes Report for January 1 to October 29, 2022 and Comparative Period 2021.'
- Jamaica Gleaner. 2020. 'State of Emergency Declared in Kingston Western and Central Police Divisions.' 14 June.
- . 2021. 'Deeply Concerned... Opposition Not Happy with More SOEs.' 14 November.
- Jamaica MFPS (Ministry of Finance and Public Service). 2019. 'Estimates of Expenditure 2019–20.' 14 February.
- Jamaica MNS (Ministry of National Security). 2022. Aggregated Statistics on Spent Cartridges Entered into the National Ballistics System between 2016 and 2021. Unpublished data set.
- Jenzen-Jones, N. R. and Matt Schroeder, eds. 2018. *An Introductory Guide to the Identification of Small Arms, Light Weapons, and Associated Ammunition*. Handbook. Geneva: Small Arms Survey. November.
- JIS (Jamaica Information Service). 2022. 'Understanding States of Emergency.' 1 July.
- JNCVS (Jamaica National Crime Victimization Survey). 2020. *Jamaica National Crime Victimization Survey (JNCVS) 2019 Report*. Kingston: Statistical Institute of Jamaica.
- Jongleux, Benjamin. 2021. *Profilage des munitions contenues dans le Fichier National d'Identification Balistique*. Unpublished report and data set. Pontoise: Institut de Recherche Criminelle de la Gendarmerie Nationale.
- Karp, Aaron. 2007. 'Annexe 3: Completing the Count: Civilian Firearms.' In Small Arms Survey. *Small Arms Survey 2007: Guns and the City*. Cambridge: Cambridge University Press, 2007.

- 2018. *Estimating Global Civilian Firearms Numbers*. Briefing Paper. Geneva: Small Arms Survey. June.
- King, Katrina. 2022. 'AG Confirms Spike in Gun Crime.' Loop Barbados News. 8 July.
- Kolbe, Athena and Robert Muggah. 2011. 'Securing the State: Haiti before and after the Earthquake.' In Small Arms Survey. *Small Arms Survey 2011: States of Security*. Cambridge: Cambridge University Press, pp. 228–59.
- Korps Politie Suriname. 2021. *Statistieken*. 29 April.
- Kullman, William and Anthony Clayton. 2021. 'The Dynamics of Small Arms and Light Weapons Trafficking in the Caribbean Region.' *Caribbean Journal of Strategic and Security Studies*, Vol. 3, No. 1. 30 October, pp. 117–31.
- LAPOP (Latin American Public Opinion Project). 2020. *2020 Haiti National Phone Survey*. Topline Report. Nashville: LAPOP, Vanderbilt University. August.
- Law, Eric, Keith Morris, and Casey Jelsema. 2018. 'Determining the Number of Test Fires Needed to Represent the Variability Present within Firearms of Various Calibers.' *Forensic Science International*. Vol 290, pp. 56–61.
- LeBrun, Emile, André Desmarais, Kheira Djouhri, and Nicolas Florquin. 2022. *Extracting Evidence: Opportunities and Obstacles in Assessing the Gendered Impacts of Diverted Ammunition*. Briefing Paper. Geneva and New York: Small Arms Survey and United Nations Office for Disarmament Affairs.
- Léveillé, Camille. 2022. 'Haïti : retour sur une crise aux multiples facettes.' *Sécurité & Défense Magazine*. 9 March.
- Linton, Latonya. 2021. 'House Passes Anti-Gang Bill.' Jamaica Information Service. 2 June.
- Loop Caribbean News. 2022. 'State of Emergency Declared in Jamaica.' 17 June.
- McDougal, Topher, et al. 2014. 'Ammunition Leakage from Military to Civilian Markets: Market Price Evidence from Haiti, 2004–2012.' *Defence and Peace Economics*, Vol. 30, No. 7, pp. 799–812.
- Mistler-Ferguson, Scott. 2022. 'Jamaica Hatches New Plan to Seize Illegal Guns as Murders Soar.' In *Sight Crime*. 10 February.
- Murphy, Judana. 2022. 'Holness Haunted by Murder Wave.' Jamaica Gleaner. 6 January.
- Myrntinen, Henri. 2019. 'Gender and the Gun: Gender-responsive Small Arms Programming.' In Emile Lebrun, ed. *Gender-responsive Small Arms Control: A Practical Guide*. Handbook. Geneva: Small Arms Survey, pp. 61–76. October.
- Nation* (Bridgetown). 1984. 'Police Open Campaign to Uncover Unlicensed Guns.' 6 February.
- NationNews. 2021. 'Man to Know Fate for Having Flare Gun.' 22 November.
- OAS (Organization of American States). n.d. 'Signatories and Ratification: A-63: Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials.'
- Office of the US Federal Register. 2022. 'Definition of "Frame or Receiver" and Identification of Firearms.' *Federal Register*, Vol. 87, No. 80. 26 April.
- PAHO (Pan American Health Organization). 2018. *The Health of Adolescents and Youth in the Americas: Implementation of the Regional Strategy and Plan of Action on Adolescent and Youth Health 2010–2018*. Washington, DC: PAHO.
- Parker, Benjamin. 2017. 'U-turn from PM over Gun Factory in Antigua and Barbuda.' WIC News. 17 May.
- Parsons, Chelsea and Eugenio Vargas. 2018. 'Beyond Our Borders: How Weak U.S. Gun Laws Contribute to Violent Crime Abroad.' Center for American Progress. 2 February.

