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## Prenetics Founder Danny Yeung On Helping Restore Normality During Covid-19



Photo: Alex Maeland for Tatler Hong Kong

**By Lauren James** December 01, 2020

Danny Yeung, CEO and co-founder of genetic testing company Prenetics, has launched fast, cheap and—he says—accurate Covid-19 rapid testing to help restore normality to a stricken world



All eyes are on Danny Yeung. In a world desperately—in some cases even recklessly—seeking a return to normality, the Chinese-American entrepreneur and his genetic-testing company Prenetics are building a business model in the hope that rapid testing can make activities like travel and large events possible once again.

A career built on pivoting from one industry to the next set Yeung up for the extraordinary journey he started this year. Less than 12 months after he created a certain amount of buzz in Hong Kong with the launch of CircleDNA, which sells at-home test kits that detect disease risk, food sensitivities, personality and behavioural traits, Yeung's company became one of the forerunners in a global race to roll out a rapid, cheap Covid-19 test. Prenetics began selling one in April under the brand name Project Screen by Circle that produces results in 16 to 24 hours.

But the goal to restore travel and in-person events is dependent on something much faster and more reliable. Yeung is testing a new technique called "RT-Lamp", short for reverse transcription-loop mediated isothermal amplification, that produces test results within 30 minutes and can be operated at low cost without specialist equipment or training. Unlike polymerase chain reaction (PCR) technology, currently the gold standard of testing worldwide and required by the Hong Kong government to gain entry to the city, Lamp, Yeung claims, has at least a 92 per cent accuracy rate with no false positives, which would make it a far better alternative to other methods, such as antigen testing, when dealing with people who are asymptomatic. The 300,000 samples Prenetics has processed to date in Hong Kong have yielded 300 positive cases from individuals who may have gone on unknowingly to infect others.

Like the virus itself, Covid-19 research moves rapidly as governments worldwide seek to bring a sense of control back to societies paralysed by unmanageable infection rates. In October, Prenetics acquired Oxsed, a company founded to commercialise the Oxford University research that yielded a Covid-19-specific Lamp test. And by mid-November, as Hong Kong and Singapore were on the cusp of establishing a "travel bubble" between cities, Yeung began rolling out Lamp at scale on incoming travellers at Hong Kong International Airport.



Photo: Alex Maeland for Tatler Hong Kong

“We solemnly swear to be the change we want to see in the world, and to pass on the gift of good health and the power of prevention” , reads the Prenetics manifesto displayed in the company’ s North Point headquarters.

Yeung, 42, does not claim to be a scientific expert: he is an entrepreneur first and foremost, yet he has built a strong team of researchers led by Dr Lawrence Tzang, Prenetics’ co-founder and chief scientific officer, and a board of medical academics and genomics experts. Sharp and skittish, Yeung speaks in rapid-fire bursts punctuated with countless utterances of “correct?” as his breakneck train of thought races ahead. The running thread is his hands-on attitude and unyielding energy: in 15 years, he has gone from making mango puddings during his venture into restaurant franchising, to taking out the bins for his e-commerce firm uBuyiBuy, to reading research voraciously to keep Prenetics at the edge of genetics. His uBuyiBuy site was sold toGrouponand Yeung was the online giant’ s Asia-Pacific CEO until 2014, when he started a family and began investing in early-stage start-ups.



In the boisterous Prenetics office, desk staff are separated from laboratory technicians by a glass wall, a physical manifestation of the transparency for which the company strives. In an industry marred by mistrust after DNA testing companies including 23andMe and Ancestry were found to sell data to drug-making firms, and the industry darling Theranos was declared a fraud, CircleDNA positions itself as a competitor that does not sell data, allows registration under a pseudonym and deletes customer information on request, while Project Screen's samples are anonymous—unless they are found to be positive. The tests have been adopted by football and cricket teams in the UK, as well as staff in more than 16,000 restaurants.

While at one of them in Hong Kong earlier this year, the enormity of Prenetics' responsibility and potential hit Yeung when he overheard other diners marvelling at the Hong Kong company that had enabled the English Premier League football teams' return to training, leading to Liverpool winning the cup. "Who would think a Hong Kong company would be helping the Premier League resume their season?" says Yeung. "That drives me every day: knowing we're at the forefront, not just in Hong Kong, but in the world for Covid-19. We are very proud that this started from Hong Kong."

