

## Drug Testing in South America and the Potential New Crack Epidemic- “Crack Plus”

*Patricio Labatut, David Martin and John Mazur*

### Abstract

Drug testing is common in the United States, but remains new to South American countries. Many businesses and companies in South America are beginning to understand the benefits of drug testing to promote a safe and productive workplace. However, there are cultural and legal considerations that need to be overcome before drug testing can become common in the South American workplace. A new form of crack cocaine containing pharmaceuticals or other additives, referred to in this report as “crack plus”, is now being produced in South America, and is becoming more frequently detected in the United States and Europe. The challenges for drug testing associated with the new crack plus potential epidemic will require newer and more expanded drug testing methods to detect these additives. Chile, Argentina, and Colombia workplace drug testing will be highlighted in this report.

### Key Words

Drug testing, South America, Chile, Argentina, Colombia, workplace, crack, additives, Levamisole, Phenacetin, crack plus

### Introduction

South America includes 12 independent countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela. Its population is estimated at more than 385 million. The native languages are Spanish and Portuguese (Brazil). There are approximately 192 million Portuguese-speaking and 193 million Spanish-speaking people. The continent of South America has an

area of 6.8 million square miles, ranking fourth in size after Asia, Africa, and North America. It also ranks fifth in population size after Asia, Africa, Europe, and North America.

It is projected that by 2015, many South American countries may have a similar per capita income, from new job creation, compared to the developed countries. These new jobs will create the opportunity for more drugs to enter the workplace. As a result of increased drug related accidents, thefts, and costs, as well as lower job performance, employers will be encouraged to develop drug-testing programs. Currently in South American countries, there are only a limited amount of drug-testing programs currently available. Hair and oral fluid drug testing is still unavailable to the majority of South American countries. Even if a company program requires the collection of hair or oral fluid for drug testing, the samples will most likely have to be sent internationally for analysis. The standard drug tests developed over the past 25 years in the United States need to meet the challenges of the newly emerging forms of crack cocaine, which include dangerous additives such as pharmaceuticals.

### [South American Cocaine and the Potential New Crack Epidemic](#)

South America has the unfortunate distinction of being the world's largest producer of cocaine. A new and disturbing form of crack cocaine is emerging from this region and is spreading globally. Crack cocaine is a solid form of powder cocaine that is smoked. Powder cocaine is produced from the coca bush, which is widely grown in South America.

In 2010, the total area under illicit coca bush cultivation in South America was 154,200 hectares. This is 6% less hectares than in 2009. A hectare is a metric unit of measure equal to 2.5 acres. The major producers are Bolivia, Peru and Columbia. The cultivation of the coca plant in Bolivia is 31,000 hectares, representing 20% of the illicit cultivation of the plant in South America (1). In Peru, the illicit cultivation increased by 5.2% in 2011 to reach 61,200 hectares. The illicit cultivation in Colombia decreased from 2009 by 15%. It still has 62,000 hectors under cultivation, and it is projected that the decrease will continue. As such, Bolivia and Peru are now emerging as significant producers of the coca plant in South America as well as centers of the new crack cocaine potential epidemic.

North American countries, primarily the United States, followed by European and then South American countries, are the biggest markets for illicit cocaine. Cocaine produced in Colombia is sent mostly to these foreign markets. The cocaine from Bolivia and Peru is sent to those foreign markets as well, but is primarily used in the countries of the Southern Cone: Argentina, Chile, Paraguay, and Uruguay. Recently, Brazil has also been shown to be an increasingly major consumer of Bolivian and Peruvian cocaine and Oxy. This has been observed in Brazilian cities, such as Acre, that are located near the borders of Bolivia

and Peru. The illicit market for cocaine in the United States has declined significantly in recent years. However, in 2009, with an estimated annual use between 150 and 160 tons, the United States remained the largest illicit market globally. The U.S. authorities estimate that 90% of the cocaine used in North America comes from Colombia. The amount of cocaine used in Europe has doubled in the past decade. Recent data has shown evidence that cocaine use is stabilizing at higher levels, around 120 tons (2).

Most North American and European cocaine comes in the powder or hydrochloride form, which is inhaled or injected. In South America, cocaine is used in the form of crack that is smoked, and is sometimes mixed with marijuana or tobacco. It is here that the new crack epidemic, which is different from previous epidemics experienced in the United States and Europe in the 1980s, has its origin. It is not new for South American crack to have additives and impurities. It has been used in that form for many years. What is new is the variety and extent of the additives purposely added to the crack to have it produce a more unique effect in order to differentiate it in the market from traditional crack. There is no shortage on the amount of illicit cocaine bush propagation, powder cocaine, or crack cocaine manufacturing. As such, the cartels are now adding wide varieties of pharmaceuticals and other agents that are unique and more marketable. This is the new “Crack Plus” referred to in this report.