- Peters, Amos. 2017. *Estimating the Size of the Informal Economy in Caribbean States*. Technical Note No. IDB-TN-1248. Washington, DC: IDB. August.
- Rampersad, Sharlene. 2022. 'Jacobs: Country Has 134 Gangs Accounting for Most Daily Crimes.' *Trinidad and Tobago Guardian*. 11 May.
- RBPF (Royal Bahamas Police Force). 2019. *Crime Statistics 2019*.
- . 2020 *Annual Crime Report*.
 - . 2022. *Meet the Press 2022*.
- Renne, Denyse. 2021. 'Citizens Race for Arms.' *Trinidad Express*. 28 August.
- Rivas, Alexis, Mike Dorfman, and Meredith Royster. 2022. 'NBC 7 Investigates: "Glock Switches" Convert Handguns into Illegal Machine Guns.' NBC 7 San Diego. 9 May.
- Robbins, Seth. 2020. 'Jamaica and Haiti Swap Drugs and Guns.' InSight Crime. 23 June.
- Roberson, Alphonse. 2022. 'Trafic d'armes et munitions, coup de filet des douanes et de la police à Port-de-Paix.' *Le Nouvelliste*. 2 July.
- Rollock, Melissa. 2022. 'Change to Firearms Act Coming.' Barbados Government Information Service. 10 September.
- Salmon, Santana. 2022. 'New Bahamas Police Commissioner Outlines Plans to Deal with Crime.' *Caribbean National Weekly*. 9 July.
- Schroeder, Matt. 2014. 'On the Record: Illicit Weapons in the United States.' In *Small Arms Survey. Small Arms Survey 2014: Women and Guns*. Cambridge: Cambridge University Press, pp. 241–73.
- . 2016. *Drips and Drabs: The Mechanics of Small Arms Trafficking from the United States*. Issue Brief No. 17. March.
- SISCA (Secretariat of Social Integration of Central America) and Interpeace. 2013. *National Public Policy Proposal: Prevention of Youth-involved Violence in Belize 2012–2022*.
- Small Arms Survey. 2022a. Database of Prosecutions of International Arms Traffickers Based in the United States. Unpublished database. Last updated April 2022.
- . 2022b. Database of Responses to the Qualitative Inmate Survey Undertaken in Belize, Suriname, and Trinidad and Tobago. Unpublished database. September.
 - . n.d.a. Global Firearms Holdings Database. Accessed 29 March 2020.
 - . n.d.b. Global Violent Deaths Database.
 - and Arquebus Solutions. 2022. Dataset of Illicit Ammunition in the Caribbean. Unpublished data set.
- Smith, Christina. 2017. 'Gun Violence Killing Tourism Sector, Says Marshall.' *Loop Barbados News*. 29 December.
- St. Bernard, Godfrey. 2022. 'Trends and Patterns for Gun Homicide in Trinidad and Tobago during the Early Years of the Twenty-first Century: A Data-driven Analysis.' In Wendell C. Wallace, ed. *Guns, Gun Violence and Gun Homicides: Perspectives from the Caribbean, Global South and Beyond*. Cham: Palgrave Macmillan, pp. 55–90.
- St. Lucia Times. 2022. 'Major Arms Trafficking Operation in Martinique Dismantled.' 25 April.
- Statistical Institute of Jamaica. 2020. *Jamaica National Crime Victimization Survey (JNCVS) 2019 Report*. Kingston: Statistical Institute of Jamaica.
- . n.d.a. 'Consumer Price Index.'
 - . n.d.b. 'Justice and Crime: Number of Murders by Type of Implement Used.'
- Suriname Ministry of Justice and Police. 2022. 'Moordzaken 2020–2021.' Department of Crime Information. 7 July.

