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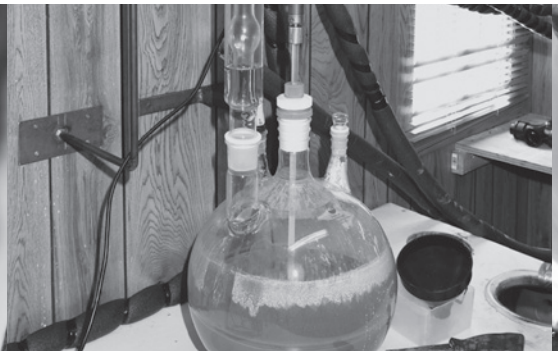
Canada

THE QUÉBEC SYNTHETIC DRUG MARKET:

A Supply and Demand Imbalance

A study of the operation and productivity of Québec synthetic drug laboratories, as seen over more than a decade of police investigations



Summary

This summary has been translated, from the original version in French, of the following reference:

CHARTRAND E. et M. THIBAULT-VÉZINA. *Le marché québécois des drogues de synthèse : un déséquilibre entre l'offre et la demande. Étude sur le fonctionnement et la productivité des laboratoires québécois de drogues de synthèse vus à travers plus d'une décennie d'enquêtes policières*, Montréal, Service recherche, qualité et planification stratégique, Sûreté du Québec, 87 p.

In 2010, the Sûreté du Québec dismantled an important methamphetamine laboratory. The picture shows a large reactor which was used in the process of drug synthesis.

Summary

The purpose of this report is to provide estimates relative to clandestine synthetic drug production in Québec. The report is based on research involving the triangulation of a variety of revealing police and legal data from more than a decade of investigations into the clandestine production of synthetic drugs in Québec. This primary objective breaks down into the following specific objectives:

- propose an alternative to the approach to police data generally taken by researchers outside the police community who work with a capture-recapture estimator to estimate the size of criminal populations;
- describe the situation in Québec with respect to clandestine synthetic drug laboratories, by identifying as precisely as possible the characteristics of these facilities that are likely to impact production capacity, and those of their operators;
- test a procedure for determining the production capacity of detected clandestine laboratories that integrates dynamic variables and takes into account the differences between the types of synthetic drugs (amphetamine-type substances [ATS] compared to ecstasy-group substances);
- propose estimates of synthetic drug production capacity in Québec, based on various scenarios introducing variations in the number of active laboratories in a year.

The estimation method proposed in this report is innovative because it focuses from a dynamic perspective on the performance of facilities dedicated to the synthesis of active substances. Our proposal is indeed intended to be dynamic, as it is based on equations that take into account the performance of the instruments at the chemists' disposal, preparation time depending on the type of synthesis process advocated, the operators' habits with respect to production cycles and the average lifespan of the facilities before they were neutralized by the police.

In addition, we propose estimates in the following areas:

- the total number of individual in Quebec involved in the synthetic drug production;
- the production capacity neutralized by Québec police forces over 11 years;
- the number of clandestine laboratories potentially in activity in Québec, by category of facility (medium-scale laboratory versus super laboratory) and type of substance produced (ATS or ecstasy-group substance);
- the quantity of synthetic drugs likely to be produced annually by clandestine Québec producers;
- the quantity of synthetic drugs that exceeds demand in Québec and is thus available for supply to other Canadian markets or for export outside the country.

What do dismantling cases tell us?

Our data, derived from 38 operational files across all police departments with jurisdiction in Québec, show no trend over time with respect to the number of investigations, the number of sites detected or the type of site; nor is there any trend in the number of laboratories, grouped into two categories—medium-scale and industrial-scale labs—based on performance and productivity.

Investigations during the period from 2000 to 2010 led to the detection of 46 separate sites, including 10 sites used solely for the storage of controlled precursor chemicals or other chemicals, 10 sites used solely for the production of tablets, 3 sites used for the extraction of ephedrine and, lastly, 23 sites housing the equipment and instruments necessary for the synthesis of active substances. So, over a decade, 23 laboratories were neutralized in Québec, 21 of which were operational at the time of the police intervention.

Ten of the operational laboratories were superlabs, while another 10 were medium-scale facilities. Contrary to the United States and elsewhere in Canada, only 1 small lab, commonly known as a "kitchen lab" (also called a "mom and pop lab" or "small toxic lab"), was found. We submit two hypotheses as possible explanations for this distinguishing feature of Québec. First, the type of marketing advocated by ATS producers since the early 2000s, namely, selling the substances in tablet form, is a considerable departure from observations in the United States, where the use of methamphetamine in crystal form (crystal meth) is highly prevalent. In Québec, the seizures carried out in various circumstances, combined with the observations made at ATS-synthesis sites and the pre-marketing operations respecting these substances, confirm the trend among producers to impose the tablet form on users. As a result, the consumption habits developed by Québec users perhaps do not incite them to try meeting their own needs by undertaking a series of operations requiring knowledge beyond mere methamphetamine synthesis. Second, the product's ready accessibility in Québec, together with its low price on the black market, may certainly be another reason why the province stands apart in this respect as well.