Crack plus is manufactured in jungle labs or homes and is referred to as Merca, Oxy, Bazuko, Pasta Base, or Falopa, to name a few. This form of crack is now spreading across South America and into North America and Europe (3). The new crack plus is marketed to produce unique effects or highs, distinct from traditional crack, to attract new clients. Unfortunately, these unique effects are toxic and potentially lethal.

Cocaine is primarily manufactured in jungle-based camps using very crude methods. One manufacturing camp has a different method than others. Their process is not controlled, is highly variable, and is very unsanitary. This produces the cocaine powder which then is converted into the solid form, rock or crack cocaine.

In the production of the new type of crack, there is a significantly reduced refining process which allows impurities, including dangerous chemicals, to remain in the final product. This makes the new crack cheaper to produce. The reduced cost of production allows for a lower price, making it much more accessible to the poor as well as to street children.

As previously stated, the initial manufacturing process to produce powder cocaine often leaves trace and sometimes significant amounts of by-products that are harmful and could cause serious illness. Here is a list of some of the by-products of cocaine and crack manufacturing that can be present in the final product:

- kerosene
- gasoline
- battery acid
- calcium oxide
- sodium bicarbonate
- acetone
- organic solvents

All of these are used in different stages of production of cocaine powder and will ultimately end up in the crack produced.

What is more concerning is the new wave of intentional additives, which some cocaine manufacturers add in the jungle labs to make these products “unique”. The new term used in this report for the new form of crack is “Crack Plus”. Crack plus is crack with a wide variety of pharmaceutical and other additives to produce a unique high. This has created a new crack public health emergency in the streets of South America that is now spreading worldwide.

Here is a list of some, but not all, of the additives now found in South American cocaine powder and the new crack:

- Levamisole: veterinary medication expels gastrointestinal worms in cattle
- Phenacetin: banned cancer causing pain reliever
- Procaine, Benzocaine and Lidocaine: local anesthetics
- Femproporex : stimulant like amphetamine
- Fluoxetine: and other antidepressants

- Diltiazem: heart rate regulating medication
- Paracetamol, Dipirona: pain relievers
- Hydroxyzine: antihistamine

“Crack Plus Levamisole” produces a different effect to the user or “high” than traditional crack. Unfortunately this additive is dangerous and has been associated with crack addict deaths. The most startling recent report is that 50% of crack addict autopsies reveal the presence of Levamisole (3). Levamisole is a cattle deworming veterinary medicine that decreases the body’s immune system in humans. This allows for a number of serious opportunistic infections, especially in HIV positive crack users that already have compromised immune systems (7).

“Crack plus Phenacetin” produces yet another very different effect or “high” to the user than “Crack Plus Levamisole” or traditional crack and is marketed as such. Phenacetin is a banned, off the market pain relieving medication that is known to cause kidney damage and cancer. There is still tons of Phenacetin available, some of which is now starting to be used as an additive in crack.

There are literally dozens of new crack plus forms of drugs now on the streets of South America and spreading worldwide. Now that we know that several new crack plus forms exist and the dangers associate with them, plans need to be made to address this new “Potential Crack Plus Epidemic”.

The first plan should be education and prevention campaigns that are simple and targeted, as the most vulnerable group includes children and young adults. Follow-up medical testing of crack addicts, to insure their immune system has not been compromised or exposed to excessive amounts of cancer causing and other compounds, is also needed. Not all of these by-products and additives are easily detected in urine or other biological samples. Some research in this area is currently underway, but a great deal more is needed. One current research approach is to screen for Levamisole and Phenacetin in urine samples of known crack users. This could be an early warning system to alert treatment staff that the patients may need follow-up testing to check kidney function, cancer markers, and immune function.

Another concern is that this new form of crack plus is inexpensive, perhaps only a few dollars for small rock. All the by-products and additives make it very dangerous and potentially deadly. This is especially true for child addicts, whose bodies are smaller and still developing, or addicts in poor health.

In addition to these new crack plus and cocaine public health concerns, there still remains the problem of inhalants like gas, toluene, paint, glue, and other solvents on the streets of South America. This is a very serious problem for South America as there is a large population of street children addicts who work for drug dealers in the illicit drug trade. In addition to being paid in crack plus, these children are also paid in inhaling solvents. This is a serious public health and safety issue for South America's most valuable and vulnerable resource, its children.