- Sutton, Heather and Lucciana Alvarez, 2017. 'Guns: The Tools of Violence.' In Heather Sutton et al., eds. *Restoring Paradise in the Caribbean: Combatting Violence with Numbers*. Washington, DC: IDB, pp. 125–41.
- , —, and Luisa Godinez. 2017. 'Gangs and Victimization.' In Heather Sutton et al., eds. *Restoring Paradise in the Caribbean: Combatting Violence with Numbers*. Washington, DC: IDB, pp. 111–24.
- and Inder Ruprah. 2017. 'Youth Violence and Delinquency: Reducing Risk and Enhancing Protection.' In Heather Sutton et al., eds. *Restoring Paradise in the Caribbean: Combatting Violence with Numbers*. Washington, DC: IDB, pp. 81–98.
- teleSUR. 2021. 'The Dominican Republic to Purchase Privately Owned Guns.' *La nueva Televisión del Sur*. 22 March.
- Trinidad and Tobago Guardian*. 2017. 'JSC Told Illegal Gun Trade Makes \$100m Annually'. 3 July.
- TTPS (Trinidad and Tobago Police Service). 2020. 'Five Men Arrested for Trafficking in Firearms.' 29 September.
- . 2021a. 'Police Seize Large Quantity of Guns, Ammunition at Couva Warehouse.' Media Release. 27 April.
- . 2021b. 'Media Release Acting CoP: No Firearm Issued in Last 3 Years Used to Commit Crimes or Murder.' TTPS Corporate Communications Unit. 20 August.
- . 2021c. 'Data on Murders with the Use of a Firearm.' Crime and Problem Analysis Branch. Unpublished document.
- . 2022. 'Large Cache of Weapons Seized During Joint Exercise.' Media Release. 9 March.
- . 2023. 'Intelligence-Led Exercises Nets 5 Suspects and 5 Guns.' Media Release. 7 February.
- . n.d.a. Database of Firearms, Ammunition, Parts and Accessories Seized by the TTPS, 2020–21. Unpublished data set compiled by the Small Arms Survey.
- . n.d.b. 'Serious Crimes in Trinidad and Tobago, 1990–2020.' Unpublished document.
- . n.d.c. 'Total Crime by Offence Comparative Report.' Accessed December 2022.
- Tversky, Amos and Daniel Kahneman. 1971. 'Belief in the Law of Small Numbers.' *Psychological Bulletin*, Vol. 76, No. 2, pp. 105–10.
- UN (United Nations). 2022a. 'Haiti: UN Sounds Alarm over Worsening Gang Violence across Port-au-Prince.' *UN News*. 16 July.
- . 2022b. 'Household Size and Composition.' New York: UN Department of Economic and Social Affairs, Population Division.
- . 2022c. *World Population Prospects 2022*. New York: UN Department of Economic and Social Affairs, Population Division.
- . n.d.a. 12. c) Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime ('Firearms Protocol').
- . n.d.b. UN Comtrade Database. Accessed 24 June 2022.
- UN (United Nations) Caribbean. 2022. 'Sustainable Development Goal 16.'
- UNCTAD (UN Conference on Trade and Development). n.d. UNCTAD Statistics.
- UNDP (United Nations Development Programme). 2022. *The Reducing Small Arms and Light Weapons in Jamaica Joint Programme (SALIENT Jamaica)*.
- and JIS (Jamaica Information Service). 2022. 'Jamaica's First Violence Audit Slated for Denham Town & Norwood.' 21 June.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). n.d. 'Data for the Sustainable Goals.' Institute for Statistics.
- UNICEF (United Nations Children's Fund). 2021. *HAITI: Humanitarian Situation Report No. 1*. 21 June.

