

iGEM Concordia 2019

Head Nurse at a Re-adaptation clinic

Interviewed by Pamela Yataco

The following has been put together to convey the interview and is a rendition as well as a translation from French, versus the exact words.

Pamela

We are working on a biosynthesis project that focuses on decreasing the deaths caused by the opioid crisis. We are working on a patch that would detect fentanyl, we are here to ask you some questions. What are your opinions on biosynthesis and genetic modification?

Nurse

I think it's something that eventually will lead to medical breakthroughs. This is still a new science and it still needs to be developed. In the coming years, I think this will be the future.

How do you foresee biosynthesis being used in in the future in your field?

We are currently working on projects to improve the health care available to drug users. Biosynthesis is something that I think will continue developing in the field of medicine.

In your experience, what causes the individuals that seek help in your clinic to use these drugs?

This is the building for the Mother program. I am the head of nursing, so I have worked in this and the general program. We have seen adults, people with mental disorders, adolescents, francophone, anglophone. I would say that because of the level of the crisis all groups are affected. They come to our centre to clear themselves of the drugs. We focus on the abstinence of drugs rather than harm reduction. What is most important in our program is that we prepare them to reintegrate in society when their program is finished, as relapse can be very dangerous. The importance is they go out well; to prepare them when they finished because precisely, if they relapse it is more dangerous. Our staff members are trained to give naloxone if needed, in case someone outside of the centre requested it, or one of the patients that come back is in overdose.

What are the main demographic groups that take part in your program?

It usually affects the regular adult population. People that have mental health issues are not the majority. Teenagers are a major group that is affected. Fentanyl is now laced into everything and makes it more dangerous for these groups.

Have you treated someone having overdose?

I have not. However, one of our practitioners at the Quebec centre has given Naloxone to someone at an event close to the centre.

The individuals that come here had not overdosed in the past?

Not necessarily. It is certain that when they come in for treatment. none of the patients should consume during their stay. However, some individuals have overdosed before coming to the centre. Individuals come here because they have tried to quit in the past with other methods which have not worked. Some have a history of overdoses but in our hands, there has never been any incident. Overdosing can happen post-cure, that is when they are reintegrated to society. The risk of overdose exists during a relapse.

individuals have relapsed. We do work with the street teams as well as with clinics. We have a doctor that comes here every two weeks, and clinics oversee following-up with the patients.

Have you worked here for a long time?

I worked at the Mother's centre and in our mental health program.

Have you seen changes in opioid consumption during your time working here in Quebec? I've heard that the crisis here has been handled differently than in British Columbia.

Nurse: Yes, indeed the crisis is different in British Columbia. In Quebec, there is much more prevention done with the help of street workers. Training for Naloxone, we are improving **more and more**. The fact that it is being laced into everything, like cannabis, is motivating this change.

What's the biggest challenge in working with patients?

We work in abstinence however we always try to make patients aware of possible relapses. Even if we are not working harm reduction, we must provide information about the opioid crisis to the patients.

I did not know there were this many resources available for victims of the opioid crisis.

There are several groups involved, the IDQ, clinics, Street workers and other groups that focus on prevention. There is a lot of prevention work at Laval. The crisis occurred later in Quebec, so I think that we were better prepared.

What are there methods of prevention that you use in your clinic?

In case that a participant does not complete their session, we will always give them information on the opioid crisis and also warn them of the dangers of taking the drug. We also recommend other resources that they could turn to later on.

I will tell you more about our project. This is a patch to prevent overdoses and detect fentanyl in the sweat. Fentanyl strips exist but they are not being used. This patch would prevent deaths by accidental fentanyl consumption. It would detect the molecule in sweat, creating an electric current in a circuit and a device could send a signal to your phone or other people around you, or the manager of the establishment to warn of a possible overdose. Do you think that there could be any improvements in the design of the project?

So, the user would have to allow the application to send messages to a specific person. Can emergency services be contacted?

Yes

If that is the case. The people that are being monitored could have this device message the Street workers, and their intervening. However, if an individual is not being monitored and does not have this network then they would not be able to profit from this, and only rely on the help that they could get would be emergency services.

The level of effectivity would depend on the network a person has.

Yes, and also the people that are in the streets don't usually have a cellphone. They will often sell their phone to buy more drugs. This restrains the group that could use this application. I know that in Ontario there is research on establishing an online network in which the patients can talk with clinics. Keeping them in check and linked with their team.

Do you think that this would cause a pro consumption culture?

No, I don't think that this will encourage people to use more. We need to cover everything. I think that we must keep the means to test for fentanyl. I think that your product enlarges the spectrum of resources that are available to people. It also makes people aware of the crisis and diminishes the danger of consuming.

I think that just having a product like this exist can spread awareness of the crisis. This has been the case with the use of the strips.

It makes the crisis much more real to people. When they hear that groups are working on different projects to address the crisis.

Do you think that any barriers could stop some individuals from using this patch?

The availability of technology, such as phone, is the main barrier. I think however that there are some groups in which you can affiliate yourself with, such as people that are working with street medicine. These people may be in contact with the main demographic that you may want to target for your project.