It is important to point out that distribution, by category and type of drugs produced, was virtually uniform over time in the 20 operational laboratories. As many superlabs were detected in the first half of the period studied as in the second. The same is true of medium-scale labs. The only thing resembling a trend, if indeed there is one, concerns the hybridity of production, and consequently of facilities, more clearly observed in the second half of the decade studied than in the first. In other words, the operators of clandestine laboratories maximize their facilities so as to produce both amphetamine-type substances and other subtances in the ecstasy group. That said, the equipment required to synthesize these two categories of substances is not absolutely identical.

Producers prosecuted in court and estimated population size

As regards, more specifically, the individuals who operated the detected clandestine facilities, 71 of them were tried in court, during the period studied, for their involvement in one of the phases prior to the marketing of synthetic drugs in Québec. The courts seized of these cases handed down 49 convictions for trafficking. Most of those convicted on that charge were on the periphery of the synthesis operations; in particular, they were responsible for the offsite production of tablets. During the same period, Québec courts handed down 34 guilty verdicts for synthetic drug production. It is worth noting that, over more than a decade, no individual was charged more than once for his or her involvement in a synthetic drug production activity, even when we broadened our definition of what a producer's work entails—in other words, even when we did not limit ourselves to chemists and other assistants working directly on the site of the synthesis operations.

Given this reality, and for the purpose of estimating the size of the Québec population of individuals engaged in the production of ATS or ecstasy-group substances, we were obliged to consider all subjects whose involvement could be concretely linked to the operations of the clandestine laboratories (chemists, suppliers of precursor chemicals, financiers, couriers, production administrators) on the basis of elements in the police investigation files. In addition, for the purpose of using the capture-recapture estimator, the data from the 38 investigation files comprising the base corpus of this research were augmented by the data from seven additional investigation files, which dealt with dismantling cases that occurred between 2010 and 2012. On the basis of three five-year sample periods overlapping at successive one-year intervals—2006-2010, 2007-2011, 2008-2012—that we defined in order to apply the Zelterman estimator (1988), we estimate that the number of individuals in Québec directly or indirectly involved in the production of the synthetic substances studied varies between a minimum of 770 (2006-2010) and a maximum of 1,288 (2008-2012).

Comparison with populations engaged in the clandestine production of another substance in Québec shows that the number of subjects playing any role whatsoever in the production of ATS and ecstasy-group substances continues to be rather small. We did not have the data necessary to attempt to accurately circumscribe the number of individuals with the knowledge, experience and skills required to run clandestine

operations synthesizing one of these substances. There are no more than 30 of them, though, based on the subjects working as chemists who were detected several times in the police investigations carried out between 2000 and 2012. A not-insignificant number of subjects in this population show up in two, even three, of the investigations analyzed. These observations support our hypothesis that the pool of clandestine chemists is still very small in Québec.

Quantities neutralized at source by the police over a decade

Through an exercise involving the standardization and conversion of all substances seized on the premises of the laboratories and on other, related premises (warehouses, pressing and encapsulation sites, precursor extraction sites), we believe that, in a decade, Québec police forces neutralized at source a total of 713 kg of ATS and 199 kg of ecstasy-group substances.

Analysis of annual compilations did not enable us to isolate any kind of tangible trend based on the chronological series in its entirety. In fact, there is no clear trend in the number of cases or in annual capacity. However, by dividing the overall period into two equivalent sub-periods of five years each (2000-2004/2006-2010), we came to the following realization: the actual production capacity neutralized by the police in recent years is double that of the early 2000s.

Thus, for the same number of cases, the police neutralized 432 kg of production in the second period (2006-2010), compared to 184 kg in the first period. This leads us to suggest that the networks of clan lab operators seem to have increased their production capacity in addition to striving for hybrid production, despite the legislative control measures limiting access to precursors that took effect during this period.

For several reasons, a number of elements prompted us to consider these quantities to be underestimates of the production capacity actually neutralized. One reason concerns the fact that, in some cases, we were able to detect only places downstream (warehouses) or uptream (pressing sites) of active laboratories, whereas we were not able to find the laboratories themselves. The main reason, however, lies in the fact that this snapshot of the quantities seized at source is intended to be purely static.