- UNLIREC (United Nations Regional Centre for Peace, Disarmament and Development in Latin America and the Caribbean). 2022. *The Caribbean Firearms Roadmap: Select Priority Actions Likely to Require Legislative Attention*.
- n.d. *Profiling Ammunition Seized at Border Controls and Recovered from Crime Scenes across Latin America and the Caribbean: The Dominican Republic Case Study and Methodology*. Briefing Paper No. 1. Lima: UNLIREC.
- UNODA (United Nations Office for Disarmament Affairs). 2022. Programme of Action on Small Arms and Light Weapons: National Reports.
- UNODC (UN Office on Drugs and Crime). 2019a. *Global Study on Homicide: Homicide Trends, Patterns and Criminal Justice Response*. Booklet No. 2. Vienna: UNODC. July.
- 2019b. *Global Study on Homicide: Understanding Homicide*. Booklet No. 3. Vienna: UNODC. July.
 - 2020. *Global Study on Firearms Trafficking 2020*. Vienna: UNODC.
 - n.d. Intentional Homicide. Consulted 22 December 2022.
 - and World Bank. 2007. *Crime, Violence, and Development: Trends, Costs, and Policy Options in the Caribbean*. Report No. 37820. March.
- UNSC (United Nations Security Council). 1993. Resolution 841 (1993). S/RES/841 of 16 June.
- 2020. *United Nations Integrated Office in Haiti: Report of the Secretary-General*. S/2020/123 of 13 February.
 - 2021. *United Nations Integrated Office in Haiti: Report of the Secretary-General*. S/2021/133 of 11 February.
 - 2022a. *United Nations Integrated Office in Haiti: Report of the Secretary-General*. S/2022/117 of 15 February.
 - 2022b. *Resolution 2645 (2022)*. S/RES/2645 of 15 July.
- UNSD (United Nations Statistics Division). n.d. 'Standard Country or Area Codes for Statistical Use (M49).' Accessed June 2022.
- Urbatsch, Robert. 2018. 'Gun-shy: Refusal to Answer Questions about Firearm Ownership.' *Social Science Journal*, Vol. 56, No. 2. 23 April.
- USAO (US Attorney's Office) Northern District of Georgia. 2022. 'Group Sentenced for Trafficking Firearms.' News Release. 15 March.
- US ATF (United States Bureau of Alcohol, Tobacco, Firearms and Explosives). 2010. *Counterfeit M16 Rifles and Grenade Launchers Seized in Mexico*. 12 March.
- 2017a. 'Firearms Tracing Statistics—2016: Caribbean.'
 - 2017b. 'Firearms Tracing Statistics—2016: Central America.'
 - 2018a. 'Caribbean—Data Source: Firearms Tracing System.' Office of Strategic Intelligence and Information.
 - 2018b. 'Central America—Data Source: Firearms Tracing System.'
 - 2019a. 'Caribbean—Data Source: Firearms Tracing System.' Office of Strategic Intelligence and Information.
 - 2019b. 'Central America—Data Source: Firearms Tracing System.'
 - 2020a. 'Caribbean—Data Source: Firearms Tracing System.' Office of Strategic Intelligence and Information.
 - 2020b. 'Central America—Data Source: Firearms Tracing System.'
 - 2021a. 'Firearms Trace Data: Canada—2015–2020.' Accessed 16 November.
 - 2021b. 'Firearms Trace Data: The Caribbean—2020.' Accessed 16 November.
 - 2021c. 'Firearms Trace Data: Central America—2020.' Accessed 16 November.

