Rapid and accurate testing the key to a return to normalcy

And here are three companies working on it.

Imagine a global pandemic caused by a new virus. Apparently it has been around for 6, 8 or 10 months and may or may not have come from China (depending on which expert is talking on any given day).

The symptoms are multiple (and variable and inconsistent between infected people, or so it seems) and the test for it is a long nasal swab inserted into your body that is uncomfortable at best but usually quite painful.

Then imagine that the test results (none of which may be accurate) take 2-6 days and may come back as:

- Positive
- Negative
- False Positive
- False Negative

Oh, and apparently, there is also a blood test for antibodies which would tell you if you had the virus… but actually there are many (unreliable) blood tests that may produce the same range of four results as above.

Exhausted yet? We all are, as the current pandemic has set the world on its ear, crippled the global economy and created an undeniable environment of fear.

However, there are glimmers of hope for accurate testing which

would allow the world to get back to an almost pre-virus life. Instead of waiting days for suspect results, companies are focusing on technology using quick, accurate, inexpensive and technologically proven procedures that do not require highly trained staff or expensive equipment.

Three Canadian public companies are at the forefront of developing these new, non-invasive, technology driven coronavirus tests that will be accurate, eliminate (mostly) the need for that sketchy nasal swab, and provide nearly instant, accurate results.

Sixth Wave Innovations Inc. (CSE: SIXW | OTCQB: ATURF)

The newest entrant in the public markets, Sixth Wave began trading in February 2020 after a previous merger with another public company and subsequent financings, etc. Current market capitalization is approximately C$26 million.

Sixth Wave is a development stage nanotechnology company with patented technologies that focus on extraction and detection of target substances at the molecular level using highly specialized Accelerated Molecularly Imprinted Polymers (AMIPs). Since every substance has a unique size, shape and chemical properties, these attributes can be utilized at the individual molecule level to create highly efficient adsorption/detection media to solve problems that cannot be solved with conventional means.

What does this mean? In simple terms, they can detect anything at the molecular level and this technology has already been successfully deployed in both the cannabis and gold mining industries. In practical terms, by using AMIPs, Six Wave’s technology could be used to detect COVID-19 in airborne, water and wastewater environments. Further, successful development of their technology could also be rolled out to provide

accurate, almost immediate testing for the coronavirus in individuals.

Sixth Wave (along with its partners) recently received approval from the Natural Sciences and Engineering Research Council of Canada to advance virus detection technology testing using AMIP. Successful testing could optimistically be completed before year-end with an available product possible for market in early 2021. A publicly available product could be as simple as a face mask that changes colour if positive for COVID-19.

Sona Nanotech Inc. (CSE: SONA | OTCQB: SNANF)

Sona Nanotech is a well-established public company whose technology development of gold nanorods started back in 2013. The company went public in 2018 and has a current market capitalization of approximately C$677 million, although this has jumped dramatically since February 2020 as a result of the coronavirus pandemic.

Gold nanorods have multiple uses, but the potential for providing near-instant results has very much excited the market. Using lateral flow assay technology testing (comparable to a home pregnancy test), a positive or negative test for coronavirus can be determined without the need for specialist lab equipment or operators. In April 2020, Sona tested a working prototype of the test in a hospital laboratory environment with live, COVID-19 patient samples, achieving positive results. Further testing is underway and of course government approvals will be required

The company’s analytical test still requires the dreaded nasal swab for the evaluation source material, but results should be more accurate and available in minutes.

XPhyto Therapeutics Corp. (CSE: XPHY | OTC: XPHYF | FSE: 4XT)

Originally created for the cannabis industry, Xphyto Therapeutics has subsidiaries in Alberta and in Germany. Established in late 2017, the company went public in mid-2019 and has a current market capitalization of approximately C$190 million. The company had a strong share price prior to the coronavirus pandemic due to its other products, but application of related technology has caught the market's attention.

Since starting in the cannabis space, the company has branched out in Germany with strategic acquisitions/development agreements in diagnostics and therapeutic films. In part due to the arrival of the coronavirus pandemic, the company first initiated an infectious diseases program in February 2020 which was directly transferable to developing a low-cost, "real time" oral pathogen screening platform for COVID-19 in March 2020. By July, the company had confirmed successful function of its proprietary COVID-19 RNA probes and its universal coronavirus RNA probes in prototype lateral flow assay testing. Visual confirmation of test results was observed in five to seven minutes.

Short of an actual vaccine, rapid and accurate testing continues to be the Holy Grail in the world-wide response to COVID-19 and the key to a return to economic and social normalcy. These are among the companies to watch with innovative testing technologies.