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Carfentanil: World's Most Dangerous Opioid

By Nandhakumar Gunasekaran & Tan Teck Boon

Synopsis

Carfentanil, a tranquiliser for large animals, surfaced recently as a street drug in North America. The synthetic opioid can also be weaponised for use against civilians. Authorities worldwide need to intensify screening for the highly dangerous drug at customs and border checkpoints. But is it opioid or would-be chemical weapon?

Commentary

IN LATE 2017, the Drug Enforcement Agency (DEA) in the United States issued a warning after carfentanil – an extremely deadly synthetic opioid – appeared on the streets of major US cities. True to its street names 'drop dead' and 'serial killer', carfentanil has been killing unsuspecting drug users in the US since it surfaced in 2016. What is noteworthy is that the emergence of carfentanil has important public health and security implications.

Used by zoos and veterinarians as a tranquiliser for large animals like rhinoceros, bears and elephants, carfentanil is a synthetic opioid not meant for human consumption. Opioids refer to a class of dangerous drugs that are either natural or synthetic. They include plant-based street drugs like heroin and morphine as well as strong prescription pain medications such as oxycodone and hydrocodone. Carfentanil and its cousin, fentanyl, are man-made substances concocted by chemists in drug laboratories.

Killing Addicts

By inhibiting pain signals from travelling to the brain, opioids not only dull the sensation of pain but also trigger a sense of euphoria. For this reason, opioid drugs like

oxycodone and hydrocodone are prescribed for short-term pain relief. Found naturally, morphine (and its derivative, heroin) is many times stronger than oxycodone.

Fentanyl meanwhile, is 50 to 100 times more potent than morphine. Carfentanil, the most potent of all, is 100 times, 2,500 times and 10,000 times more powerful than fentanyl, heroin and morphine respectively.

Since its appearance, carfentanil has already claimed the lives of several hundred unsuspecting drug users in North America. Many of the victims thought that they were just using heroin when they were really injecting street drugs laced with carfentanil. Because carfentanil costs significantly less to produce than heroin, drug dealers can dramatically increase their profits by mixing the two together.

A kilogram of carfentanil purchased for a few thousand dollars can easily turn into a profit of several millions for drug dealers. Besides heroin, there is also mounting evidence that carfentanil is now being added to other street drugs to increase their strength.

A Chemical Weapon?

Carfentanil is more than a deadly substance used to lace street drugs. A mere 0.6 milligrams (0.0006 gram) – roughly the weight of a couple of grains of table salt – is likely enough to kill an adult person; it can, therefore, in theory be turned into a chemical weapon for use against innocent civilians. In other words, a small amount of the deadly substance can be used by terrorist groups and rogue states to kill thousands of people in one go.

It is believed that several countries have tried to weaponise carfentanil. An aerosolised version of it was reportedly used in 2002 by Russian Special Forces to immobilise Chechen rebels holed up in a Moscow theatre. The gas proved so toxic that in addition to immobilising the rebels, it was said to have also killed more than 100 hostages.

An unscented and white powdery substance like table salt, carfentanil can be absorbed through the skin, inhalation and ingestion. For that reason, first responders arriving at any crime scene where the presence of carfentanil is suspected must wear some form of protective clothing like N95 masks, safety goggles and protective gloves to avoid coming into accidental contact with the lethal substance.

Deadly Mail Delivery

A knowledgeable chemist working in a small lab can quite easily produce carfentanil after sourcing for the precursors. The deadly substance is reportedly manufactured in secret drug labs in Asia. In China, for example, illicit drug laboratories evade enforcement authorities by listing fake addresses and using third-parties to conduct transactions that are difficult to trace.

Ordered through the Internet, carfentanil is shipped with the help of express mail services to drug dealers halfway across the world in North America. To avoid detection by customs officials, shipments are normally sent in small packages.

US customs officials have seized close to two kilograms of carfentanil since 2016. With a deadly dose amounting to just 0.6 milligrams, two kilograms of seized carfentanil would be enough to kill more than three million people. Due to carfentanil's extreme lethality, US customs officials are now required to take extra precautions when screening for the substance.

Combatting Carfentanil

The appearance of carfentanil as a street drug in North America should be a matter of concern for other countries not only because of the danger it poses to drug users but also because it can be weaponised to kill innocent civilians. Stopping carfentanil will be challenging but not impossible.

First of all, authorities around the world need to strengthen detection at their sea, air and land checkpoints for the deadly substance. That means investing in and deploying the kind of detection technology needed to safely spot carfentanil before it can be smuggled into the country. In addition to human traffickers, special attention should also be paid to the mail system since there is evidence that it is being used to traffic the deadly drug.

Secondly, countries where carfentanil is produced also need to crack down on illicit drug labs and ban its illegal export. That would cut off carfentanil at its source and make it more difficult for drug users in other countries to purchase it. In that regard, China's ban of carfentanil and three similar drugs in March 2017 is a positive development.

Not all countries where carfentanil manufacturing is suspected will ban its illegal export, however. For that reason, international cooperation and pressure are needed to bring these countries into the fight.

Carfentanil has no legitimate human use. Potentially a chemical weapon, it is now being added to street drugs. Authorities worldwide need to work together and act against the extremely lethal opioid before this deadly development spins out of control.

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