- . 2021d. ‘Firearms Trace Data: Mexico—2015–2020.’ Accessed 16 November.
- . 2022. *National Firearms Commerce and Trafficking Assessment: Firearms in Commerce*. 18 May.
- . n.d.b. ‘Conversion Part AR-15 Auto Sear.’
- US CBP (Customs and Border Protection). 2020a. ‘Cincinnati CBP Intercepts Auto Parts that Concealed Weapons.’ Media Release. 21 October.
- . 2020b. ‘Guns, Drugs, and Money Intercepted before Leaving Miami.’ Media Release. 19 May.
- . 2021. ‘Copy of Data on Seized Outbound Shipments of Firearms and Their Ammunition, Parts, and Accessories Intended for Delivery to the Caribbean from 1 January 2016 until 1 September 2021.’ Response to a Freedom of Information Act request filed by the Small Arms Survey. Received 4 December.
- USDC (United States District Court) District of Massachusetts. 2022. *Estados Unidos Mexicanos, Plaintiff, v. SMITH & WESSON BRANDS, INC., et al., Defendants*. Brief of Latin American and Caribbean Nations and NGO as Amici Curiae in Support of Plaintiff’s Opposition to Defendant’s Motion to Dismiss. 1:21-CV-11269-FDS. 3 February.
- USDC District of New Jersey. 2014. *United States of America v. Ralph E. Mata*. Criminal Complaint No. 14-3584. 2 April.
- USDC Eastern District of Arkansas. 2022. *United States of America v. Andrew Scott Pierson*. Supplemental Sentencing Memorandum in Support of the United States’ Motion for Upward Departure and Variance. No. 4:19CR00116-001 BSM. 5 April.
- USDC Middle District of Florida. 2011. *United States of America v. Luis Velazquez-Pinero*. Criminal Complaint Case No. 6:11-mj-1344. 3 August.
- USDC Northern District of Georgia. 2020. *United States of America v. Jahziah Roy Lewis*. Criminal Complaint Case No. 1:20-MJ-0829. 3 October.
- . 2021. ‘U.K. Citizen Sentenced for Trafficking Firearms.’ News Release. 20 September.
- USDC Northern District of Illinois. n.d. *United States of America v. Patrick Germain*. Plea Agreement No. 16 CR 495.
- USDC Northern District of West Virginia. 2020. *United States of America v. Timothy John Watson*. Affidavit in Support of Criminal Complaint Case No. 3:20-MJ-00127-RWT. 30 October.
- USDC Southern District of Florida. 2011. *United States of America v. Anes Joseph and Keslin Joseph*. Criminal Complaint Case No. 1 1-8346-AEV. 12 September.
- USDC Southern District of New York. 2022a. *United States of America v. Robert Alcantara*. Indictment Case No. 1:22-cr-00152-VSB. 8 March.
- . 2022b. *United States of America v. Robert Alcantara*. Sealed Complaint Case No. 1:22-cr-00152-VSB. 5 January.
- US DOJ (United States Department of Justice). 2011. ‘Massachusetts Man Indicted for Illegally Transporting Ammunition Primers.’ Press Release. 24 January.
- . 2018. ‘Two Austin Area Men and an Arizona Machine Gun Manufacturer Charged in Connection with Firearms Smuggling Scheme.’ Press Release. 12 April.
- . 2021a. ‘Man Charged with Illegal Importation of Over 50 Machinegun Conversion Devices From China to Puerto Rico.’ US Attorney’s Office, District of Puerto Rico. 13 January.
- . 2021b. ‘Oklahoma Man Pleads Guilty to Trafficking Firearms Parts through Arkansas to Mexico.’ US Attorney’s Office, Eastern District of Arkansas. 9 November.
- . 2022a. ‘Oklahoma Man Sentenced to 12 Years in Prison Defendant Trafficked Firearm Parts to Mexican Cartels.’ 20 April.
- . 2022b. ‘Rhode Island Man Charged in Manhattan for Trafficking “Ghost” Guns.’ 6 January.

- US ICE (United States Immigration and Customs Enforcement). 2022. 'HSI Announces Crackdown on Firearms, Ammunition Smuggling to Haiti, the Caribbean.' Press Release. 19 August.
- Vanci, Eduardo. 2016. 'Jamaica's Tourism Dilemma from Excluds Consultancy.' Jamaica Tourism. June.
- VPA (Violence Prevention Alliance). 2017. *Cost of Care: The Burden of Violence-related Injuries and Road Traffic Crashes to the Health Care System of Jamaica*. Kingston: VPA. May.
- Wallace, Wendell. 2022. 'Introduction to Guns, Gun Violence and Gun Homicides: Perspectives from the Caribbean, Global South and Beyond.' In Wendell C. Wallace, ed. *Guns, Gun Violence and Gun Homicides: Perspectives from the Caribbean, Global South and Beyond*. Cham: Palgrave Macmillan, pp. 1–26.
- Ward, Elizabeth, et al. 2009. 'Results of an Exercise to Estimate the Costs of Interpersonal Violence in Jamaica.' *West Indian Medical Journal*, Vol. 58, No. 5, pp. 446–51.
- . 2018. 'Assessing the Cost-effectiveness of the Peace Management Initiative as an Intervention to Reduce the Homicide Rate in a Community in Kingston, Jamaica.' *International Journal of Public Health*, Vol. 63, pp. 987–92.
- . n.d. 'Cost of Care.' Unpublished manuscript.
- Ward, Jasper. 2022. 'The Bahamas Says U.S. Must Do More to Control Weapons Smuggling.' 30 May.
- Wells, William, Charles Katz, and Jeonglim Kim. 2010. 'Firearm Possession among Arrestees in Trinidad and Tobago.' *Injury Prevention*. 19 July.
- WHO (World Health Organization). 2016. 'External Causes of Morbidity and Mortality (Vo1-Y98).' *International Statistical Classification of Diseases and Related Health Problems*, 10th edn.
- . n.d. Global Health Expenditure Database.
- Winker, Carol. 2013. 'Seven Years for Modified Flare Gun.' Cayman Compass. 4 February.
- Wisler, Dominique, et al. 2021. *Justice et Sécurité en Haïti*. Unpublished report. Coginta. December.
- World Bank. n.d.a. 'GDP per capita—Bahamas, Barbados, Jamaica.'
- . n.d.b. 'GDP (current US\$)—Bahamas, Barbados, Jamaica.'
- . n.d.c. 'What is the Difference between Current and Constant Data?'
- WRI (World Resources Institute). n.d. 'Caribbean Sub-regions.'
- Young, Michelle. 2019. *Belize City Community Gang Assessment*. Washington, DC: IDB. September.

Cover photo credits

Top left: Members of the ‘G9 and Family’ gang hold weapons during a demonstration against kidnapping, Port-au-Prince, Haiti, 22 October 2021. Source: Matias Delacroix/AP Photo

Top right: An M4 rifle seized by the US Customs and Border Protection in Miami, United States. The seized package, which also contained a [Tec-9] pistol and an ammunition magazine, was destined for Guyana and labelled as ‘toys’. Source: US Customs and Border Protection

Bottom left: Ambulance outside a hospital in a Caribbean territory, September 2020. Source: Luis Sánchez, @gvbriio on Unsplash

Bottom centre: Pistols and ammunition discovered in cereal boxes in the framework of Operation Trigger VII, Dominica, September 2022. Source: INTERPOL HQ/Twitter

Centre right: A modified flare gun seized by the Royal Police Force of Antigua and Barbuda. Source: Royal Police Force of Antigua and Barbuda

Bottom right: The headstamp of a Mexican-produced ‘AGUILA 9 mm’ cartridge recovered at the scene of violent crime in a CARICOM member state, 2022. While US-produced ammunition is the most common in the region, cartridges produced in other neighbouring countries are also used in crime. Source: CARICOM IMPACS

About the CARICOM Implementation Agency for Crime and Security

CARICOM IMPACS is the coordinating and implementation arm of the Region's multilateral crime and security management architecture, specifically designed to administer a collective response to the crime and security priorities of its Member States. Its members comprise fifteen (15) CARICOM Member States and five (5) Associate Members. CARICOM IMPACS comprises the Headquarters which is located in Trinidad and Tobago and two sub-Agencies, the Joint Regional Communications Centre (JRCC) and the Regional Intelligence Fusion Centre (RIFC).

CARICOM Implementation Agency for Crime and Security

19 Keate Street, Port of Spain, Republic of Trinidad and Tobago

Office: 1-(868)-235-5511 Fax No.: 1-(868)-627-3064 Email: secretariat@carimpacs.org

About the Small Arms Survey

The Small Arms Survey is a global centre of excellence whose mandate is to generate impartial, evidence-based, and policy-relevant knowledge on all aspects of small arms and armed violence. It is the principal international source of expertise, information, and analysis on small arms and armed violence issues, and acts as a resource for governments, policy-makers, researchers, and civil society. It is located in Geneva, Switzerland, and is an associated programme of the Graduate Institute of International and Development Studies.

For more information, please visit: www.smallarmssurvey.org.

Small Arms Survey

Maison de la Paix, Chemin Eugène-Rigot 2E, 1202 Geneva, Switzerland

t +41 22 908 5777 e info@smallarmssurvey.org

A joint report by CARICOM IMPACS and the Small Arms Survey, with financial support from the German Federal Foreign Office, and contributions from the George Alleyne Chronic Disease Research Centre at the University of the West Indies, the Anton de Kom University of Suriname, and Arquebus Solutions.