### Prevalence of Drugs and Alcohol

It is very difficult to find accurate alcohol and drug prevalence numbers. This is not a problem unique to South America. It is a problem worldwide. Most prevalence rates are based on interviews with citizens who may or may not provide accurate answers. Here are official reports of three South American countries:



Chile: According to the World Drug Report, UNODC 2011, the prevalence of alcohol was 57.5%, Cocaine 2.4%, Marijuana 6.7%, Amphetamines 0.4 % and Ecstasy 0.1%



Argentina: According to the World Drug Report, UNODC 2011, the prevalence of alcohol was 61.4%, Cocaine 2.6%, Marijuana 7.2%, Amphetamines 0.6% and Ecstasy 0.5%.



Colombia: According to the World Drug Report, UNODC 2011, the prevalence of alcohol is 50.2%, Cocaine 0.8%, Marijuana 2.3%, Amphetamines 0.5% and Ecstasy 0.3%.

It is interesting to note that the prevalence of alcohol and drugs in both Chile and Argentina are similar.

The alcohol and drug prevalence numbers appear low because they are estimated based on surveys (5) which may have incomplete or inaccurate information. The important thing to note is that they reflect a trend that is very similar to Colombia figures.

Unfortunately, these figures may not accurately reflect the reality of South America drug and alcohol consumption. In the case of Colombia, a recent study at the schools in 2011 shows a consumer alcohol prevalence of 56.7%, a marijuana prevalence of 5.2%, and a cocaine prevalence of 1.8% percent.

These figures are higher, double for marijuana and cocaine, and are more in line with the reality of drug and alcohol abuse in this country. These figures also point out the inconsistencies between various studies and research in the same population (6).

### Facts about Drug Testing

Perhaps the most important fact about the rules for drug testing in South American countries is that there are no rules.



The term "no rules" mean that there are no laws prohibiting or mandating drug testing in the South American countries. It is important to point out there are no standards for drug testing as there are in the United States.

In some South American countries there are certain laws that prohibit drug use in certain dangerous occupations, such as mining.

These commonly are in contradiction with other laws in the constitution of that country, which often implies that these prohibitions are without penalty.

Here are some examples:

#### Chile:

- In general, there are no rules or regulations on testing protocols for private companies.
- 5% of private companies use a pre-employment and occupational testing for alcohol and drugs (A&D), 10% offer a prevention A&D course, and 85% do nothing.
- There are at least three important laws related and in conflict.
  - Labor Code: Forbids working under the influence of alcohol, but does not address drugs.
  - Mining Code: Forbids drug and alcohol use in mining operations and allowing police force if necessary to remove employees under the influence of alcohol and drugs.

- Presidential Decree (P.D.) 1215: Establishes a testing protocol for public employees similar to the United States Federal Drug Testing Mandated law but involves only some positions and not the decision makers like Ministers.
- Courts: Trials for drug use in a workplace are just beginning. Chile currently has only 1 or 2 cases a year.

For more information on this please go to: [www.senda.cl](http://www.senda.cl) and [www.globalpartners.cl](http://www.globalpartners.cl)

#### Argentina:

- There are no rules or regulations on testing protocols for private and public companies.
- Labor code does not establish any reference to the topic of alcohol and drugs at work. The full labor code is available at: <http://www.infoleg.gov.ar/infolegInternet/anexos/25000-29999/25552/texact.htm>
- To ship human samples out of the country, you must have a certification from the Administración Nacional de Medicamentos (ANMAT), equivalent to FDA in the United States. If you want to collect samples and ship them back to the United States, you must pay around \$50USD.

For more information: [www.sedronar.gov.ar](http://www.sedronar.gov.ar) ; [www.observatorio.gov.ar](http://www.observatorio.gov.ar)

#### Colombia:

- There are no rules or regulations on testing protocols for private and public companies.
- Labor Code: Forbids working under the influence of alcohol or drugs but does not specify protocols to prevent or test for drug use at the private and public companies.
- Presidential Decree (P.D.) 1.108: Forbids drug use at work for workers whose activity involves risk and public safety.
- Contractors of large oil companies, aviation, and mining industries must be accredited under the Record Management System Occupational Health, Safety, and Environment (R.U.C.), which administers the Colombian Safety Council. To get the R.U.C. you must have a Drug and Alcohol Policy.

