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Company Update

20 February 2020

COVID-19 VIRUS AND PATH-AWAY® - QUESTIONS AND ANSWERS

Holista Colltech (ASX:HCT) refers to the announcements made by the company in recent weeks in relation to the coronavirus Covid-19 (previously referred to as the "Wuhan Virus" as it was reported to have originated from Wuhan, China). As at 2 pm on 20th February (Thursday), Covid-19 had infected more than 75,725 people and claimed 2,128 lives according to John Hopkins Centre for Systems Science and Engineering – grim statistics that already surpass the deadly SARS outbreak in 2003.

At the onset, the Company extends its heartfelt condolences to the families of those who have succumbed to the virus and wishes a speedy recovery to those affected. We also commend the medical and healthcare professionals at the frontline of the fight to contain the spread of the epidemic as well as those seeking to discover and develop medical cures or vaccines.

The announcements made by Holista to ASX on January 29 and 30, and February 6 and 10 have generated considerable media and investor queries. In response to these queries, the board has decided to issue the following Q&A.

Holista has drawn upon the expert knowledge of two eminent persons connected to the Company to provide input in addition to that of its founder, CEO and major shareholder, **Dr Rajen Manicka**. The two experts are:

1) **Dr Roscoe Moore Jr**., Holista's Scientific Advisor, is the retired Assistant Surgeon General of the United States. On 4 February 2020 he was appointed to the U.S. 'Corona Virus Task Force' designated by Dr Bob Gallo, Director of the Institute of Human Virology ("IHV"), University of Maryland Medical School, and co-discoverer of the HIV virus. Dr Moore serves on the Board of Advisors of IHV, and the Board of Directors of the Global Virus Network, a not-for-profit entity of IHV. The Task Force will prepare a review, and research goals to mitigate the Covid-19 epidemic.

2) **Dr Arthur V. Martin**, a globally respected scientist, engineer, lecturer and author, is the founder of Global Infection Control Consultants LLC ("GICC"), a partner company of Holista. GICC has pioneered scientific breakthroughs in understanding the dynamics of the pathogenic bio-aerosol connection to the human infection matrix. The GICC team under his leadership has developed unprecedented expertise related to pathogenic contamination. It owns the technology and processes of Path-Away®, the active ingredient that has been used in the NatShield™ handheld sanitiser distributed by Holista that is the subject of the announcements.

Questions for Dr Arthur Martin, Founder of GICC and Partner of Holista

1. What is Path-Away®?

Path-Away® was developed by GICC. It is an all-natural plant-based active ingredient that contains no alcohol and no substances originating from genetically modified plants. It is safe if swallowed and may be used by all age groups in all stages of life. It was developed with the help of my late brother who was a Plant Pathologist and was used originally to sanitise Clean Rooms, Hospitals, and Heating, Ventilating and Air Conditioning Systems ("HVAC") systems. The ingredients of Path-Away® are certified as Generally Regarded As Safe ("GRAS") and approved by the Food and Drug Administration ("FDA") of the United States.

2. Please explain the science and how it works.

The series of individual plants and processes used to create the product is proprietary to GICC. The process creates a final product that almost instantly kills more than 170 pathogens that include viruses, bacteria and fungi. It kills the AIDS virus and even the very difficult to kill Mycobacterium tuberculosis. To date, it has been shown to kill coronaviruses that we had tested prior to Covid-19.

The way it works is that Path-Away® attaches to the virus and weakens the cell walls by inhibiting its ability to take up amino acids – the basic building block of cells. In scientific terms, we call it a 'disruption of the cellular structure of mephitic pathogens'. This disruption forces the virus cells to clump together, in the process of killing themselves, almost instantly.

3. Why doesn't Path-Away® harm humans (or pets) if it so effective in killing the virus cells?

Mephitic pathogens (from viruses) have a different metabolic rate from that of humans or most domestic pets. A unique feature of Path-Away®, achieved after years of R&D, is that it targets these mephitic pathogens and spares cells and normal healthy bacteria of humans and even pets by detecting the different metabolism rates. Hence, while potent, the compound has been certified by various scientific bodies, healthcare regulators and governments to be environmentally safe with very low toxicity.

4. Which institutions or authorities have recognised or certified Path-Away®?

Apart from the ingredients being GRAS-certified and approved by the U.S. FDA, Path-Away® is exempted by the U.S. Environmental Protection Agency ("EPA"). It is listed in the United States Pharmacopeia ("USP") and has undergone successful USP-51 testing as a disinfectant. Path-Away® is also approved by the American Food and Safety Authority and Environmental Protection Authority of New Zealand as a "non-rinse sanitiser". It is approved for use by Malaysia's Ministry of Health, with special reference to the H1N1 virus (a pandemic flu outbreak in 2009 involving a new type of influenza A virus subtype which resulted in dozens of deaths in Malaysia alone).

5. What is the progress of laboratory tests of the efficacy of Path-Away® on Covid-19?

GICC is currently working with China to ascertain if this solution is effective against the Covid-19. I am the Chief Scientist for a Tianjin-based Biotechnology Company which is working very closely with the Chinese Government.

6. As a scientific expert on this subject, what advice would you give people amidst the ongoing outbreak of Covid-19?

The best way to protect yourself is by washing hands regularly with soap and water as it reduces the amount of all types of germs on our hands. One should wash hands with soap especially before/after eating, using the washroom, coughing, sneezing and blowing your nose. Avoid close contact with sick people. Also, observe these practices:

- Stay quarantined if you are sick.
- As we have clearly established hand-to-nose transmission of viruses, avoid touching your face, particularly the nose.
- Cover your mouth with a tissue while coughing/sneezing and throw it in the trash immediately.
- Clean and disinfect any frequently touched objects by using a regular household cleaning spray/anti-bacterial wipes.

7. How effective are masks and general anti-bacterial sanitisers?

Surgical masks and anti-bacterial sanitizers are not completely effective. Masks are typically loose-fitting and hence just block the large particles or droplets and not the small ones. The normal anti-bacterial sanitisers are effective only against bacteria and not proven to be effective against viruses.

8. Can you describe the past involvement of GICC in helping governments or other regulatory bodies, corporations in containing such viruses?

I have worked in more than 20 countries, often directly with governments, with many private companies and multi-national companies with operations in different geographic locations.

We completely transform how infection control for pathogens is approached. *We do that through education, actual facility assessments and a complete restructuring of Protocols and SOP's to improve conditions for occupants, workers, visitors and patients.*

9. Please list specifically your previous role in Asian countries - which years, for whom and for which disease or virus?

As an Environmental and Mechanical Engineer who is also President and Principal Research Scientist of GICC, I have personally conducted more than 4,000 assessments in my career for chemical biological, bacterial and viral contamination. I pioneered the concept of "Prophylactic Air Management for Pathogen Control". I have an extensive list of publications and peer-reviewed awards and lectures worldwide on the subjects of Pathogen Control and Indoor Air Quality. Amongst others:

- In February 2003, when SARS hit Singapore we started serious research on how our organic product could be utilised against things like SARS.

- In June 2009, when H1N1 impacted Malaysia, our product was tested successfully on H1N1. The tests were conducted in a laboratory in Malaysia that reports to the World Health Organization ("WHO").

- In September 2012, the MERS virus appeared in Saudi Arabia. I was invited by H.R.H. Dr Prince Faisal Bin Mohamed Bin Abdul Aziz Al-Saud of the Saudi Royal Family to work with Saudi Ajwaa Environmental, part of The Faisal Group of Companies to restructure how infection control was handled in Kingdom.

Questions for Dr Roscoe Moore, Scientific Advisor of Holista

10. You were recently appointed to the 'Corona Virus Task Force'. Please elaborate.

On 4 February 2020, I was invited to be a part of the 'Corona Virus Task Force', designated by Dr Bob Gallo. He is co-discoverer of the AIDS or HIV virus. I already serve on the Board of Advisors of Institute of Human Virology (IHV), School of Medicine, University of Maryland, and the Board of Directors of the Global Virus Network, a not-for-profit entity of IHV. The Task Force will prepare a review and research goals to mitigate the Corona Virus epidemic and prepare better for future ones.

11. You have held a very senior position in the office of the U.S. Surgeon General. What is your view of Path-Away® from the public healthcare perspective?

I have long been involved in public healthcare. It is difficult to find a natural substance that is effective against a vast array of disease-causing agents. More importantly, the mechanism in which Path-Away® disrupts the outer coat of these disease-causing agents, almost instantly, means that there is no risk of the development of resistance. It is colourless, non-staining, washable and odourless. It is also heat- and light-stable. It can be produced in a standardised way. These make Path-Away® a tremendously useful substance. As a trained veterinarian and former Chief Veterinary Medical Officer for the United States Public Health Service, I envision major applications of Path-Away® in preventing and controlling disease in farm animals and pets as well.

12. What are your comments on the Nasal Balm Sanitiser that Holista is developing using Path-Away®?

I think the idea is good. The nose is an open target for microbes. The nose has the right conditions – warm, dark and damp. The nose is a particularly exposed body part when it is cold outside and that is why we have more cases of influenza in winter (in temperate countries). Nasal secretions are also a great medium for bacterial and viral growth. They multiply quick and migrate deeper into the sinuses and then to lungs causing the real damage. Influenza with secondary bacterial infection is a major cause of death worldwide each year.

Questions for Dr Rajen Manicka, CEO of Holista CollTech

13. What is your specific relationship with GICC?

I have personally known and worked with Dr Arthur Martin for 15 years. I met him when he was staying in Malaysia as part of the Government's "brain gain" programme. The relationship blossomed as we developed ideas, concepts and products together. This led to Holista securing the distribution rights of Path-Away® for Malaysia, Singapore, Thailand, Indonesia, Philippines, Vietnam, Brunei, Myanmar, Cambodia and Laos, Australia and New Zealand. We have the right to manufacture the final product from the concentrate. We also hold licensing rights for a piece of equipment (and processes/protocols) designed by GICC that can dispense Path-Away® into the atmosphere which would be useful in managing air quality in public places such as airports, transportation hubs, campuses/schools, large commercial offices, malls and hospitals.