Dynamic estimate of the quantities produced by the facilities detected by the police

To estimate the quantities of drugs synthesized by the producers that were detected by the police, it is appropriate to include dynamic variables such as the period of activity of the labs prior to the day they were dismantled and, especially, to consider the variables associated with the output of the detected facilities and the production habits of their operators.

From this pespective, we distinguished two categories of laboratories, using several criteria: their respective production capacities based on equipment output, the type of synthesis processes advocated, and the average number of production cycles per month, according to the particulars of the investigations analyzed. In other words, we strove to reproduce the operation of the laboratories, taking into account the synthesis processes of the clandestine chemists, the equipment, and the time required for the various stages, based on the type of product and the techniques used. We therefore incorporated into a proposed formula for estimating production capacity from a dynamic perspective values representative of the average lifespan of these two types of laboratories before they were detected and neutralized, to the extent where this variable remains a valuable asset in accurately assessing the quantities of drugs sold on the market by these facilities before they were dismantled by the police.

In short, the values established further to this exercise are as follows: a medium-scale clandestine laboratory in Québec produces on average 1.25 kg of ATS and 2 kg of ecstasy-group substances per cycle. It may thus be inferred that one cycle a week—the equivalent of four batches monthly—is likely with respect to the production habits of chemists operating this category of laboratory. Caution, which was most probably excessive in the circumstances, prompted us to opt for two batches for the proposed estimates. As for the period of activity prior to detection, the observations on file enabled us to determine that clandestine chemists were able to operate their average-output systems 7.5 months before being discovered. To illustrate, the

10 operational medium-scale laboratories detected by the police between 2000 and 2010 likely produced 502.5 kg of synthetic drugs (262.5 kg ATS/240 kg ecstasy) before they were dismantled.

As for high-yield laboratories, the characteristics of the equipment found in these super labs lead us to estimate that their operators were able to run one cycle monthly, perhaps two, but no more than that. The advantage lay in the quantities produced per cycle. The median quantity was established at 10 kg per cycle for the ecstasy group, and at 7 kg for ATS. According to the observations on file, the average period of activity prior to detection for this category of facilities was 19.5 months. We estimate that the super labs dismantled in Québec during the period studied produced a total of 1,560 kg of ecstasy-group substances and 4,095 kg of ATS.

The sum of the estimated productions of the 20 labs detected (medium-scale labs and super labs) was a total of 1,800 kg for ecstasy and 4,360.5 kg for ATS, for a grand total of 6,160.5 kg of synthetic drugs over a period of 11 years. These quantities contrast dramatically with the figures above, which reflect a so-called static estimate based strictly on the sum of the quantities seized, or that could be produced based on the quantities of precursor chemicals in the operators' possession at the time the facilities were dismantled. It should be understood, however, that these are essentially estimates based on the number of laboratories detected or known.

Active laboratories and scale of domestic production capacity in Québec

Estimating the number of active clandestine laboratories calls into play the notion of the effectiveness of Québec police forces in detecting such facilities. In fact, it is about seizure rates. The absence of any seizure-rate references for synthetic drugs in Québec meant that we had to work with a compromise we considered valid, namely, the seizure rates proposed by a study of marijuana production in Québec. Taking into account a number of elements that complicate police work respecting synthetic drugs compared with marijuana production, we chose different seizure rates: 1.6%, 4.6% and 11%. According to these rates, the population of active clandestine laboratories in Québec varies between a maximum of 156 and a minimum of 24 laboratories. However, and considering that it would be surprising for Québec police departments to detect clandestine laboratories as readily as all forms of marijuana grow ops taken together, we find the scenario of 56 laboratories to be the most likely.

Estimated total annual production of synthetic drugs in Québec, based on different population scenarios for active laboratories