*See also: How Hong Kong's Bars And Restaurants Are Banding Together To Adapt During The Coronavirus Pandemic*



Photo: Alex Maeland for Tatler Hong Kong

## How have your operations changed this year?

It was March when we asked what we could do to help the situation. It was difficult to get tested early on. You had to go to private hospitals and pay thousands. In April, we launched Project Screen, mailing at-home PCR Covid-19 tests to individuals' homes for them to send back to our laboratory. We wanted to make them accessible, so we charged HK\$900—we felt we shouldn't make money on the pandemic. At first, we were doing 50 to 100 tests daily, which rose to 20,000 in July. The government appointed us as the first private Hong Kong laboratory to test people, particularly those who were asymptomatic.



## How was the company able to pivot so quickly to Covid-19 testing? Did you need to acquire any extra resources?

We talked to many experts about where to source new materials and how to actually do the tests. We underwent a lot of validation, both internally as a company and externally from the government, to make sure the test works. In the early stage, we were working 18- to 20-hour days. At the height of our testing in July, I was handing out kits in the high-risk places no one wanted to go to, like Wong Tai Sin. As the founder and CEO, I'm not going to tell [my staff] to go places I wouldn't. If we commit to doing something, I have to put myself at risk and show the team we're all in this together.

## How does the accuracy of Lamp compare to PCR?

PCR will always be the gold standard for a diagnostic test, but the Lamp test is 92 per cent accurate and delivers results within an hour. It's the best available solution to make [testing] work in an apartment or an airport, as PCR takes too long. This will be rolled out before the end of November, by all indications. But it will only be for travel bubble purposes, because the key is to make sure the community is safe. Countries like the UK or Switzerland have thousands of cases on a daily basis. No one would want those travellers to come in.

## Is that even for asymptomatic cases?

Lamp is still what you consider a nucleic acid test, like PCR. You're looking for the virus to see if it's in the DNA. Meanwhile, antibody tests look at whether you have previously been infected and antigen tests look at proteins that only develop once you have



symptoms. Whether you have symptoms or not, Lamp can detect the virus with 92 per cent sensitivity and 100 per cent specificity, which means you won't test positive if you're aren't. We've already got approval from the UK's MHRA [Medicines and Healthcare products Regulatory Agency], which is the FDA equivalent, as well as the CE [regulatory approval] mark in the EU, and we are gaining approval in many different countries now.

## Which airports are you currently operating within?

We're doing pre-departure testing in Heathrow and testing on arrival in Hong Kong. We need to prove it works with big numbers. Our Lamp trials started in early November. So everyone arriving in Hong Kong has to do the government's PCR test as well as our Lamp test. No one likes getting a nose or throat swab, so we're also trialling a new sample method collection: gargling. Everyone knows how to gargle mouthwash. You take 5ml of water into your mouth, gargle it and spit it out.



Photo: Alex Maeland for Tatler Hong Kong

## How will this change travel in the region?

We look at this as much greater than just changing travel: it enables normality for every part of our lives, whether it's travelling, schools, events or sports. As long as it's easy people will do it. The future will be travel bubbles, which eliminate the need for quarantine but you still want pre-departure and arrival testing: with dual testing, the risk of actually having someone slip through the net is almost one in two million.



## How can people be reassured that a private company will look after their data?

Companies need to have governance among themselves to protect the data. We are regulated by authorities in terms of our lab processes and data practices. It's not like anyone can just open the door. We're only testing for Covid-19; there's no other ulterior motive. Our tests are not identifiable by name: they use barcodes and only those tested positive are identified. We're not creating anything new. We're taking existing technologies that have been well established, well-validated and have full transparency by sending it to other people for them to validate too.

## What lessons from your previous start-ups have you brought to Prenetics?

I can survive wherever I am and whatever I do ... but you have to surround yourself with people as passionate as you. You need people who believe in your vision and are willing to sacrifice the short term for longer-term gains, all without knowing that there will be longer-term gains. In our team, I don't need to tell people what to do: everyone just knows. Working until 3am for an 8am meeting is natural for us because we know how important our work is.

## Why did you decide to move into the healthcare sector?

I resigned from Groupon on April 28, 2014, the date my daughter was born. We were the largest e-commerce company in Hong Kong and Taiwan but I wasn't learning anything new. As a new father, I took health much more seriously. While investing in early-stage start-ups, I was inspired by 23andMe. I found it fascinating you could learn so much from



saliva. The more I looked into it, the more I realised how important genetics is. If you understand your genetic risk for disease, such as cancer, you can do prevention.

The word “prenetics” comes from prevention and genetics. We wanted to make a scientific product that people could easily understand. Our kits are packaged like iPhones and come with a bracelet that says “change” : we want to inspire people to change based on the results. