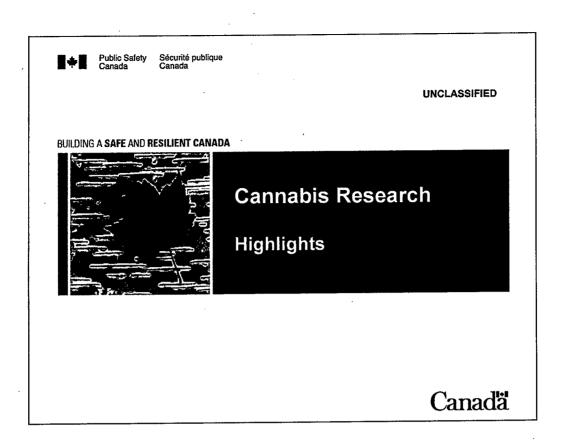
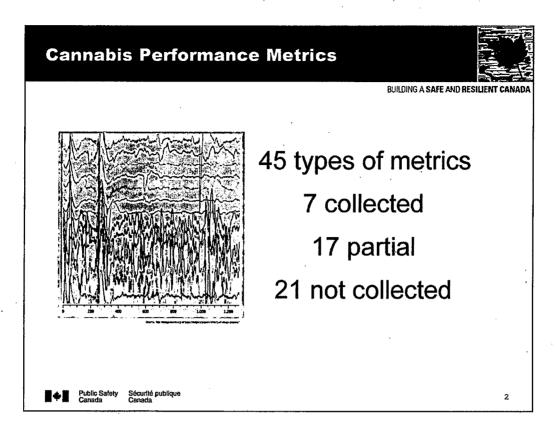


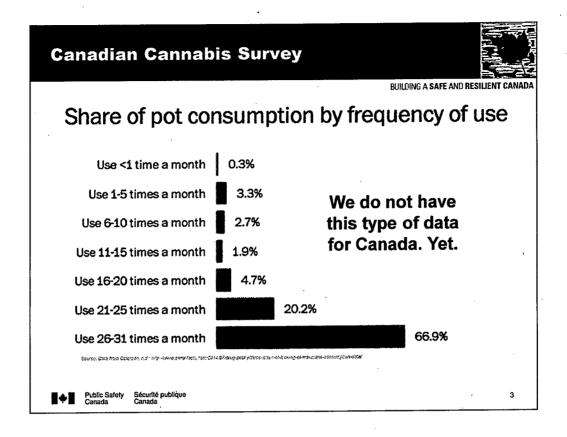
- Hello. My name is Austin Lawrence and I am the Manager of the Law Enforcement and Policing Research Unit here in Public Safety Canada's Research Division.
- My unit undertakes and facilitates research to support the policy development needs of the Community Safety and Countering Crime Branch here at Public Safety.
- Unfortunately, it has been a long time since we provided the NCC with a
 fulsome update on our research relevant to this committee. In this short
 presentation, I will be touching on three areas of research.
 - I have an update for the committee on our work regarding the price of illegal cannabis, as well as our efforts to improve cannabis performance measurement; as well as,
 - The results of two pilot projects to develop data that can be used for the criminal analysis of organized crime; a test project in Montreal using a co-offending analysis, and a national pilot project to actually

collected police-reported crime statistics on organized crime.

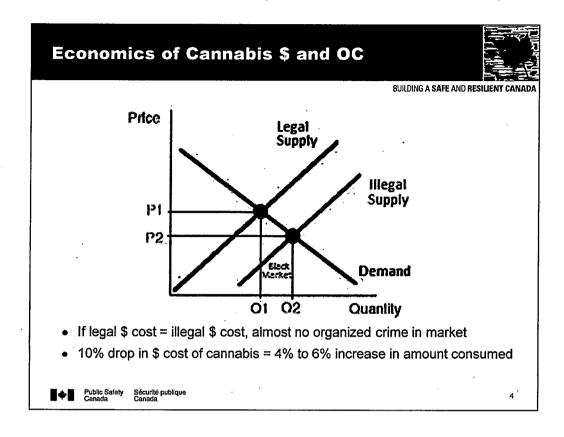




- A few years ago Public Safety Canada published the report "Cannabis Performance Metrics for Policy Consideration: What Do We Need to Measure?"
- Of the 45 types of metrics identified in the paper we did ...
 - Canada currently collects data to calculate about seven ...
 - there is some partial information on a further 17 ...
 - and little to no data on the remaining 21 metrics.
- This work was used to launch work by the federal Marijuana Data Working Group (MDWG) on cannabis performance indicators.
- Health Canada is drafting a report describing a proposed cannabis indicators framework, which should be available in the next few months.
- This update will focus on a few research projects intended to develop metrics relevant to organized crime and the cannabis market.

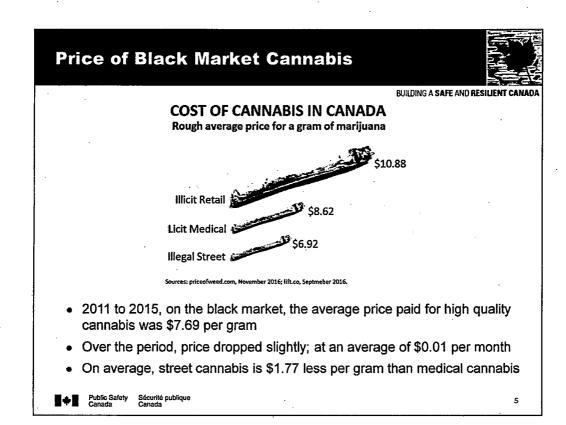


- The project "Canadian Cannabis Survey" will provide a better understanding of a number of key performance metrics. There are a large number of public safety questions included. The planned questions most relevant to organized crime are related to:
 - · the frequency and quantity of cannabis consumed;
 - the types of products being consumed;
 - from where the cannabis is being obtained;
 - · the cost of cannabis products; and
 - contact with police.
- In order to obtain data for this analysis the RD is collaborating with colleagues from Health Canada on the design and implementation of a survey that will oversample for cannabis users.
- The data is expected in April 2017 and a preliminary analyses of the public safety questions, specifically, will be available around June 2017.



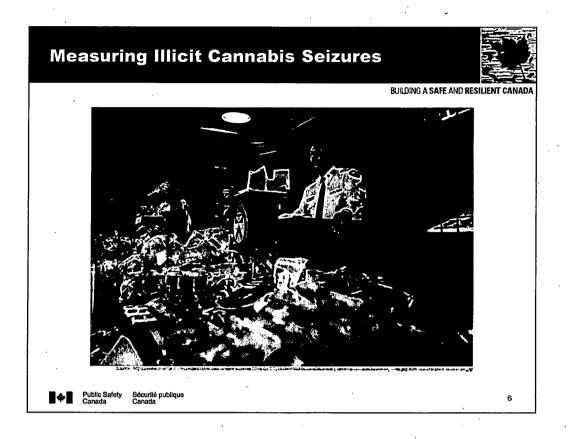
- Our project "An Estimate of the Price of Illicit Cannabis in Canada" is
 designed to fill a gap in understanding the price at which cannabis is
 illicitly-traded, as well as provide a price equilibrium analysis needed to
 understand how the price of cannabis affects its consumption.
- Such information is required to recommend pricing and taxation regimes for licit cannabis and to model anticipated consumption patterns of cannabis, once legalized.
- This data is particularly important for public safety policy objectives, since
 price policy is key to eliminating the black market, which is key to reducing
 organized crime involvement in the cannabis market.
- "Price Elasticity of Demand", in the economics terms, measures the degree to which changes in prices affect the consumption of goods or services.
 - Specifically, price elasticity of demand measures the change in quantity demanded following a 1 percent change in price.
- Public Safety Canada recently commissioned a study to find out the price

- elasticity of demand for cannabis in Canada.
- Ouellet and colleagues (2017) found that the price elasticity of demand for cannabis ranged from -0.42 to -0.60.
 - In economic terms, this means that the demand for illicit cannabis appears to be rather inelastic to price changes because it is below a full 1 percent.
 - What this means is that a 10% drop in the price of cannabis could cause a 4 to 6 percent increase in the consumed amount of cannabis.
- The draft report is currently being translated and formatted for dissemination within the next three months.

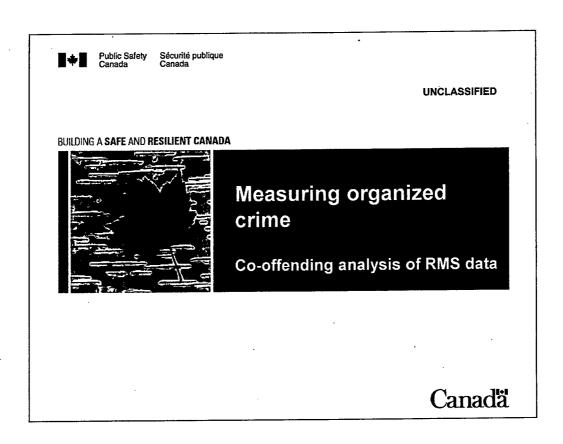


- You may be interested in this graphic I constructed from a few different sources. It focuses on the monthly spot prices in November 2016, not longer-term average prices. It includes fairly up-to-date national averages for different cannabis prices and serves to illustrate price differences between cannabis markets, as distinguished by legality.
 - The "illicit retail" price is the average September store-front dispensary price per gram. They are often supplied by people with medical marijuana certificates who are overgrowing, as well as the more "mom and pop" criminal organizations.
 - The "licit medical" price is the average price charged by the Licenced Producers in September. They sell mainly by mail order.
 - The "illegal street" price is the average price in November that volume consumers and small time dealers say they are paying for their marijuana in the illegal market.
- However, we have started to collect even better data ...

- The Public Safety Canada commissioned a sophisticated study by Ouellet et al (2017) to expand on previous work we have done to estimate the cost of illegal cannabis.
- The report found that:
 - price of illegal cannabis has remained relatively stable between 2011 and 2015,
 - dropping slightly at an average of \$0.01 per month.
- Between 2011 and 2015, on the black market, the average price paid for:
 - high quality cannabis was \$7.69 per gram;
 - medium quality cannabis \$7.14 per gram; and
 - low quality cannabis \$7.26 per gram.
- Comparisons were also made between publically-available prices of medical cannabis and illicit cannabis.
 - On average, the prices paid for medical cannabis were nearly \$2.00 per gram higher than illicit prices.
- The average national price per gram for cannabis transactions reported to the Price of Weed is \$6.60 (SD: \$3.38) compared to \$8.37 per gram price (SD: \$2.34) for cannabis purchased from "medical dispensaries", for a difference in means of \$1.77.



- This project "Measuring Illicit Cannabis Seizures in Canada: Methods, Practices, and Recommendations" is in its final stages and will discuss how to better measure the metric of cannabis seizures.
- Properly measuring illicit cannabis seizures is important as it is considered to be a base metric for an array of other cannabis policy metrics such as:
 - a) cross-border transfer of cannabis;
 - b) transfer using parcel services;
 - c) potency; and
 - d) involvement of organized crime.
- A draft of the report is currently being finalized and is already being used to inform the work for the Marijuana Data Working Group.



Counting Organized Crime



BUILDING A SAFE AND RESILIENT CANADA

How do we know we are being effective in reducing the harmful impact of organized crime?

- 1. Intelligence reports
- 2. Co-offending analyses
- 3. Police-reported statistics

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- Intelligence reports are useful for specific investigations and some types of trend analysis.
 - This data is used in intelligence analysis.
 - There are challenges with data in this area, but generally this type of data is available, shared, and of fairly good quality.
- In order undertake criminal analysis, quantitative data is required.
 - These can either be generated indirectly using administrative data, through co-offending analyses; or
 - provided directly through police counting criminal incidents.
- This type of data is required to do things such as:
 - measure the effectiveness of interventions;
 - compare the scope of organized crime to other crime;
 - · determine if organized crime is going up or down;
 - calculate how much organized crime costs society; and
 - identify how much is spent combatting organized crime.

- This data does not currently exist. Hence, the reason for research.
- Included in your packages is a presentation providing more details on the history of counting organized crime, the pros and cons of different methods, as well as a bit of history.

Proportion of Crime that is Organized Crime



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- Purpose:
 - 1. proportion of criminal incidents that are associated with organized crime activity in one police jurisdiction?
 - 2. proportion of police resources allocated to this crime?
- Service de police de la Ville de Montréal (SPVM)

9 DRAFT

- The purpose of the study was to estimate:
 - 1. the proportion of criminal incidents that are associated with organized crime activity in one police jurisdiction;
 - 2. the proportion of resources allocated by the police in dealing with issues related to organized crime; and
 - 3. the overall spending of a police service in responding to activities related to criminal organizations based on data obtained from the Service de police de la Ville de Montréal.

A number of models were tested			
	of OC cases out o 2009 (11,417)	f all of co-offending inci	
	Wide net m (2+ co-offen		d definition model co-offenders)
% None	22.8		6.9
% Broad	18.3		5.0
% Strict	3.9		1.6
• Proportion (256,722)	of OC cases out o	f all incidents in Montre	al from 2005-2009
	Wide net model (2+ co-offenders)	Standard definition model (3+ co-offenders)	Post Hoc Model (all of crime by 3+ offenders)
% None	1.02	0.3	2.93
% Broad	0.81	0.2	1.97
% Strict	0.17	0.07	0.26
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- The definition of "criminal organization" in the Criminal Code is defined by number of co-offenders, the types of offending they do together, and the period over which they offend. All of these factors are recorded separately in police administrative data.
- The researchers used the records management system data (RMS) of the SPVM for this study.
- Using "big data" analysis techniques they examined who offended with who, for what types of offences, and over what periods of time.
- A number of different models were tested by the researchers; some more closely matched academic definitions of organized crime, some the *Criminal Code* definition, and some left room for biases in how the police recorded their data in the RMS system.
- The 1.97% estimate is very close to OC estimates obtained by previous studies such as the one by Saunders and Lawrence (they estimated the OC proportion of between 1.72% to 1.97%).

- This model also most closely approximates the definition of "criminal organization" in the *Criminal Code*.
- So while it might seem low, it is consistent with previous research.

Resources required to respond to OC



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- The estimate of 250 officers whose primary work is to combat OC represent 4.15% of all staff in SPVM.
- The salary cost of these 250 officers represents about 4.9% of the average annual budget of SPVM between 2005 and 2009.
 - > Recall that, depending on the scenario, OC represented between 0.07% and 2.93% of criminal incidents logged by police in Montreal.

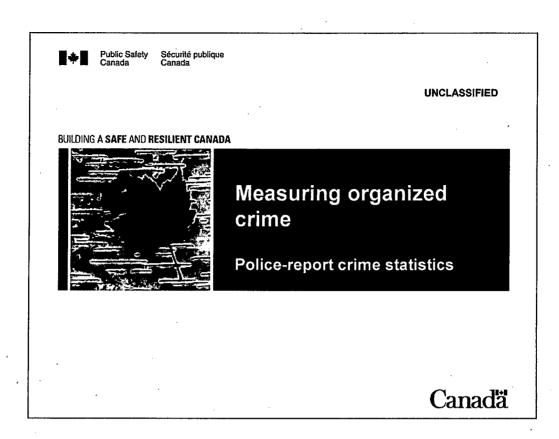
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11 DRAFT

- We did our own calculations at Public Safety to estimate the actual resources at SPVM that are dedicated to fighting organized crime.
- The estimate of resources that are allocated to fighting organized crime is about double than that of the organized crime proportion itself (recall that about 1.97% was the better of the estimates).
- One of the explanations for this is that it's because it takes a lot more resources such as increased number of hours, overtime, and technological resources to fight organized crime than it is to fight regular crime.



Criminal Organization Flag



RUILDING A SAFE AND RESILIENT CANADA

"While there are various estimates of organized crime in Canada, there is no single, comprehensive source that tracks the number of criminal incidents occurring each year in Canada that are committed for the benefit of organized crime."

Criminal Centre for Justice Statistics

- no standardized data to monitor the nature and extent of organized crime
- Uniform Crime Reporting Survey (UCR) is the mechanism
 - 2004 "street gang" and "organized crime" flags, did not work

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- There is no standardized data to monitor the nature and extent of organized crime at the national or provincial and territorial level.
- National police-reported data is collected through the Uniform Crime Reporting Survey (UCR).
 - This survey added "street gang" and "organized crime" flags in 2004.
 These were supposed to be completed and reported upon by police services for all criminal incidents reported to Statistics Canada.
 - For the most part they were not; data was terrible.
- While there are various estimates of organized crime in Canada, there is no single, comprehensive source that tracks the number of criminal incidents occurring each year in Canada that are committed for the benefit of organized crime.

2009 Consultation Recommendations



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- 1. Use *Criminal Code* definition of "criminal organization";
- 2. Police training;
- 3. Pilot project for a select number of UCR violations;
- 4. Report on pilot project;
- Provide recommendations.

"Measuring Organized Crime in Canada: Results of a Pilot Project." *Juristat*, January 2017.

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1.

- Following the 2009 consultation, the CCJS, with the support of the policing community and Public Safety Canada, made significant investments to address the recommendations.
- These efforts include:
 - 1. Adjustment of definitions within the UCR to match that of Canada's *Criminal Code*;
 - 2. Development and delivery of police training on how to properly score the organized crime flag within the UCR Survey;
 - Launch of a pilot project whereby participating police services focus on the quality of the organized crime flag for a select number of UCR violations;
 - Consultation with these pilot project participants to identify best practices and challenges with collecting and reporting quality data;
 - Based on the consultations, creation of a document of recommended best practices for accurate reporting by police to the UCR Survey.
- Public Safety Canada funded and facilitated this work in partnership with

the Canadian Centre for Justice Statistics (CCJS) at Statistics Canada, as well as participants from the policing community that sit on the Canadian Association of Chiefs of Police (CACP) Police Information and Statistics Committee (POLIS).

Pilot Projects



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- Phase I / 2013 & 2014 data: murder, manslaughter, attempted murder, and conspire to commit murder
- Phase II / 2014 data: drug production and trafficking
 - 79 violations often associated with organized crime were considered for the pilots but not chosen
- · Phase I:
 - 2013: Newfoundland, Halifax, Montréal, Waterloo, York, Winnipeg, Regina, Saskatoon, Edmonton, Vancouver, Victoria, CFSEU BC, and Québec = 11
 - 2014: Halifax, Waterloo, Toronto, York, Regina, Vancouver, Victoria = 7
- Phase II: Waterloo, Regina, Vancouver, and Victoria = 4

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- Other violations, such as extortion, cannabis possession and serious assaults, were considered for the pilot but not chosen.
- These violations were proposed, for one, because they are known to commonly be associated with organized crime offending, but certainly not always.
- Secondly, inclusion of these would assess how police would ensure accurate flagging of a large volume of incidents as organized crime or not.
- However, participating pilot agencies indicated a lack of resources to include these types of offences in the pilot project

Findings: Phase 1: Homicide



RUBIDING A SAFE AND RESILIENT CANADA

- Pilot confirmed similar findings from the Homicide Survey
 - Validation of the accuracy of both data sets
- 15% of homicide-related incidents for the benefit of organized crime
 - 20% of homicides, 13% of attempted murders, 25% of conspiracies to commit murder
- Use of firearms more than twice as common in homicide-related incidents for the benefit of organized crime, and was most often a handgun.
- A criminal relationship existed between victim and offender in a quarter of organized crime incidents versus less than 1 in 20 for all homiciderelated incidents.
- Victims tended to be younger and more likely to be male than for victims overall. Almost all offenders were male.
- Cases involving organized crime are almost twice as hard to clear.

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- Pilot confirmed similar findings from the Homicide Survey
 - · Validation of the accuracy of both data sets
- 15% of homicide-related incidents committed for the benefit of organized crime
- 20% of homicides, 13% of attempted murders, 25% of conspiracies to commit murder
- Use of firearms much more common: 79% when organized crime versus 30% overall. Usually a handgun: 73% of organized crime incidents involving firearms.
- A criminal relationship was the closest relationship in 24% of homiciderelated incidents committed for the benefit of organized crime versus 4% of incidents overall.
- Victims of homicide-related incidents committed for the benefit of organized crime tended to be younger and more likely to be male, than victims overall.
- · Almost all offenders were male.
- Cases are much harder to clear. 42% of organized crime incidents been cleared versus 73% overall.

Findings: Phase 2: Drugs



BUILDING A SAFE AND RESILIENT CANADA

- 56% of these drug-related incidents were committed for the benefit of organized crime
 - 57% of drug trafficking and 15% of drug production incidents
- Cannabis incidents were much less likely to be benefiting organized crime compared to incidents involving other drugs
 - 32% of cannabis-related incidents versus 61% of other drugs incidents were for the benefit of organized crime
- In drug-related incidents committed for the benefit of organized crime, the accused tended to be slightly younger in cannabis-related incidents than in other drug-related incidents.

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- Incidents of trafficking and production of heroin, cocaine, cannabis, methamphetamine, methylenedioxyamphetamine, and other drugs regulated under the Controlled Drugs and Substances Act.
- 56% of these drug-related incidents were committed for the benefit of organized crime.
 - 57% of drug trafficking and 15% of drug production incidents.
- Cannabis incidents were less likely to be benefiting organized crime compared to incidents involving other drugs.
 - Slightly less than one third (32%) of cannabis-related incidents compared to 61% of other drugs incidents were reported as being committed for the benefit of organized crime.
 - Supports the Boyd, et al assertions put forward in their submission to the Taskforce that the illegal cannabis industry is not largely associated with organized crime; does not support common law enforcement contention that illegal cannabis industry is connected to organized crime.
 - It must be noted, that both sides of the argument are still supported because one third is still a significant proportion of the category, but it is definitely not a majority.
- When looking at drug-related incidents committed for the benefit of

organized crime, the accused tended to be slightly younger in cannabisrelated incidents than in other drug-related incidents.

- Of the drug-related incidents reported to the pilot, 65% of accused identified in cannabis-related were aged between 25 and 54, compared to 75% of accused in other drug related offences.
- Could be a result of illicit industry average age or just a trend in the age of those that get caught by police.
- Could be related to how criminal careers progress; essentially, cannabis acting as "gateway" into the drug trafficking industry.

Recommendations to improve data



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- Executive support to raise priority of collecting organized crime
- 2. Executive communication of importance
- 3. Embed officer or analyst in organized crime/major crime units
- 4. Centralize the responsibility for verifying incidents
- Review incidents on a daily, rather than annual basis
- Amend policies to allow reviewers access to both separate secure organized crime records and the record management system (RMS)
- Make better use of the data by criminal and intelligence analysts
- endorsed by the Canadian Association of Chiefs of Police Board of Directors at their August 2016 meeting

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- These recommendations were endorsed by the Canadian Association of Chiefs of Police Board of Directors at their August 2016 meeting.
- Support by the Police Service Executive to raise the priority of collecting organized crime data: A key component to achieving quality data and the implementation of recommendations is the support of the Police Service Executive. In order to raise the priority of collecting quality data, the importance of the data and any steps taken to improve quality should be communicated by the Police Chief to members implicated and to front line officers.
- Communication by the Police Service Executive on the importance of organized crime data and what it will be used for: Communication by the Police Service Executive on the importance of the data, which would include clarification of how the data will be used and protected internally and by Statistics Canada, is recommended. The communication should address specific concerns, such as the criteria that will be used to flag an incident as organized crime and the protection of confidential information and privacy (e.g., the ability of non-authorized persons to search for a person connected to organized crime occurrences and groups was reported as a concern for the police service members).
- Have a staff sergeant or analyst imbedded in organized crime/major

crime unit and who is familiar with the cases be the resource responsible for flagging incidents: A staff sergeant or analyst imbedded within the organized crime / major crime unit who is familiar with the cases, who knows of persons associated with the organized crime community, and who can contact the front line when necessary was recommended as the most suitable person to take responsibility for flagging criminal incidents as organized crime or not.

- Centralize the responsibility for flagging/reviewing/verifying to a
 central authority and ensure this work is part of their official duties:
 Such centralization is recommended as ownership over the data and the
 process, as well as accountability, were deemed necessary to ensure data
 quality. It is further recommended that the individual occupy a position as
 referenced above, but this may vary depending on how the service is
 organized.
- To make workload manageable, review/flag incidents on a daily, rather than annual basis: It is recommended that rather than waiting to receive the extract from the CCJS to review all the incidents at one time (e.g., year-end verification), police services create a process where the work is part of regular daily activities. In other words, 5,000 incidents per year can be broken into 417 per month, 92 a week, or 18 a day.
- If records are in separate secure locations and not the record management system (RMS), amend policies to allow the individual responsible for scoring and quality control of organized crime incidents to access the incident and only the fields they need in order to update these files to properly reflect the characteristics of these incidents: It is recommended that police services amend policies to allow the individual responsible for scoring and data quality assurance for organized crime incidents access to the incident and only the fields they need in order to do their job and to report them within the RMS for statistical purposes. As such, either the central person responsible for scoring and data quality is someone who already has access to the files in the separate secure locations, or set up processes to allow that person to have limited access to separate secure location files in order to accomplish their work. Further, it is recommended that scoring and data quality should be applied to all incidents in separate secure locations, including those under investigation or going through court and not just ones that are closed.
- Restructure the priorities and resources within the police service's analysis sections to make better use of the data: The potential in the analysis of organized crime data by the analysis sections within some police departments is not recognized by the department, therefore some

analysis sections are not structured to access and analyze the organized crime data for statistical and strategic reporting. It is recommended to, with support from the Police Service Executive, restructure the priorities and resources within the analysis sections to make better use of the data. This may require establishing appropriate access to records and training of analysts.

Contact



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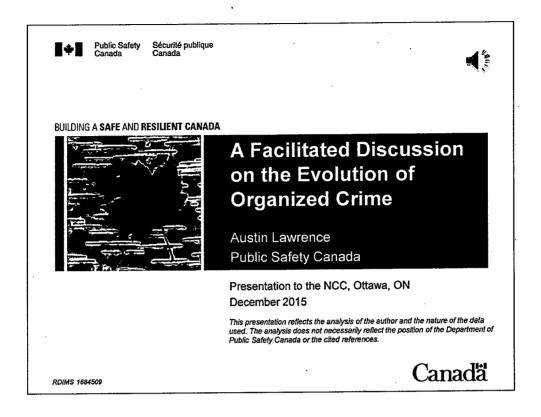
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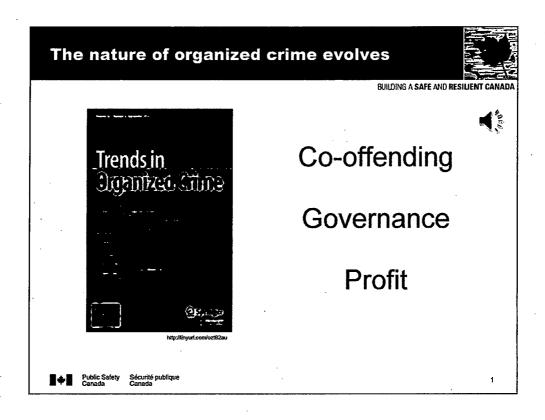
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- Thank you very much for your interest.
- I hope you found this presentation useful.
- I look forward to working with you in the future.
- Please feel free to contact me for more information.

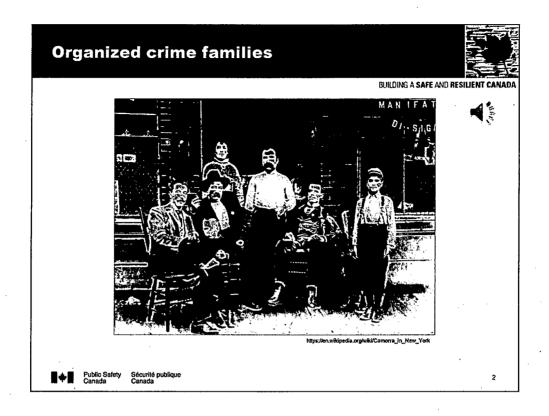


- Hello. My name is Austin Lawrence and I am the Manager of the Law Enforcement and Policing Research Unit here in Public Safety Canada's Research Division.
- I originally made this presentation to the members of the National Coordinating Committee on Organized Crime in December 2015.
- This presentation was designed to get committee members thinking strategically about how Canadians may be called to respond to organized crime in the future.
- In order to contextualize this forward thinking discussion, my presentation highlights a few trends in the evolution of organized crime.

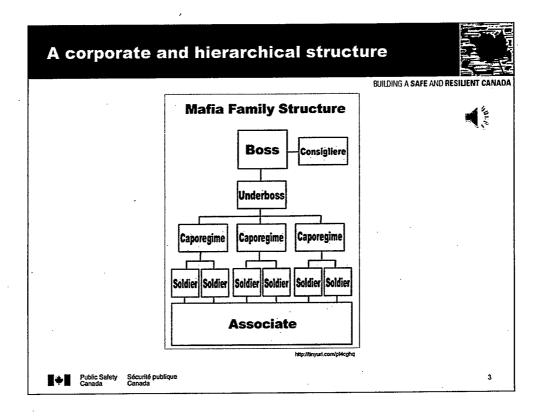


- It is well-known that individual criminals and organizations change their tactics and operations continuously to avoid detection and maximize the impact of their crimes.
- These trends can take place at an individual level, but also in the longer term evolution takes place over the entire social landscape of crime.
- There are a few things that appear to always be true of organized crime, no matter what era we are examining:
 - There are groups of people coordinating their behaviours to commit crimes;
 - There are social mechanisms by which co-offending is coordinated;
 - Crimes are governed so as to generate profits for offenders whether in goods, services or cash.
- Organized crime is fundamentally a social process.
- And, organized crime is also an economic process.
- This presentation is a simplification of the recent evolution of organized crime. This simplification has been done for illustrative purposes.
- Please recognize that the following three ways organized crime is arranged are characteristics of their eras. One form of organized crime does not completely replace another, but overall tendencies may change; and one

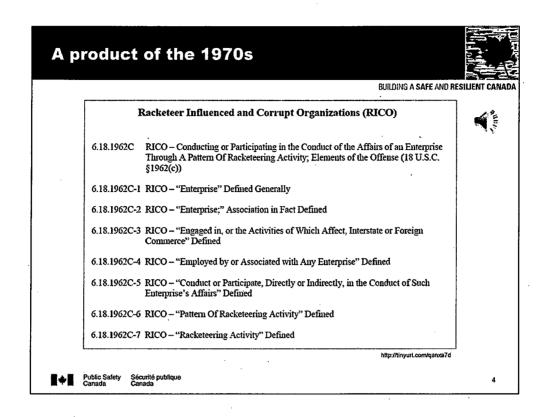
form certainly layers upon another, which results in law enforcement and governments requiring that its resources and tools cover the broad spectrum of organized crime offending.



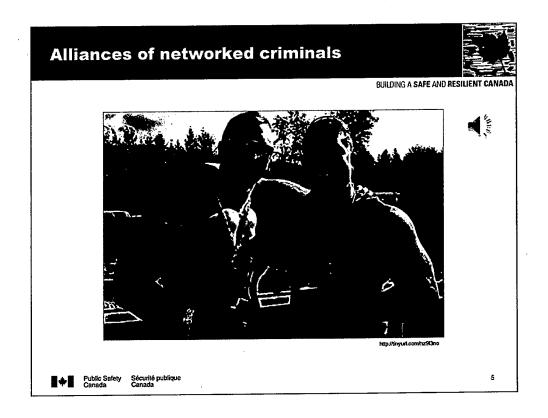
- When the public thinks of organized crime, they picture what we still often call today "traditional organized crime."
- This Camorra family of a century ago is an example.
- · This type of organized crime is:
 - Rooted in geographical turf;
 - Tends to be more local than national or international;
 - Trust amongst offenders is based on a common heritage and homogenous group identity;
 - · Victims and offenders and customers often share a heritage; and
 - Crimes tend to be committed by people who know each other well.



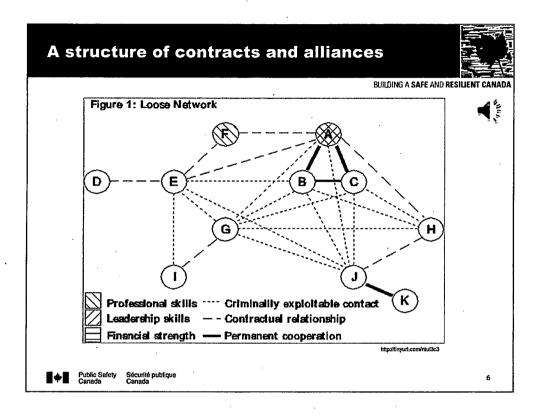
- This type of organized crime is often organized hierarchically.
- Here is the classic pyramid structure of the Cosa Nostra, where money and orders flow through chains of command within a defined group structure.
- You will note a reflection of how legitimate business tended to be run and how the illegitimate organized crime business are run. For instance, for much of the 20th century, the big corporations, like the Ford Motor Company or INCO were run in this manner.



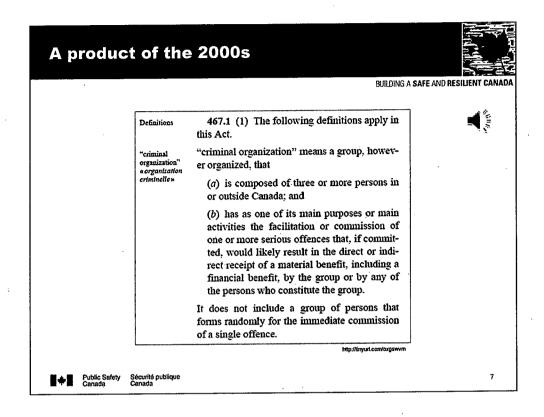
- In 1970, the United States Congress enacted the Organized Crime Control Act. Title IX of the 1970 Act is the Racketeer Influence and Corrupt Organization Act or RICO.
- This Act had its origins in legislation going back as far as 1934, but coming forward to 1961.
- The 1970 Act borrowed ideas from this earlier legislation, principally "enterprise," but also the use predicate statutes to define "racketeering activity."
- This legislation embodies the implicit understanding that the criminal organization is a discrete corporate "enterprise" or that organized crime agents can subvert and take over an "enterprise."
- This legislation responded to the nature of organized crime at the time.



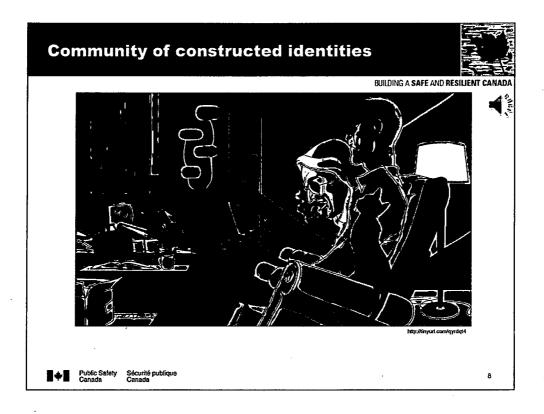
- In the last 20 years or so, organized crime has evolved a less corporate model.
- Here are a few homegrown gangsters from British Columbia. They may be from different organizations, but as you can see from their smiles they work well together.
- This type of organized crime is characterized by less stable alliances and criminal networks. It is:
 - · Less about geographical turf;
 - · Tends to be more transnational;
 - Trust amongst offenders is judged upon a standing within a criminal milieu and history of interaction with known associates;
 - We often see a diversity of criminal sub-cultures working together; and
 - Crimes are often committed with people that are known, but not extremely well.



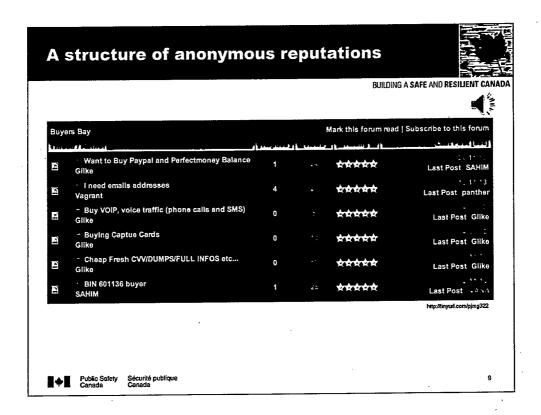
- This type of organized crime is often arranged almost contractually, through alliances.
- Here is an example of a German criminal organization, where the boundaries of the group are permeable and depend on who has the required skills and what needs to get done.
- This type of organized crime emerged during the great era of corporate globalization, out-sourcing, and sub-contracting. For legitimate business examples, think of corporations like Wallmart and Accenture.



- Canada's definition of criminal organization was crystalized during this period of organized crime, in the 1990s and 2000s.
- Our definition is extremely flexible and can focus down on very small criminal organizations. We concentrate on being able to prosecute cooffending. We recognize that this offending can take place in a very fluid manner, and be structured in many different ways.
- Although we use the term "criminal organization," in many respects, we are
 not really defining organized crime as an "organization" at all, but as a cooffending process that meets a harm and profit-motive threshold.
- The definition is more about the "action" than the "thing" of organized crime.

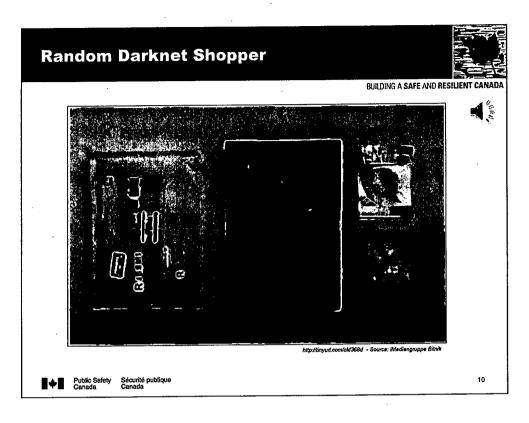


- The Internet has resulted in profound changes to society, from business to organized crime. However, many of the business and social changes that the Internet is ushering in as possibilities are only just now emerging.
- In many on-line spaces people can choose to use any identity they want.
- Child pornographers, direct-action hacktivists, identity thieves and fraudsters, as well as now, drug sellers, are the vanguard of this shift in how organized crime is arranged.
- This type of organized crime is characterized by self-constructed identities, automated operations, and niche on-line spaces for communication. In this world:
 - Geographical turf can become largely irrelevant;
 - Complete inter-jurisdictionality can exist;
 - Trust amongst co-offenders is judged based on reviews of criminal performance;
 - There can be a complete diversity of criminal sub-cultures working together;
 - Group criminal action can appear more like a social movements; and
 - Crimes are committed with people you do not know.



- Many Internet-powered companies make huge profits because their business models eliminate the need for large swaths of the middle range of labour and management, reduce transaction costs, force amalgamation into larger markets, and increase transaction speed. They also operate across jurisdictions with ease, transforming the consumers of their services into a resource in their business strategy. Companies such as E-bay and Uber are examples.
- There are two well-known examples of this type of organized crime; Carder Forums and Silk Road.
- Both operate in a similar manner. Their backbone are commuter programs
 called forums that structure interactions, communications, what can be
 bought and sold, and offer a payment mechanism; much like a business
 like Amazon.com would with their website. However, on these forums all
 interactions are very anonymous, including the payment methods which
 use cryptocurrencies like Bitcoin.
- Carder forums buy and sell stolen identities, like computer credentials, credit card numbers, and the like. But they also buy and sell the services and software to steal identities, as well as the services to monetize these crimes through fraud. Criminals on the site rate each other's trustworthiness based on the past activity of a listed anonymous identity, and arrange operations with other anonymous identities on a deal-by-deal

- basis, often by auction.
- Silk Road is similar, but it is focused on arranging the buying and selling of illicit drugs, with a sideline into other illegal commodities. Now the architect of Silk Road, Ross William Ulbricht known as "Dread Pirate Roberts" on the site, has been arrested and the site taken down. However, multiple variations of this organized crime business model do now exist on the Darknet.

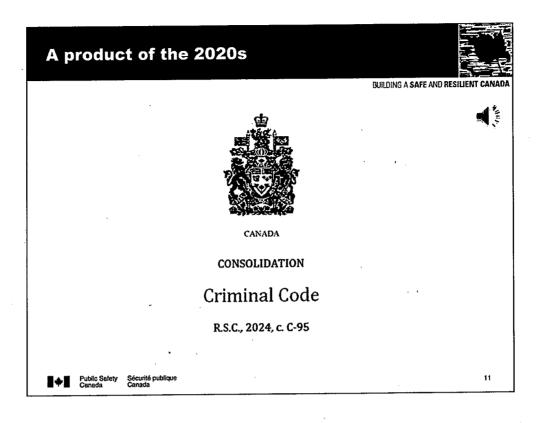


- Here is a forward-looking example of this type of organized crime world.
- In 2015, a pair of London-based artists with programming skills created a
 bot to buy one item a week at random from Silk Road. They provided the
 computer program with an initial budget of \$100 worth of Bitcoin.
- The ecstasy pills in the picture were delivered in a DVD case to a gallery in Switzerland, along with other items like a knock-off Hungarian passport, a baseball cap with a hidden camera, a pair of fake Nike trainers and 10 packs of bootleg cigarettes.
- The agent that did the purchasing and made decisions on what to purchase
 is a distributed computer program that does not live anywhere, and is not
 even a person.

	even a person.		3.		
•	Now imagine if the bot was not programmed to deliver the items to a gallery, but instead was programed to				

Would this be organized crime?

- How about if the person who programmed the bot died or was incarcerated, but it kept on committing crimes?
- Or, even, imagine that more than one person programmed the bot, with none of them knowing the full capabilities of the software before it went into operation?
- This "future" is possible today. It is definitely a strange new world ... [click]



- The evolution of how organized crime is arranged raises so many questions, it can be hard to figure out where to begin.
- It is almost crazy to think that organized crimes done before with a large group of people can now be arranged by very few people or, maybe for some crimes, even with no people.
 - Is the carder forum itself the "enterprise"?
 - Are shifting anonymous identities "individuals" for the purposes of prosecuting co-offending or is the person behind them?
 - Can people committing crimes with a computer program being the directing agent be part of a criminal enterprise?
 - If you do not know anyone you are committing crimes with, to what degree are you co-offending?
 - If you thought you were committing crimes with different people each time, but it was always the same people using different identities, are you committing organized crime?
- What questions or thoughts do you have?
- What does this mean for strategies to address organized crime?

Contact



BUILDING A SAFE AND RESILIENT CANADA

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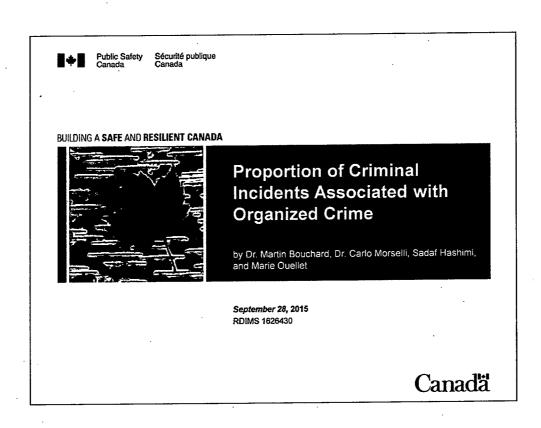
Mobile: 613.853.9673

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- Thank you very much for your interest.
- I hope you found this presentation useful and that it stimulated thought.
- Please feel free to contact me for more information.



Introduction



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- Prevalence of criminal organizations, their involvement in illegal activities and the violence stemming from an unregulated market generates a serious concern for law enforcement agencies.
- Currently, section 467.1 of the Criminal Code of Canada defines a criminal organization as a group however organized that:
 - 1. Is composed of three or more persons in or outside Canada; and
 - 2. Has as one of its main purposes or main activities the facilitation or commission of one or more serious offences, that, if committed, would likely result in the direct or indirect receipt of a material benefit, including a financial benefit, by the group or by any one of the persons who constitute the group.
 - Cases where a group of people forms randomly to commit a single offence are excluded.

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- This is the fourth study that has used co-offending counts to estimate the proportion organized crime.
 - The first study that used RMS data from a large provincial policing jurisdiction was RCMP E Division in BC (Glasser et al);
 - The second study was the national estimate of OC severity using UCR data (Saunders and Lawrence);
 - The third was the CCJS co-offending study of group crime (Carrington et al); and
 - This study uses RMS data and interviews from one policing jurisdiction (SPVM). This is also the first study that attempts to estimate the costs of fighting organized crime at a city level.

Goals of the Study



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- The purpose of the current study is to estimate:
 - the proportion of criminal incidents that are associated with organized crime activity in one police jurisdiction
 - 2. the proportion of resources allocated by the police in dealing with issues related to organized crime
 - 3. the overall spending of a police service in responding to activities related to criminal organizations based on data obtained from the Service de police de la Ville de Montréal

#

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Method: Overview



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- Incident-level data was obtained from the Module d'information policière (MIP), provided by the Sûreté du Québec (SQ).
- All criminal incidents within the city of Montreal from 2005 to 2009 were extracted for analysis.
- Nine interviews with police officers in Quebec were conducted. SPVM reports for the years under study were also consulted.

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- The MIP provides data on all crime incidents in which one or more individuals were accused, or arrested, but not necessarily convicted in the Province of Quebec, Canada.
- The Montreal incident data was extracted and co-offences were calculated.
 Also, crime seriousness and social network analysis were used as part of the methodology.
- The purpose of the interviews was to obtain assessments of the proportion of criminal incidents associated with organized crime and the corresponding police resources dedicated to responding to these incidents.

Method: Formation of the Models



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- Three families of models indicating size
 - The "wide net model" 2+ offenders
 - The "standard definition model" 3+ offenders
 - The "post hoc flag model" all offending of 3+ groups
- Three severity thresholds indicting seriousness of the offence
 - None
 - Broad
 - Strict
- Continuity Principle

##

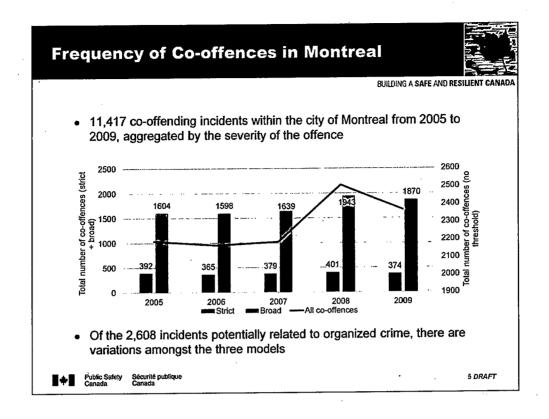
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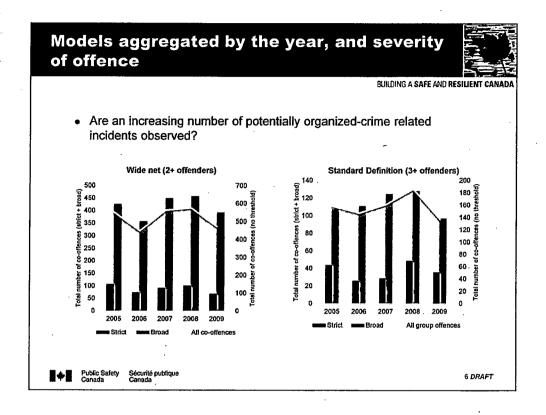
- Models:

- The "wide net model" criminal incidents where two or more cooffenders are involved in estimating the proportion of organized crime related incidents. The reason for using this model is that even though it differs from the Criminal Code definition of organized crime is because not all offenders who commit crime in groups are caught and entered in the database. This is just an attempt to account for false negatives since crimes committed by two people could potentially have more collaborators that were not caught.
- The "standard definition model" the model that replicated the definition of organized crime as per the Criminal Code. It includes criminal incidents in which three or more co-offenders are involved.
- The "post hoc flag model" follows not incidents, but offenders who commit an offence in groups of three or more at one point in the five years of study are flagged. The database comprising all offences within the city of Montreal from 2005 to 2009 was searched for any incident involving these flagged offenders. Whether or not the flagged incidents included co-offenders, they are added and counted as "organized crime-related" in this model. Like in the wide net model, this is another approach to avoid underestimation of organized crime.

- Thresholds:
- None: Any, and all offence categories are considered
- Broad: includes indictable or hybrid offences, and offences listed in the legislation as serious. In other words, this threshold includes incidents are are of serious nature as well as the ones that could be considered serious (these are the hybrid offences).
- Strict: : includes indictable and offences classified by statute as serious offences.
- Continuity Principle: All models require the component of continuity, that is the need for at least two co-offenders in a criminal incident to be detected together in two or more time periods.



 The graph presents the evolution of co-offences broken down by severity threshold: none (or all co-offences) on the right, as well as the broad and strict definitions on the left. As expected, only a minority of co-offending incidents are found when applying a more strict definition of offence severity. Montreal has around 400 of such incidents every year.



• The trend line in both of the graphs illustrates the number of all co-offences over time while the bars display the trend based on total number of serious co-offences. On the left, the figure is based on the wide net model (2 co-offenders +) whereas on the right, the figure is based on the standard definition model (3+ co-offenders). Much like what was observed for the total number of co-offending incidents on the previous slide, there is no noticeable trend for incidents that could involve criminal organizations, under either model. This is the case at any seriousness threshold level.

Proportion of Organized Crime within the Models

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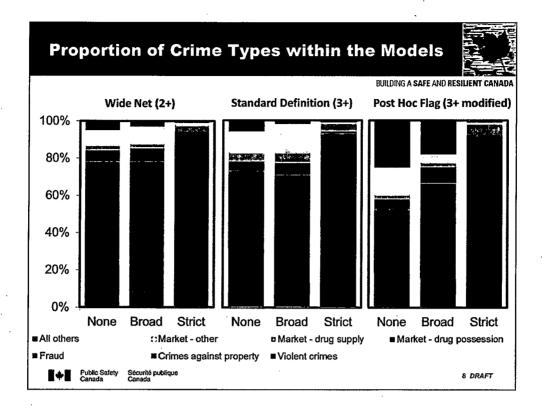
Proportion of OC cases out of all of co-offending incidents in Montreal from 2005-2009 (11,417)

	Wide net model (2+ co-offenders)	Standard definition model (3+ co-offenders)	
% None	22.8	6.9	
% Broad	18.3	5.0	
% Strict	3.9	1.6	

Proportion of OC cases out of all incidents in Montreal from 2005-2009 (256,722)

	Wide net model (2+ co-offenders)	Standard definition model (3+ co-offenders)	Post Hoc Model (all of crime by 3+ offenders)
% None	1.02	0.3	2.93
% Broad	0.81	0.2	1.97
% Strict	0.17	0.07	0.26
		•	

- From what we see, the post hoc flag model may the better estimate of organized crime proportion because it accounts for the bias in charging people as co-offenders. For instance, someone could be charged for a solo assault defending the reputation of the gang. Or trafficking of cocaine, which they did by themselves, but on behalf of the gang. The wide net and the standard definition models would not account for cases like these, but the post hoc model would.
- Another important thing to mention is that the 1.97% estimate is very close to OC estimates obtained by previous studies such as the one by Saunders and Lawrence (they estimated the OC proportion of between 1.72% to 1.97%). So while it might seem low, it is consistent with previous research.



- So this might be a confusing slide, but here we are asking the question
 whether the involvement of groups fitting the definition of organized crime
 for the purpose of this study vary across crime types? And the answer is
 yes, it does.
- The important thing to take away from this slide is that the better of the thresholds (which is the broad because it includes both the indictable and the hybrid offences, not just the serious ones) in any of the models shows that most of organized crime offences are of crime against property. These are the orange parts of the bars in the middle of each of the graphs.
- The bars on the right of each of the graphs represent the crime types included in the strict threshold. The reason that a majority of crimes in the strict threshold category are of violent nature (these are the blue parts of the bars) is because when only indictable offences are taken into account, these are mostly crimes of violent nature.
- Another interesting thing to mention is that remember that the post hog flag
 model is supposed to control for solo charging even when it might be a
 group activity. And that's why we see a higher proportion of cases related
 to drugs than in any of the other models (these are the grey parts of the
 bars). This is what makes the post hoc model the more useful for analysis.

Where do organized crime offenders fit in the larger criminal scene in Quebec?

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- When social network analysis is applied to the Quebec provincial database it revealed that:
 - 23 percent of organized crime offenders in Montreal were also <u>key members</u> of co-offending network that span the entire province; and
 - another 26 percent of the organized crime offenders were associated with the <u>periphery</u> offending network in Quebec.

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9 DRAFT

 What this means is that roughly half of Montreal organized crime offenders are connected to the wider Quebec provincial organized crime network in one way or another. They are either part of the core subpopulation of the most connected offenders in the province or directly connected to that core.

Resources to fight OC



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- According to interviews with law enforcement officials, distribution of resources within units depends on three main factors:
 - 1. risk to public safety;
 - 2. certainty of charges; and
 - 3. outcome of charges.
- Law enforcement officials consistently stated that "man-power" or the number of hours required to investigate organized crime incidents represented the greatest cost of responding to OC.
- Resources such as technology and surveillance equipment are shared across units. As a result, officers did not consider these as additional costs when calculating responses to organized crime incidents.

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 This study excluded fixed costs of fighting organized crime (such technology, computers, surveillance)

Resources to fight OC



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- Only one unit within the SPVM, the Organized Crime Division (30 to 35 officers), deals exclusively with cases that involve criminal organizations as defined under section 467.1 of the *Criminal Code*.
- Combining estimates across units with mandates to only combat OC and those that deal primarily with OC incidents, suggests that there are approximately 250 law enforcement officials at SPVM who are directly involved in combating OC.

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- Organized Crime Division is supported by intelligence and specialized patrol teams that assist in guiding and supporting investigations. As a daytime division, any surveillance that is conducted during evenings and nights requires overtime hours, which is a frequent occurrence in organized crime investigations. The length of organized crime investigations that target high-level members of gangs also frequently require the use of wiretaps and other surveillance technologies, which requires additional police strength.
- Of these 250 officers, it could be said that about 100 core officers are involved in long-term investigations that target upper-level OC members, whereas the remaining 150 officers are more likely to be involved in cases that target lower- to medium-level members.

Public Safety's estimates, using study data



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- The estimate of 250 officers whose primary work is to combat OC represent 4.15% of all staff in SPVM.
- The salary cost of these 250 officers represents about 4.9% of the average annual budget of SPVM between 2005 and 2009.
 - Recall that, depending on the scenario, OC represented between 0.07% and 2.93% of criminal incidents logged by police in Montreal.

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- We did our own calculations at Public Safety to estimate the actual resources at SPVM that are dedicated to fighting organized crime.
 Describe the calculations (only slightly)
- The estimate of resources that are allocated to fighting organized crime is about double than that of the organized crime proportion itself (recall that about 1.97% was the better of the estimates). One of the explanations for this is that it's because it takes a lot more resources such as increased number of hours, overtime, and technological resources to fight organized crime than it is to fight regular crime.

Contact



BUILDING A SAFE AND RESILIENT CANADA

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Public Safety Canada

Ottawa, Canada K1A 0P8

UNCLASSIFIED

DATE:

FILE NO.: 57778 RDIMS NO.: 1542341

MEMORANDUM FOR THE DIRECTOR GENERAL

PROPORTION OF CRIMINAL INCIDENTS ASSOCIATED WITH ORGANIZED CRIME

(Decision Sought)

ISSUE

The research report, Proportion of Criminal Incidents Associated with Organized Crime has been completed for your approval to publicly disseminate.

BACKGROUND

The National Standardized Data Collection Strategy on Organized Crime in Canada, dating back to 2004, has been a priority for Public Safety Canada and Statistics Canada, together with the Police Information and Statistics Committee (POLIS) since 2012. The project objective is to refine police-reported crime data on the Uniform Crime Report (UCR) in an attempt to begin identifying criminal incidents that are associated with organized crime. To this end, an organized crime flag was created to identify the criminal incidents that have been deemed related to organized crime activity.

The Organized Crime Severity Index (OCSI) is another way to measure the impact of organized crime activity in Canada. OCSI follows the principles of its predecessor, the Crime Severity Index (CSI), developed by Statistics Canada in collaboration with POLIS in 2004 as an alternative to the traditional measure of crime rate as an indicator of level of criminal activity. Ratcliffe (2015) devised yet another method to measure the level of harm that criminal incidents cause to society. Similarly to CSI and OCSI, his harm index is based on past sentencing guidelines (outcomes), and is another alternative way to measure the level of criminal activity.

Empirical research quantifying the scope of organized crime activity and its impact on society is severely lacking, especially at national or provincial levels. Further, very little is known about the police workload that is associated with addressing the problem of organized crime (Hope, 2014).

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Information regarding organized crime is mostly gathered through covert operations, investigations, and anecdotal evidence. However, patrol officers and crime prevention units also respond to, or address, offenses tied to organized crime. To date, the organized crime flag pilot project and the proposal of use of OCSI are the first attempts, on a national level, to empirically assess the scope of organized crime activity in Canada.

Public Safety contracted the research report "Proportion of Criminal Incidents Associated with Organized Crime" to: 1) measure of the proportion of criminal incidents that are associated with organized criminal activities in Montreal; 2) situate potential organized crime offenders within the wider population of co-offenders, that is, beyond the region under study and; 3) gauge the various types of resources allocated by law enforcement agencies in responding to and combatting activities associated with organized crime.

The report (TAB A) provides these insights using a number of scenarios. These are the key findings.

- Three models were devised to estimate the proportion of criminal incidents associated with organized crime. The proportion of incidents that fit the definition of organized crime range between 1.6 and 6.9 percent for the first model; 3.9 and 22.8 percent for the second; and 0.26 and 2.93 percent for the third;
- Roughly half of the organized crime (OC) offenders are connected to the wider provincial OC network in one way or another; and,
- Combining estimates across units with mandates to only combat OC and those that deal primarily with OC incidents, suggests that there are approximately 250 law enforcement officials at Service de Police de la Ville de Montréal (SPVM) who are directly involved in combating OC. This represents an average 0.06% of all police staff in Montreal for the years under study. Using a very hypothetical calculation method with severe limitations, it could be speculated that the salary cost of the 250 officers directly involved in combatting OC is around \$25.9 million, or 4.9% of the average SPVM annual budget.

The Research Summary summarizes the report (TAB B).

COMMUNICATION CONSIDERATIONS

The report is considered low profile and is not expected to generate much, if any, media attention. No proactive public communication activities will be required to support the release of this publication. However, given the range of information contained in the report, a reactive communications approach to potential media inquiries is recommended so that responses can be tailored to specific questions.

Further, a draft of the report was released under the ATIP in the Spring of 2015, and selected results published in a local Ottawa newspaper. No other media reports or calls/inquiries followed.

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NEXT STEPS

Upon approval, the research report titled *Proportion of Criminal Incidents Associated* with Organized Crime (TAB A) and research summary (TAB B) will be sent for translation.

Upon approval and translation, it is proposed that a summary of the report be made publicly available in both official languages through the Public Safety website, with the full report being available upon request. The report and the research summary will be circulated to the stakeholders interested in issues related to organized crime activity in Canada. In addition, findings will be presented to the Police Information and Statistics Committee (POLIS) meeting on September 28-29, 2015.

RECOMMENDATIONS

It is recommended that the report, Proportion of Criminal Incidents Associated with Organized Crime be approved for public dissemination.

Should you require additional information, please do not hesitate to contact me or Austin Lawrence, Manager of Law Enforcement and Policing Research, Research Division, at 613-949-9574.

Douglas May\
Research Division

Enclosures: (3)

I approve:

I do not approve: □

Patrick Boycher

Research Intergovernmental Affairs and Horizontal Policy Directorate

Prepared by: Anton Maslov



Sécurité publique

Branch / Direction générale : Community Safety and Countering Crime Branch Secteur de la sécurité communautaire et de la lutte contre le crime

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File No /No de dossier 5778 RDIMS no: 1542341, 1467812, 1542359, 1517978

Assistant Deputy Minister Quality Contrôle de qualité du cabinet du Sous-ministre adjoint : ______

Title / Titre Dissemination - Proportion of Criminal Incidents Associated with Organized Crime			ACTION REQUIRED / MESURES À PRENDRE			
Name / Nom :	Date	Initials / Initiales	Approval or signature / Approbation ou signature	Information		
Originator / Auteur Anton Maslov/Elaine Koren Sept 13	July 13	AMEK	⊠			
Director / Directeur Douglas May	17/9	1/1	×			
Director General / Directeur général Patrick Boucher	29/9/15	/ \ \				
Chief Audit Executive / Dirigeante principale de la vérification Rosemary Stephenson						
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Assistant Deputy Minister NCSB / Sous-ministre adjointe SSCN Lynda Clairmont			<u>.</u>			
Associate Deputy Minister / Sous-ministre délégué Gina Wilson	`	·	<u>i</u>			
Deputy Minister / Sous-ministre François Guimont						
Minister / Ministre The Honourable / L'honorable Steven Blaney						

Rev.: 2012/05/14

RDIMS #: 770590

Communications Assessment

Proportion of Criminal Incidents Associated with Organized Crime

OVEVIEW:

Public Safety Canada's Community Safety and Countering Crime Branch (CSCCB) undertook a research study on the proportion of criminal incidents associated with organized crime.

The goal of this report was to:

- Estimate the proportion of criminal incidents that are associated with criminal activity (overall and for each type of offence) in Montreal.
- Locate offenders who were potentially involved in organized crime-related activities within the larger criminal scene in Quebec.
- Measure human and financial resources allocated by law enforcement agencies in responding to and combatting activities associated with organized crime.

DETAILS:

Where did the idea for this publication originate from?

• Public Safety undertakes this type of research to support the development of policy and legislation.

Who are the stakeholders that would receive this publication?

 Members of the National Coordinating Committee on Organized Crime; notification to anyone on the Organized Crime Research mailing list (public, law enforcement, academics, etc.).

How will this publication be sent out?

 The Research Brief will be posted to the Public Safety website, and distributed directly to the relevant policy stakeholders, including the membership of the Organized Crime Research mailing list. The full report would be made available to interested stakeholders.

What rights does Public Safety Canada have to the material being published?

• The report was commissioned by Public Safety Canada and therefore the department owns all rights to it.

Are there links to other Public Safety Canada's Communication activities?

No Public Safety Communications activities are currently being planned.



Are there opportunities for links to other departments?

• No.

RISK ASSESSMENT / ANALYSIS OF PUBLIC RELEASE:

- Given the range of information contained in the report, a reactive communications approach to potential media inquiries is recommended so that responses can be tailored to specific questions.
- CSCCB is aiming to post the report during the week of August 3, 2015, on the Departmental Web site. The full report would be made available upon demand.



Proportion of Criminal Incidents Associated with Organized Crime

Bv:

Martin Bouchard, PhD
Carlo Morselli, PhD
Sadaf Hashimi, MA Student
and

Marie Ouellet, PhD Student

Abridged and Modified: May 8, 2015

Introduction

- ▶ Prevalence of criminal organizations, their involvement in illegal activities and the violence stemming from an unregulated market generates a serious concern for law enforcement agencies.
- ▶ Currently, section 467.1 of the *Criminal Code of Canada* defines a criminal organization as a group however organized that:
 - a. Is composed of three or more persons in or outside Canada; and
 - Has as one of its main purposes or main activities the facilitation or commission of one or more serious offences, that, if committed, would likely result in the direct or indirect receipt of a material benefit, including a financial benefit, by the group or by any one of the persons who constitute the group.
 - The definition goes on to exclude a group of persons that forms randomly for the immediate commission of a single offence.

- The main challenge facing legislators who seek to circumvent organized crime concerns the definition of organized crime and the fact that it has never been defined in a uniform manner.
- The main reason for this lies in the fact that organized crime is not a crime in itself. It is a way of doing crime, much like professional or violent ways of doing of crime. Thus, legislative attempts to define organized crime have been centred primarily on the composition of groups, gangs, or organizations that are perceived to be the typical common denominator within this more complex process.
- The terrain of organized crime is broad, covering a wide range crime types, activities, and networks of individuals.
- Despite an international consensus amongst government officials, law enforcement agents, policy makers and the public on the imminent threat of organized crime in Canada, there remains a scientific void in the understanding of organized crime:
 - Variety of definitions of organized crime provided by

- agencies around the world, which leads to discrepancies in the reporting of organized crime.
- Organized crime is a dynamic phenomenon that is consistently evolving as groups and its members often extend beyond a single jurisdiction to exploit new opportunities and adapt to market factor.
- Challenges in operationalizing organized crime, and estimating the costs associated with policing organized crime related incidents, or offenders linked to organized crime groups.
- Definitional problems in the area of organized crime have traditionally led to measurement problems that trickle down the criminal justice system. As a result, police services differ in their methodology for investigating criminal incidents associated with criminal organizations and other agglomerations associated with organized crime.

Goals of the study

- ▶ This study addresses the issues described in the introduction by providing a general framework to estimate:
 - 1. the proportion of criminal incidents that are associated with organized crime activity
 - 2. the proportion of resources allocated by the police in dealing with issues related to organized crime
 - 3. the overall spending of police services in responding to activities related to criminal organizations. Based on data obtained from the Service de police de la Ville de Montréal
- ▶ This is the third study that has used the Criminal Code definition of organized crime and studies of co-offending to count organized crime.
 - ▶ The first study used RMS data from a large provincial policing jurisdiction (RCMP E Division);
 - ▶ The second, police reported crime data (UCR); and
 - ▶ This study uses RMS data and interviews from one policing jurisdiction (SPVM).
- The current study aims to fill this gap in past research and policy work by providing a series of analytical procedures that measure:
 - 1. The proportion of criminal incidents that are associated with organized criminal activities (overall and for each offence type) in Montreal.
 - 2. The amount of police resources allocated to these estimates.
 - 3. The overall spending of the Montreal Police Department in combating organized crime.

Method - Overview

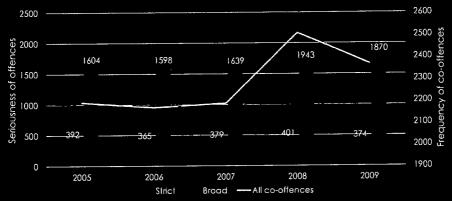
- ▶ Data was obtained from the Module d'information policière (MIP), provided by the Sûreté du Québec (SQ), Quebec's official police force. The MIP provides data on all crime incidents in which one or more individuals were accused, or arrested, but not necessarily convicted in the Province of Quebec, Canada.
- ▶ All criminal incidents within the city of Montreal from 2005 to 2009 were extracted for analysis.
- ▶ To obtain assessments of the proportion of criminal incidents associated with organized crime and the corresponding police resources dedicated to responding to these incidents, nine interviews with police officers in Quebec were conducted. SPVM reports for the years under study were also consulted.
- Further, to provide greater geographical representation across Canada, an additional eight interviews with law enforcement personnel in British Columbia were conducted
 - To operationalize a criminal incident as "organized crime-related," three components of organized crime as prescribed by section 467.1 of the Criminal Code were used (size, seriousness of offence, continuity) in the formation of three different models, totaling nine estimates.
 - In examining the types of crimes offenders were involved in, all criminal incidents within the city of Montreal from 2005 to 2009 were classified into seven crime types: violent crimes, crimes against property, fraud, market- drug possession, market- drug supply, other market, and all others.

Method - Formation of the models

- 1. Three families of models indicating size
 - ► The "wide net model" criminal incidents where two or more co-offenders are involved in estimating the proportion of organized crime related incidents;
 - The "standard definition model" criminal incidents in which three or more co-offenders are involved to estimate the proportion of organized crime related incidents, thereby using the same threshold used under section 467.1
 - ▶ The "post hoc flag model" Offenders who commit an offence in groups of three or more at one point in the five years of study are flagged. The database comprising all offences within the city of Montreal from 2005 to 2009 is searched for any incident involving these flagged offenders. Whether or not the flagged incidents included co-offenders, they are added and counted as "organized crime-related" under the flag model.
- 2. Three severity thresholds indicting seriousness of the offence
 - ▶ None: Any, and all offence categories are considered
 - Broad: A combination of offences labelled as "unclassified" by Carrington et al. (2013) but identified as serious by Saunders and Lawrence (2013)
 - Strict: A combination of offences classified as "serious" by Carrington et al. (2013) and identified in the list provided by Saunders and Lawrence (2013)
- Continuity: All models require the component of continuity, that is the need for at least two cooffenders in a criminal incident to be detected together across two separate incidents

Frequency of Co-offences in Montreal

▶ 11, 417 co-offending incidents within the city of Montreal from 2005 to 2009, aggregated by the severity of the offence

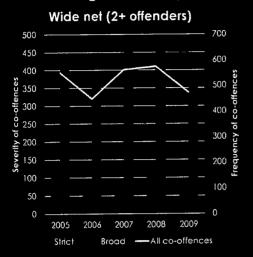


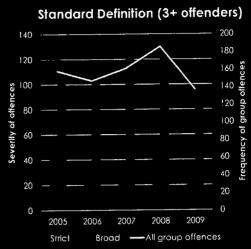
- Of the 2, 608 incidents potentially related to organized crime, there are variations amongst the three models
- Of the 11,417 co-offending incidents involving two or more offenders, 2,608 incidents in which pairs co-offended more than once.
- This represents 23 percent of all co-offending incidents in the data. These repeat dyads form the basis of what can be considered as 'continuous' incidents that are potentially related to organized crime
- Starting with the wide net model, clear distinctions emerge when going from no threshold to a broad threshold, and, then, to a more strict definition. A small difference was found in the number of repeated dyads when going from the no threshold (2,608) to the broad threshold (2,086). Yet, when applying a strict definition, the number of repeated dyads that would fall under this threshold drops to 447. The same phenomenon can be observed for the other two models.
- An important decrease in the number of repeated dyads considered is observed when moving from the wide net to the standard definition model. Groups of three or more offenders that are detected for more than one criminal incident are more rare: the number of these groups ranges from 184 (strict) to 789 (no threshold).

- The post hoc flag model departs from the two others models, but considers all criminal incidents of individuals who, at some point, were found in the same group of three or more offenders at least twice between 2005 and 2009 (1,857 offences across 789 incidents).
 - These incidents involve a relatively large number of offenders, many of which appeared frequently as solo offenders in criminal incidents. The 1,857 offenders involved in these 789 incidents accounted for many more during these years (7,519 incidents in total).
 - Many of crimes that these flagged offenders commit, outside
 of the incidents for which they are detected with a continuous
 group, are relatively minor. For instance, only 656 incidents
 involved flagged offenders under the strict definition of
 offence severity and many were solo offences

Models aggregated by the year, and severity of offence

▶ Are an increasing number of potentially organized-crime related incidents observed?





- The trend line illustrates the number of incidents associated with repeat dyads over time, while the bars display the trend based on the severity thresholds.
- On the left, the figure is based on the wide net model (2+ offenders), whereas, on the right, the figure is based on the standard definition model (3+ offenders, group offences). Much like what was observed for the total number of co-offending incidents in the first section of results, there is no noticeable trend for incidents that could involve criminal organizations, under either model.
- This is the case at any severity threshold level.

Proportion of OC cases out of all of co-offending incidents in Montreal from 2005-2009 (11,417)

	Wide net model (2+ co-offenders)	Standard definition model (3+ co-offenders)	
% None	22.8	6.9	
% Broad	18.3	5.0	
% Strict	3.9	10 to	

Proportion of OC cases out of all incidents in Montreal from 2005-2009 (256,722)

	Wide net model (2+ co-offenders)	Standard definition model (3+ co-offenders)	Post Hoc Model
% None	1:02:	0.3	2.93
% Broad	0.81	0.2	1.97
% Strict	0.17	0.07	. 0.26

Proportion of crime types within the models

- Does the involvement of groups fitting the definition of organized crime for the purpose of this study vary across crime types?
- Wide net model
 - Results show that property crimes dominate the wide net model of organized crime, with 57 percent of criminal incidents falling in this category
 - This remains true with the broad definition of crime severity, where as many as 71 percent of criminal incidents fall in the property crime category. "Other market" offences, often involving non-traditional offences and substances are ranked second, with a proportion of 10 percent, followed by violent crimes at 8 percent
 - Things reverse completely when a strict definition of severity is applied to the wide net model: from 8 percent, the proportion of violent crimes jump to 91 percent. Property crimes fall to 3 percent, and drug supply offences go from 2 to 3 percent. The decision, then, to choose a "broad," or "strict" severity threshold when considering what falls under the umbrella of organized crime related offences is far from trivial
- Standard definition model and the post hoc model.
 - The standard definition model, under the strict threshold, falls under the conventional 467.1 definition of organized crime. This model reveals that 91 percent of serious criminal incidents fall under the violent crime category
 - This result is similar to the strict definition under the post hoc model, which considers all and any type of criminal offence a flagged group offender has been involved in within the city of Montreal. The second most prevalent serious crime category is drug supply, with seven percent of criminal incidents, leaving very few other incidents to other crime categories. When it comes to defining the activities of criminal organizations, if one is inclined to select strict severity thresholds (serious offences), the results suggest focusing on violent offences and, to a lesser extent drug supply extent, drug supply.

Where do organized crime offenders fit in the larger criminal scene in Quebec?

- ▶ Overall, 23 percent of OC offenders were part of the core segment of the provincial co-offending network (compared to only 5 percent for non-OC offenders).
- ▶ 26 percent of the organized crime cases were part of the periphery of the provincial network (compared to 13 percent for non-OC offenders). Thus, roughly half of these OC offenders are either part of the core subpopulation of the most connected offenders (based on co-arrests) in the province or directly connected to that core. Finally, OC offenders had twice as many co-offending contacts (four versus two) than non-OC offenders.
- ▶ The offenders considered as potentially part of criminal organizations under the Criminal Code definition are indeed more likely to be key players in the Quebec criminal scene.
 - This analysis aims to situate all of the offenders who were found in a repeat dyad in the larger criminal scene in Quebec. Situating organized crime (OC) offenders within the wider provincial population of co-offenders is crucial as it offers an assessment of the opportunity structures available to such offenders within and beyond the Montreal context.
 - OC offenders were slightly younger than non-OC offenders. Males were also more likely designated as OC offenders. The most important distinctions, however, were found when examining the network features of these two groups. Individuals that were classified as OC offenders were much more likely to be part of the core or periphery segments of the wider Quebec-based co-offending population than the remainder of the Montreal-based offenders.

Discussion 1

- ▶ The state of the evidence regarding organized crime measures and control efforts is both messy and inconsistent.
- ▶ The research design guiding the current report was intended to provide a series of estimates and general outlooks on the scope and structure of organized crime in Canada.
- ▶ The aim driving this report was to take a first step toward the creation of a more coherent and accessible crime analysis framework.
- ▶ The general approach was meant to relativize the broad conception of organized crime in the Canadian legal context.
- ▶ Three standards were constructed to provide a range of estimates that vary in accordance with the number of offenders participating in a criminal incident (or sequence of criminal incidents), the seriousness and types of crimes that are included in the definition, and the relational features that unite co-offenders directly or indirectly during a crime commission process.
- ▶ This strategy of combining models that vary the co-offending unit size and form with thresholds that vary the types of crimes that are integrated in the definition is consistent with the main discrepancy dividing scholarly and policy assessments of organized crime.
- ▶ The differences in estimates are telling and such an effort to sort the people, co-offending instances, and crimes that may be associated to organized crime proved to be very effective.

Interview Highlights

- ▶ According to interviews with law enforcement officials, distribution of resources within units depends on three main factors: 1) risk to public safety; 2) certainty of charges; and 3) outcome of charges.
- ▶ Law enforcement officials consistently stated that "man-power" or the number of hours required to investigate organized crime incidents represented the greatest cost of responding to OC. Resources such as technology and surveillance equipment are shared across units. As a result, officers did not consider these as additional costs when calculating responses to organized crime incidents.

Interview Highlights

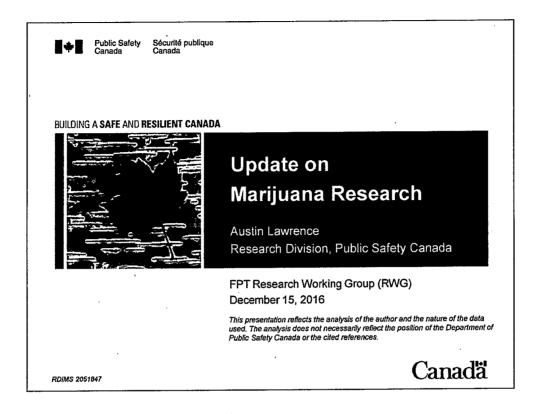
- Only one unit within the SPVM, the Organized Crime Division (30 to 35 officers), deals exclusively with cases that involve criminal organizations as defined under section 467.1 of the Criminal Code. This unit is supported by intelligence and specialized patrol teams that assist in guiding and supporting investigations. As a daytime division, any surveillance that is conducted during evenings requires overtime hours, a frequent occurrence in organized crime investigations. The length of OC investigations that target high-level OC members also frequently requires the use of wiretaps, which requires additional police strength.
- ▶ Combining estimates across units with mandates to only combat OC and those that deal primarily with OC incidents, suggests that there are approximately 250 law enforcement officials at SPVM who are directly involved in combating OC. Of these, 100 core officers are involved in long-term investigations that target upper-level OC members, whereas the remaining 150 officers are more likely to be involved in cases that target lower- to medium-level members.

Public Safety's estimates, using study data

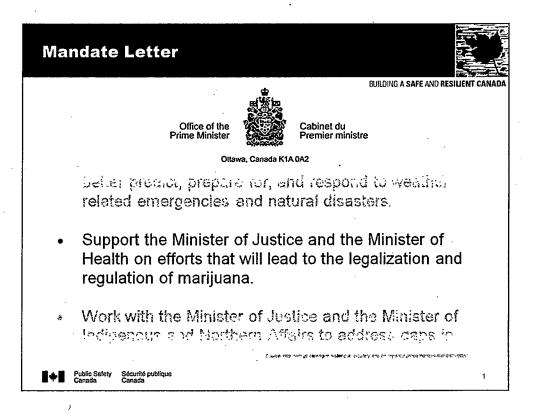
- ▶ According to official SPVM police reports from 2005 to 2009 the SPVM had an average of 4,482 police officers and 1,531 civilians, totaling an average of 6,013 employees. Thus, it could be said that 4.15% of all staff in SPVM are dedicated to performing work strictly related to OC.
 - ▶ Recall that, depending on the scenario, OC represented between 0.07% and 2.93% of criminal incidents logged by police in Montreal. (Which is 59 times larger to only 30% larger.)
- ▶ SPVM's total budget varied from approximately \$468,429,300 in 2005 to \$587,840,800 in 2009. If 4.15% of SPVM staff are dedicated to fighting OC, it could be estimated that between \$19,439,819 in 2005 to \$24,395,393 in 2009 was spent on OC-related work by SPVM.

Discussion 2

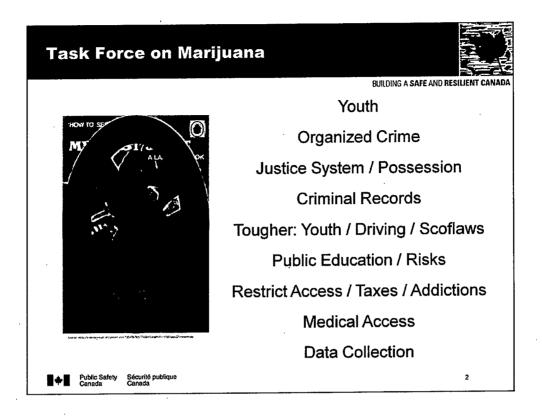
- A new classification that would situate the likelihood that a group phenomenon is (or is not) organized crime is warranted. A recommendation would be in favour of a tripartite classification that varies from co-offending groups that are: 1) purely non-OC; 2) mid-range/crime groups; and 3) criminal organizations.
- ▶ Mid-range crime groups are represented in the difference between the wide net and standard definition models and they would be comprised of an assortment of continuous, semi-serious crime groups. Such groups may not be criminal organizations, but they matter because their offences require more resources than others to deal with.
- ▶ Whether the focus was on the entire province, the subpopulation of co-offenders beyond Montreal, or the specific Montreal-based segment of co-offenders, the OC identification was a determinant for distinguishing age differences, sex differences, and especially networking positions amongst the most connected (as perceived through past co-arrests) offenders in wider co-offending patterns across the entire province.
- Based on data and qualitative material derived directly from law-enforcement settings, the current report will directly serve as a guide for law-enforcement analysts and decision makers across the country.



- Hello. My name is Austin Lawrence and I am the Manager of the Law Enforcement and Policing Research Unit here in Public Safety Canada's Research Division.
- I am here to update you on the work that the Research Division at Public Safety Canada is doing in advance of the legalization of marijuana.
- This presentation does not include other policy-led research and consultation activities taking place at Public Safety Canada or within the Public Safety Canada portfolio.
- It is just our work.



- Everyone here will be generally familiar with the commitment of the current Liberal federal government to legalize non-medical cannabis for adults.
- As you know a "Task Force on Marijuana Legalization and Regulation" was appointed by Bill Blair, chaired by Anne McClellan and Dr. Mark Ware.
- The Task Force's report was released to the public on December 13, 2016.
 Unfortunately, we have not had time to reflect the Task Force's
 recommendations in this presentation, but we can discuss it at the end if
 people are interested.
- Although you know legalization is coming, not everyone will be familiar with the details of the commitment to legalize non-medical cannabis.



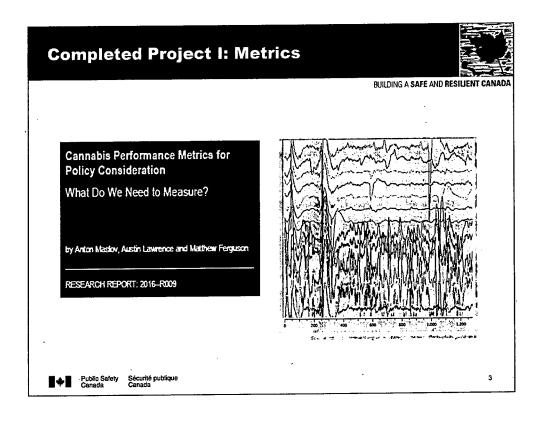
A reading of the Task Force's Discussion paper (2016) outlines the policy goals of the Government:

[click before each]

- 1. Protect young Canadians by keeping marijuana out of the hands of children and youth.
- 2. Keep profits out of the hands of criminals, particularly organized crime.
- 3. Reduce the burdens on police and the justice system associated with simple possession of marijuana offences.
- 4. Prevent Canadians from entering the criminal justice system and receiving criminal records for simple marijuana possession offences.
- 5. Protect public health and safety by strengthening, where

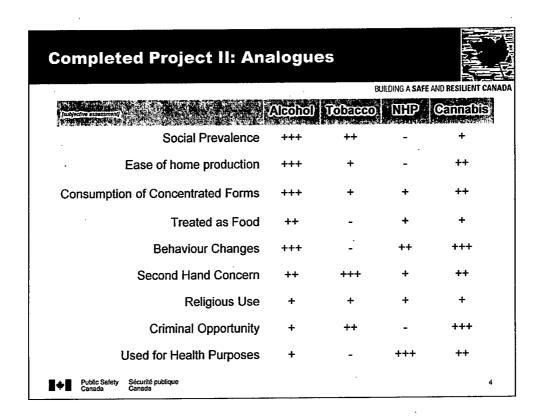
appropriate, laws and enforcement measures that deter and punish more serious marijuana offences, particularly selling and distributing to children and youth, selling outside of the regulatory framework, and operating a motor vehicle while under the influence of marijuana.

- 6. Ensure Canadians are well-informed through sustained and appropriate public health campaigns, and for youth in particular, ensure that risks are understood.
- 7. Establish and enforce a system of strict production, distribution and sales, taking a public health approach, with regulation of quality and safety (e.g., child-proof packaging, warning labels), restriction of access, and application of taxes, with programmatic support for addiction treatment, mental health support and education programs.
- 8. Continue to provide access to quality-controlled marijuana for medical purposes consistent with federal policy and Court decisions.
- 9. Conduct ongoing data collection, including gathering baseline data, to monitor the impact of the new framework.



- In support of our Minister's mandate commitments, RD consulted internally with Law Enforcement and Border Strategies Directorate (LEBS) on its policy needs with respect to Public Safety responsibilities for the implementation of this mandate priority.
- Following these consultations, and building on previous work, there are seven projects that RD has recently completed, in progress, or under development.
- Two recently completed projects are available on the Public Safety Canada website:
- The first report, titled "Cannabis Performance Metrics for Policy Consideration: What do we need to measure?," has been available since March 2016 and ...
 - identifies some 45 cannabis policy metrics on which policy makers can consider collecting baseline data prior to any shift in policy on marijuana.

- The key findings are that:
- 1. of the 45 metrics identified, Canada currently collects data to calculate about seven, some partial information on a further 17, and little to no data on the remaining 21 metrics;
- 2. in many areas we thought we had data, it turns out that data is spotty and unreliable; and
- 3. collection of data to develop metrics will be expensive and will require both initial and continuous funding.
- Collection of baseline data is important because it allows researchers and policy makers to examine the impact of policy through comparing pre- and post-policy data to further inform decision-making.
 - This report is being used as the basis for interdepartmental efforts by the federal Marijuana Data Working Group to establish an Indicator Framework for the legalization of cannabis.
 - The Marijuana Data Working Group (MDWG), comprised of representatives from the Department of Justice Canada, Health Canada, RCMP, Statistics Canada, the Cannabis Legalization and Regulation Secretariat (CLaRS), and policy colleagues from LEBS.
 - The objective of the MDWG is to strengthen data and information sharing amongst federal partners with interests in marijuana legalization, promote horizontal collaboration, and support evidencebased policy and program development.
- Incidentally, if you were wondering about the fancy graphic ... This is a brain scan of someone who is high on marijuana. Although less visually arresting, it is a more accurate depiction of "your brain on drugs" than the stereotypic egg in a frying pan.

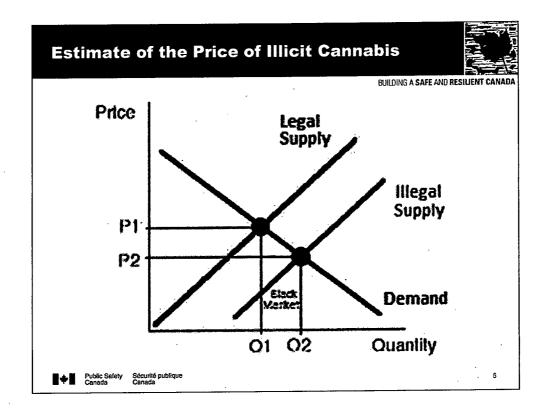


 The second report is titled "Ways to Consider Non-Medical Cannabis: Reasoning from Conceptual Analogues" and has been available since June 2016.

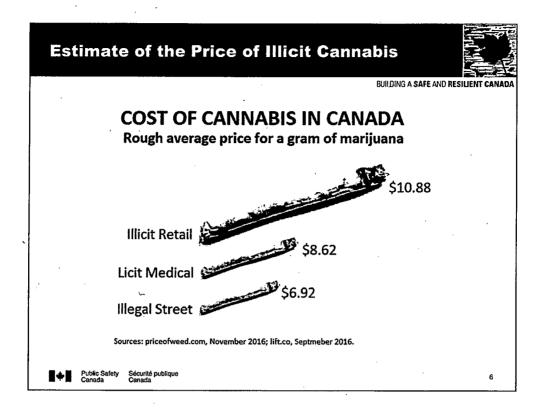
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- The report:
 - a) discusses the similarities and differences between psychoactive cannabis and analogous legal substances consumed for their psychoactive properties;
 - b) describes the characteristics applied when discussing or fashioning policies related to the control of these substances; in order to,
 - c) identify approaches and considerations for consultation and policy discussion.

- The key findings are that:
 - 1. in the case of cannabis, there are no perfect policy analogues to be found in other substances;
 - 2. areas for policy consideration are very numerous; and
 - 3. the level of at which control of a substance or behaviour occurs is largely a political decision.

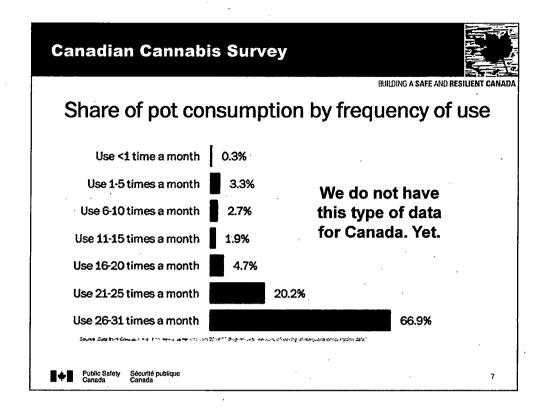


- Our project "An Estimate of the Price of Illicit Cannabis in Canada" will fill a
 gap in understanding the price at which cannabis is illicitly-traded, as well
 as provide a price equilibrium analysis needed to understand how the price
 of cannabis affects its consumption.
- Such information is required to recommend pricing and taxation regimes for licit cannabis and to model anticipated consumption patterns of cannabis, once legalized.
- This data is particularly important for public safety policy objectives, since price policy is key to eliminating the black market.
- We are expecting to receive a draft report in January 2017, making the results of the project timely for the drafting of the legislation in Spring 2017, as well as to contribute to a market estimation study being conducted by the Marijuana Legalization Secretariat.

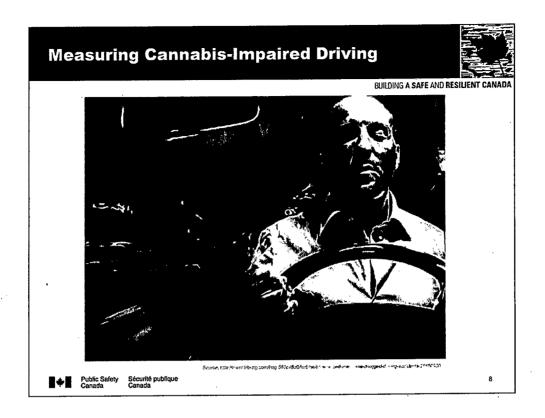


- The Research Division met researchers from the Parliamentary Budget Office (PBO) and provided them with extensive materials and advice on how to measure and think about the economics of the licit and illicit cannabis markets
- PBO released their report "Legalized Cannabis: Fiscal Considerations" at the start of November. The report is excellent and is currently the best estimate for the size of the cannabis market in Canada.
- Incidentally, I constructed this graphic just for this meeting. It includes the most up-to-date national averages for different cannabis prices.
 - The "illicit retail" price is the average September store-front dispensary price per gram. They are often supplied by people with medical marijuana certificates overgrowing, as well as the more "mom and pop" criminal organizations.
 - The "licit medical" price is the average price charged by the Licenced Producers in September. They sell mainly by mail order.

• The "illegal street" price is the average price in November that volume consumers and small time dealers say they are paying for their marijuana in the illegal market.

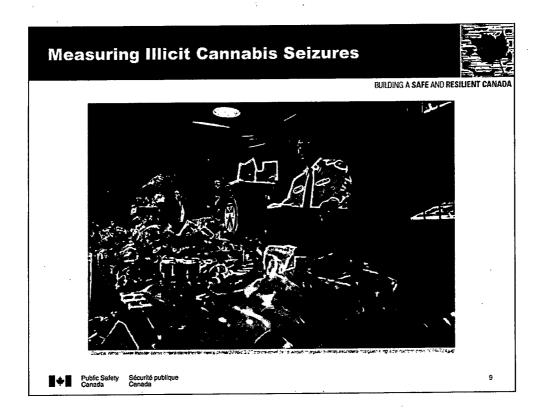


- The project "An Estimate of the Frequency and Volume of Cannabis Consumed in Canada" will provide a better understanding of the frequency and quantity of cannabis and its related products that are being consumed in Canada.
- Such information is required for the proper econometric modelling of consumer behaviour, and anticipating the overall rates and quantities of cannabis that could be consumed by Canadians.
- This is data previous reports, such as the PBO market estimate, just needed to guess at.
- In order to obtain data for this analysis the RD is collaborating with colleagues from Health Canada on the design and implementation of a survey that will oversample for cannabis users.
- The data is expected in February and preliminary analyses will be drafted in March 2016.

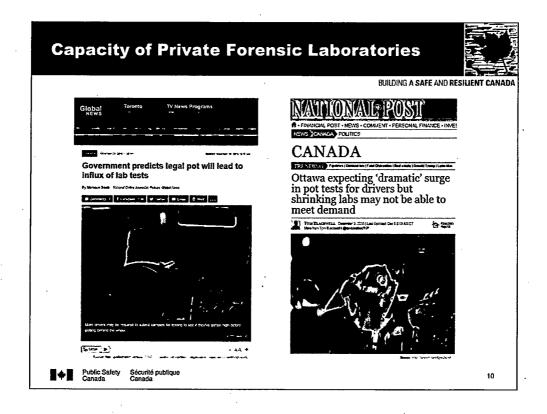


- This project "The Offence of Driving Impaired by Cannabis in Canada: National Statistics and Methods for Improvement" will recommend how to better measure the metric of driving impaired by cannabis.
- Through consultations with experts and a literature review our RD research team will:
 - a) identify the ways the metric is currently being measured;
 - b) identify where and what kind of data exists to measure the metric; and,
 - c) discuss how the measures can be used to complement each other in order to provide a better and holistic measure of the metric.
- A draft of the report is currently being finalized and is already being used to inform the work for the Marijuana Data Working Group.

• In the meantime, we recommend the excellent summary reports by the government of Vermont.

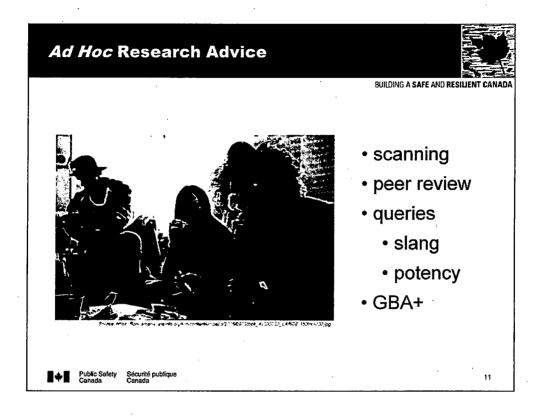


- This project "Measuring Illicit Cannabis Seizures in Canada: Methods, Practices, and Recommendations" will recommend how to better measure the metric of cannabis seizures.
- Properly measuring illicit cannabis seizures is important as it is considered to be a base metric for an array of other cannabis policy metrics such as:
 - a) cross-border transfer of cannabis;
 - b) transfer using parcel services;
 - c) potency; and
 - d) involvement of organized crime.
- A draft of the report is currently being finalized and is already being used to inform the work for the Marijuana Data Working Group.



- The objectives of the project "The Capacity of Forensic Laboratories in Canada to Test for Illicit Drugs in Bodily Fluid Samples" are to:
 - a) to survey private laboratories to determine labs' abilities and limitations;
 - b) map out the laboratory process to analyze samples, including length of time and costs involved; and,
 - c) scan the situation in selected foreign jurisdictions.
- A Request for Proposal for this project is currently on the Government's Buy & Sell web site.
- We expect to have results from this contracted research in June 2017.
- As you can see we have seen some press resulting from the posting of this RFP.

- It should be noted that there are no pre-supposed policy objectives in mind.
- Also, samples do not only originate with law enforcement.
- We chose to collect data in the United States because they had already experienced legalization.
- We are collecting data from private labs in Canada because we do
 not have much knowledge about private labs, in contrast to the
 amount that we already know about federal government labs.



- The RD also provides ad hoc research advice to LEBS, the MDWG and external researchers.
- · This includes:
 - a) a regular, informal e-newsletter on 'Marijuana News & Research' for federal partners;
 - b) the periodic peer review of research instruments and reports;
 - c) answers to specific queries (such as slang terminology for ingestion methods); as well as
 - d) the collection of research findings relevant to the analysis of marijuana policy using a Gender-Based Analysis Plus (GBA+) lens.

Discussion / Questions

BUILDING A SAFE AND RESILIENT CANADA

"The absence and lack of data is absolutely a killer to demonstrate whether there is going to be adverse consequences of marijuana on your community or not. So what every law enforcement agency in the country should do right now, today, is start collecting data, not just on marijuana but on all controlled substances to establish a baseline. Colorado has missed their opportunity to collect baseline data, but other states could be establishing their baselines now."

Are there any questions about our research?

What research have you done in this area?

What is the most important research gap?

– Sgt. Jim Gerhardt

I+I

Public Safety Cenada Sécurité publique Canada 12

- · That is a lot of information to take in.
- Cannabis legalization is a complex topic with many different strands.
- Before we start our discussion I would like to give you a minute to read this
 plea from a police officer in Colorado.

[click]

· Are there any questions about our research?

[click]

- What research have you done in this area?
- [click]
- What is the most important research gap?

Contact



BUILDING A SAFE AND RESILIENT CANADA

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Public Safety

Sécurité publique

- · Thank you very much for your interest.
- I hope you found this presentation useful.
- I look forward to working with you in the future.
- · Please feel free to contact me for more information.

Disseminated Cannabis Publications



BUILDING A SAFE AND RESILIENT CANADA

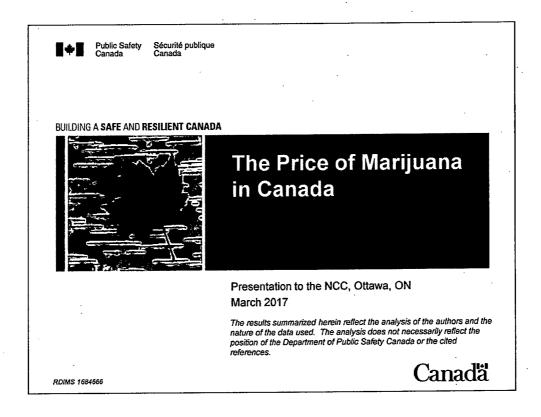
Boucher, A., Lawrence, A., and Maslov, A. (2013). The Price of Marijuana in Canada: Preliminary Discussion of Using Price Data for Operational and Policy Purposes. Public Safety Canada: Ottawa. Unpublished, but in public domain.

Lawrence, A. (2016). Ways to Consider Non-Medical Cannabis: Reasoning from Conceptual Analogues. Public Safety Canada: Ottawa.

Maslov, A., Lawrence, A., and Ferguson, M. (2016). *Cannabis Performance Metrics for Policy Consideration: What Do We Need to Measure?* Public Safety Canada: Ottawa.

1+1

Public Safety Canada Sécurité publique



 Hello. I am Anton Maslov. I am a researcher with the Department of Public Safety Canada. Today I would like to talk to you about our work on several topics related to cannabis, including analysis of the price of cannabis, some economics of the cannabis regimes, and what it all means for cannabis policy and enforcement of the policy.

Objective



BUILDING A SAFE AND RESILIENT CANAD

- Cannabis price data for:
 - economic value;
 - price of medical cannabis;
 - syndicates; and
 - supply tightening.
- Operations and tactics
- Policy analysis

Public Safety Sécurité publique

- We conducted this study to explore what could be done with the cannabis price data that was publicly available.
- We are interested in the price of cannabis because we required price information to explore if we could:
 - calculate the economic value of Canada's cannabis economy. thereby scoping the magnitude of this illicit drug market;
 - calculate the likely minimum equilibrium price of medical cannabis;
 - identify regional syndicates of cannabis production and supply or shipment corridors; and
 - see if it was possible to use price to measure the supply restrictions caused by effective law enforcement.
- After hearing this some of you may be thinking this sounds a bit like economics class. That is because price is determined by the relationship between supply and demand.
- [click]
- In order to learn things that can assist us with law enforcement operations and tactics used to reduce the supply of illicit drugs, or to empirically analyze the impacts of our policies regarding illicit drugs, price information is required.

The Data

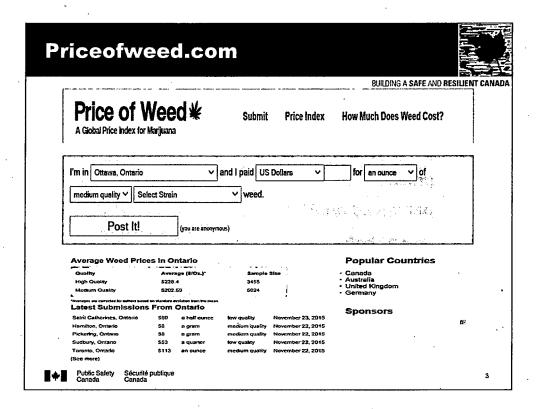


BUILDING A SAFE AND RESILIENT CANADA

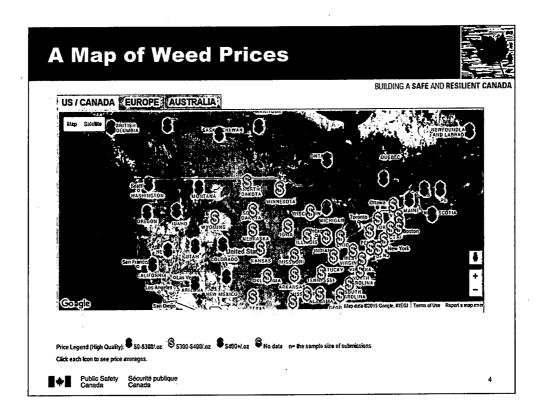
- Priceofweed.com:
 - geographic location;
 - price;
 - perceived quality;
 - strain; and
 - amount of cannabis purchased.
- Launched in 2010
- Google Maps

Public Safety Sécurité publique Canada

- Priceofweed.com is a website that crowdsources user-generated data on:
 - geographic location;
 - price;
 - perceived quality;
 - strain; and
 - amount of cannabis purchased.
- Started in 2010.
- The web site employs Google Maps technology to display price information by province, territory and state.



- This is what the website looks like.
- The web site focuses on price information for different quantities and grade of marijuana in their areas.
- The web site appeared to focus on the price of illegally sources of cannabis only; not medical cannabis.
- Presumably, this information can be used by cannabis consumers to allow them to know what a fair market price is in their jurisdiction.
- Such consumer price protection web sites exist for legitimate commodities; such as gasoline, for instance.



- This is how Google Maps technology is used to display the price information.
- It is possible to zoom in to see information about the averages for a particular province/state/territory, but not yet to a the Census Metropolitan level

Our Analysis



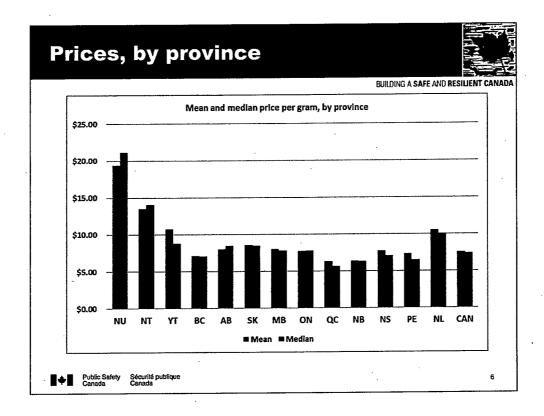
RUILDING A SAFE AND RESILIENT CANADA

- Over 2 years of data was harvested
- 5,752 price submissions from across Canada were analyzed
- Data was sorted and standardized for provinces and territories

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- Submissions from September, 2010 (which is the date that the website began its operations) to November, 2012 was harvested by a student.
- After cleaning up the data by removing 94 cases, for which the values of \$0 and exaggerated values such as \$999 (i.e., the outliers) for the price, we ended up with 5,752 cases.
- We then organized the data for analysis.



- Here is the provincial and territorial distribution of price per gram of cannabis.
- There are no real surprises here, as it is well known from other sources such as police investigative work, that cannabis costs the most in the territories, with Nunavut having the highest costs.
- Also, the provincial breakdown shows that the lowest prices are in Quebec and BC, which, again, is not surprising; considering reports by intelligence analysts that many criminal organizations in these provinces are active in the production and export of marijuana.
- Remember price is largely a function of the difference between supply and demand.
- '[Add bullets on possible price regions.]

Prices, by urban area



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- Analysis of price in municipalities is less reliable because of small number of cases
- For large municipalities, the average price is:

- Toronto: \$8.41/gram

- Calgary: \$8.18/gram

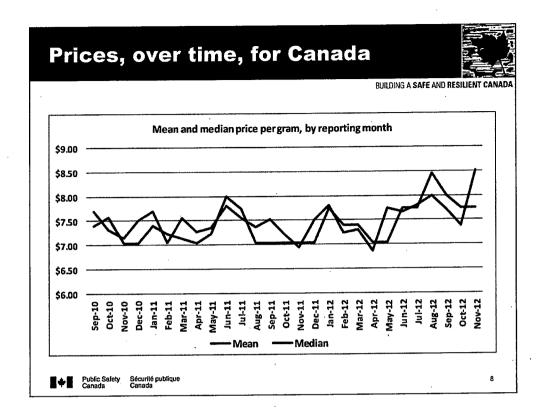
- Vancouver: \$7.56/gram

- Montréal: \$6.78/gram

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- The number of cases for most of Canadian municipalities is low, which makes the price analysis unreliable.
- The four cities that had more than 300 entries are Toronto, Calgary, Vancouver, and Montreal.
- Toronto has the highest average price and Montreal has the lowest.



- The number of entries per month seemed to be consistent throughout the 27 months of data. The average number of reports was 213.
- As you can see, there appears to be a seasonal variation in the price of marijuana, with spikes in June-July and December-January. We cannot explain these fluctuations because there is not enough variables available to us, but we can speculate that the price spike in summer and a decline in the fall might be explained by a restriction in supply at the start of the outdoor growing season and some increase in supply due to outdoor summer production being released onto the market. However, a price spike in mid-winter with declines into the spring is more difficult to explain.
- It was expected that indoor marijuana growers, who can produce multiple crops per year, would even out price fluctuations. This data may indicate additional indoor producers starting growing, or indoor producers expanding production, or outdoor growers moving indoors, in the Fall. In any of these cases, additional production coming on-line in the late fall and early winter may result in lower prices in the spring.
- Alternatively, there are suggestions that the summer price rise may be a
 result of people (especially those of high school and university students)
 consuming more over the summer holidays; thus, boosting demand. This
 pattern occurs with legal intoxicants, such as alcohol.

Limitations



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- Non-representative sample
- Data not verified or validated
- Reporting of illicit behaviours

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- The data generated by priceofweed.com is user-generated, and therefore
 is limited to the population that enters it (i.e., the website users). In other
 words, the website is not in the business of creating a national
 representative sample of cannabis purchasers and collecting price data
 from them. From the perspective of the standards on data collection, this
 would make the priceofweed.com data unreliable.
- The data is not verified or validated by the website. It is stored "as is."
 Users who are entering the data could enter any number, which will be
 recorded and stored in the website's database. No human or software
 program validates or verifies it.
- Other general limitations that apply to any collection of data on illicit or socially stigmatized substances apply to this data as well. Respondents who answer a questionnaire on tobacco smoking of use of drugs may, for example, underestimate their levels of use of substance. In the same vein, users entering the price information on priceofweed.com may report better or worse prices or quality of cannabis. But, a reverse argument could also be applied: since the price information is entered voluntarily, it could be argued that it is more reliable than interview or survey data because respondents are not under any pressure to respond. We just can't know these things, but these limitations need to be mentioned.

Discussion



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- Imperfect, but the best data we have
- Price information is vital, but more data is needed:
 - Consumption (i.e., quantity); and
 - Enforcement efforts.

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- While limited, the priceofweed.com data provides the best of what is currently available in terms of the black market price of cannabis in Canada. The other sources, such as police investigative data, takes a long time and a lot of funding to collect. By the time it is collected and released, it becomes relatively old. Priceofweed.com data, on the other hand, is upto-date, easily accessible, and free. Our database ends in November, 2012 because of changes in the way it is stored on the website. However, there are examples from academia where researchers run a "scraping" software on the website to collect data every day. Government of Canada cannot do that, but police and academic researchers could.
- The average price of black market cannabis generated in this study was
 used by Health Canada to estimate the likely equilibrium prices of medical
 cannabis. The assumption being that patients could switch to a black
 market supply of their medicine, forcing legal producers to improve
 efficiency and decrease profit margins to compete.
- Price information is very important to understand the patterns of cannabis
 use, production and distribution. However, only limited analysis is possible
 with these variables. We were able to perform only descriptive analysis on
 the data, and so are other researchers who harvest the priceofweed.com
 for data.
 - Only prevalence of use data is available in Canada. Two surveys

collect such data. Unfortunately, this does not accurately measure the amount of cannabis consumed. The amount of cannabis consumed is not known, but definitely needs to be.

The volume of cannabis consumed is required for econometric studies.

- It is requires for basic supply-demand modelling.
 Arguably, the price information could be used as a proxy for supply. However, the demand side measured through actual consumption of cannabis is missing.
- There are number of studies of legal and illicit tobacco, where both the supply and demand of tobacco is known, as well as price, which allows criminologists and economists are able to construct solid models.
- We are currently working on a paper discussing a wide number of Cannabis Performance Metrics. The paper will go into these issues in greater detail there. The paper is currently undergoing revisions and should be available for distribution soon.

Enforcement efforts:

- With timely data on enforcement efforts, it is possible to analyze the fluctuations in the price of cannabis from the perspective of effectiveness of enforcement. For example, if more resources are dedicated to combatting grow-ops in one particular area, it would be expected that the enforcement would affect the price of marijuana in that area, as well as areas surrounding it. Further, with proper and timely enforcement data it could be possible to build sophisticated models on trafficking and "corridoring" of cannabis in Canada by analyzing the fluctuation in the price users pay for the drug.
- In a regime of legal recreational cannabis, price data in the illicit market is still important. This is because the behaviour of consumers of cannabis, such as switching between markets, will be influenced by price. Also, price is required to measure the variable profitability of the legal, black and grey markets for cannabis, which will influence criminal opportunity; and, hence, the operations of criminal organizations.

References and Contact



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Here are the references that I mentioned during the presentation. And here is my contact information. Please feel free to get in touch so that I could forward you the papers, or in case you have more questions.