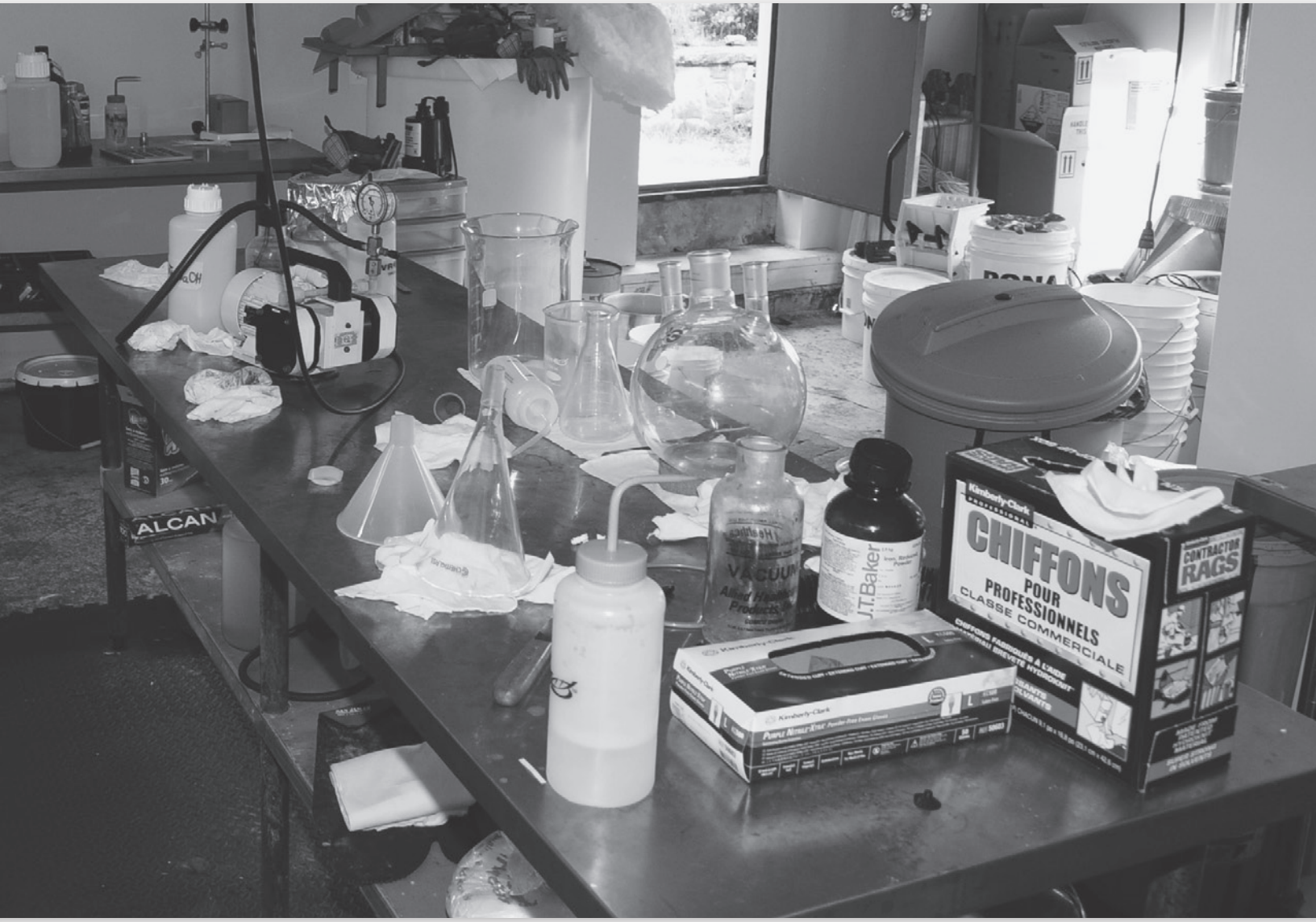
	Implicit number of active laboratories (all categories)	Estimated ecstasy capacity (kg)	Estimated ATS capacity (kg)	Estimated total capacity of synthetic drugs produced annually (kg)
Estimate based on the median production values and the lifespan, in months, of the laboratories*	156	6,030	17,363	29,423
	56	2,160	6,310	8,470
	24	930	2,632	3,562

* The median production for each category of laboratories, by substance type, was used, along with the median number of monthly batches. The life cyle of super labs was set at 12 months.

By applying what we learned from this research on the operation of clandestine laboratories in Québec, more specifically their respective outputs, their productivity and their life cycle, estimates such as those presented in the above table were calculated according to the most conservative scenario (from the standpoint of capacity per cycle and number of cycles). Thus, given the hypothesis of 56 active clandestine laboratories, the total annual production capacity in Québec is on the order of 8,470 kg (6,310 kg of ATS and 2,160 kg of ecstasy).

In light of our findings, the accusations levied against Canada and, by extension, Québec, are not as baseless as some unreservedly claim. According to 2009 estimates, the equivalent of 75.5 kg of ATS and 321 kg of ecstasy is consumed annually in Québec.

In short, regardless of the accuracy of our estimates and the choice of scenarios we propose, one fact remains: there seems to be a supply/demand imbalance in Québec for the two types of substances that were the focus of this research. It remains to be seen what impact this imbalance will have on more prevalent use of these drugs among Quebecers.



In 2009, the Sûreté du Québec discovered a clandestine laboratory used for the production of both methamphetamine and ecstasy. Several of these hybrid labs have been discovered in Quebec since 2000.