Over the years, we have been working on a **Nasal Balm Sanitiser** which will contain Path-Away®. Holista will share the global rights of this product with GICC.

14. From your point of view, what is causing the delay of tests on the efficacy of Path-Away ® with respect to Covid-19?

The situation in China is chaotic as you can well understand. Dr Arthur Martin's people have lined up Path-Away® for testing and we are all waiting for the necessary approvals for travel, logistical issues and testing/certification, etc. Meanwhile, we are also getting Covid-19 tested in the United States through Dr Roscoe Moore's network.

15. You have previously announced that you were out of stocks of the NatShield™ sanitiser and have difficulty coping with this increased demand. How has this been addressed?

Holista has a strong working relationship with GICC. NatShield™ is a Holista product bottled in Malaysia under license from GICC. We ship the active ingredient in drums from South Carolina, and mix about 3% of Path-Away® with purified water, as per standard protocols of GICC.

This outbreak shows up the huge shortage of supplies of bottles and spray heads which are all made in China. While we have no issues with the supply of Path-Away®, the availability of bottles and the spray heads in Malaysia was our constraint. Until now, the main market of NatShield™ is Malaysia, where we have distribution agreements with three pharmaceutical chains with a combined network of over 3,000 outlets.

Since the start of February Holista has also received enquiries from other countries, including Thailand, Australia, United Kingdom and Switzerland.

We have also started discussions with bottlers and packers elsewhere in Asia. As of 14 February 2020, we have signed agreements with three (3) U.S. FDA-approved bottling facilities in The Philippines. We expect to bottle in the Philippines to commence by the end of February 2020. These efforts will take the pressure off the Malaysian operations. We are now confident of meeting an increased demand for NatShield™ from the end of February.

16. What is the efficacy or potential of Nasal Balm Sanitiser for Holista from your point of view?

The nose is very sensitive. As such, you cannot easily use substances in there and have it line the inner nose for a long time. Compared to most other medical or healthcare substances, Path-Away® is benign to the nasal membranes. As it is odourless, it is exceptionally suited for the human nose.

Our new product will be a pharmaceutically enhanced balm for specific nasal use. We expect it to extend Path-Away®'s effectiveness for 8 to 12 hours (compared to 1–2 hours for a spray from the sanitiser). This will make it a very useful part of daily living.

We are now working on the prototypes and expect to file patents by end March 2020. The product will be ready for sale by June 2020. We expect regulatory clearance as "personal care" or "cosmetic". This means quick and easy regulatory approvals in most countries and fast access to the market.

17. How else are you extending your partnership with GICC?

First, we are the only company that Dr Martin allows to handle the concentrate and dilute as per his protocols.

Second, Dr Martin, who is an engineer by training, has developed equipment and processes to deliver Path-Away® to enclosed public areas. This equipment (and the associated protocols) monitors, measures and manages the particulate count of the air and mist-sprays the Path-Away® as bioaerosol, in the process sanitising the air. We intend to work with GICC for its "Prophylactic Air Management for Pathogen Control" system for which Holista has regional rights. We will be making a specific announcement on this in due course as we feel it will be extremely useful in ensuring health and safety of public spaces such as airports, transportation hubs, hospitals, campuses/schools, offices and shopping malls, as well as airlines and passenger ships.

18. Do you consider the outbreak of COVID-19 as a one-time event, or could there be more such cases in the future? How is Holista preparing and positioning itself to address potential future outbreaks of viruses and related diseases?

COVID-19 Fatality rate: 2.4%	**Cases** **64,434**	**Deaths** **1,383**
US seasonal flu* Fatality rate: 0.07%	**13,000,000**	**10,000**
SARS Fatality rate: 9.6%	**8,437**	**813**
MERS Fatality rate: 34.4%	**2,494**	**858**
EBOLA Fatality rate: 43.9%	**34,453**	**15,158**
H1N1 Fatality rate: 17.4%	**1,632,258**	**284,500**

Source: China's NHC, state media, other authorities
*US Centers for Disease Control and Prevention (CDC) estimated data from 2019-20 Season

#Updated figures of Covid-19 as at 16 February are 1,670 deaths and 69,281 infections (2.4%)

As you can see from the chart, with mutating viruses becoming more virulent and going global, we have such events occurring more and more frequently – SARS in 2003, H1N1 in 2007 and 2010, MERS in 2012, Ebola in 2014 and 2016 and Covid-19 in 2019 and 2020. We seem to have an outbreak at least every 2-3 years.

Covid-19 has already eclipsed SARS in numbers of those affected or killed but pales in numbers with Ebola and H1N1.

However, the seasonal flu in the United States alone afflicts 13 million people and kills 10,000 every year. We think that will always be a need for a hand-held NatShield™ sanitiser that is consumer-friendly, safe and easy to use. Hence, we believe that our upcoming Nasal Balm Sanitiser (which we expect to be ready for international markets by the third quarter of 2020) will be useful in helping people – especially those in temperate countries (including North Asia and Europe) – prepare themselves before the onset of winter when flu cases are at their highest.