#### In Summary

There is a potential new epidemic of crack plus in South America that is spreading worldwide. We have documented the problem, and now need to develop prevention, drug and additive testing, and treatment programs to address this new epidemic.



There are no rules or regulations on testing protocols for private and public companies in South America. There is opportunity to establish workplace testing standards in this region to promote public health and safety. Many companies, including third party administrators (TPAs) in the United States, are starting up in South America with the vision that drug testing will be mandated and used as a cost reduction strategy in local and international businesses.

Private companies that use workplace drug and alcohol testing in South America are usually multi-national companies. This accounts for less than 8% of the companies in the region. Chile is one of the most advanced countries in the region and is working to establish a national standard for drug-free workplaces.

The labor codes in the majority of South American countries do not have specific laws related to drug and alcohol testing at workplaces. The situation of South America is similar to that of the pre-1980s American drug-testing situation, when there were no national standards for drug collections or testing.

Some South American countries are well aware of the correlation of abuse of alcohol and drugs in relation to accidents and other costs. They are interested in drug-testing programs, but it is a slow process that is just starting to evolve. Drug education, testing, and prevention is not given the same relevance and importance to public health, safety, and business profitability that it has been given in the US and European countries.

With industries like mining, construction and transportation, there is an increasing demand for knowledge regarding the consequences and cost benefits of drug testing. It is with informed leadership within this region that drug education, testing, and treatment is to insure the health and safety of its citizens in this new epidemic of crack plus that is affecting not only nations in South America but nations worldwide.

### [Author Information](#)

Patricio Labatut is a drug testing expert in South America. He is also the Executive Director of Global Partners, an international firm based in Santiago, Chile that specializes in implementing Drug Free Workplace Programs (DFWP), education, drug testing, and legal support in South American countries. He currently serves as a member of the Drug and Alcohol Testing Industry Association (DATIA) Board of Directors, Co-Chairman of the International Committee of DATIA, and co-author with Professor Solis on the first Drug Free Workplace Program to receive international certification from DATIA.

David M Martin, PhD, is author to over 100 publications, presentations, and book chapters on substance abuse, drug testing, and treatment. He has been involved with substance abuse research as a research

associate at Yale Medical School's Department of Psychiatry since 1973. He built one of the first drug-testing laboratories and TPAs in America that was certified to test Federal Employees. He currently serves as courtesy assistant professor for the Department of Psychiatry at the University of Florida's College of Medicine, and as Scientific Director for the US State Department's National Drug Abuse Survey in Afghanistan. He is also a past Chairman of the Drug and Alcohol Testing Industry Association (DATIA).

John Mazur, BS, is a recent graduate of Florida Institute of Technology. He is currently a research associate working directly with Dr. Martin on a number of international drug abuse studies in addition to preparing for his admission into medical school.

### References:

(1) Report of the International Narcotics Control Board for 2011, UNITED NATIONS PUBLICATION ISSN 0257-3733, South America, 479 - page 72.

(2) Report of the International Narcotics Control Board for 2011, UNITED NATIONS PUBLICATION ISSN 0257-3733, South America, 504-524, p.75-77

(3) Drug Enforcement Administration Educational Foundation. Trans-Regional Symposium Crack Cocaine. March 27-28, Tampa, Florida.

(4) World Drug Report 2011 - UNITED NATIONS OFFICE ON DRUGS AND CRIME (UNODC) Vienna.

(5) National Drug Studies in General Population of Chile and Argentina by SEDRONAR (Argentina) & SENDA (Chile) 2010.

(6) National Survey of Substance abuse in Colombia School Population - 2011. The study was conducted by the National Government of the Republic of Colombia, through the Ministry of Justice and Law (Drug Observatory of Colombia), the Ministry of National Education, and the Ministry of Health and Welfare (MSPS), with support from the United Nations Office on Drugs and Crime (UNODC), the Inter-American Drug Abuse Control Commission (CICAD), the Organization of American States (OAS), and the U.S. Embassy in Colombia.

(7) Levamisole tainted cocaine causing severe neutropenia in Alberta and British Columbia, L. Knowles et al. *Harm Reduction Journal* 2009, 6:30 pp1-7.

### **Conflict of Interest**

I declare that I have no proprietary, financial, professional, or other personal interest in any product, service, and/or company that could be construed as influencing either the position presented in, or in the review of, the manuscript entitled “Drug Testing in South America and the Potential New Crack Epidemic-“Crack Plus””

Authors: Patricio Labatut, David Martin, and John Mazur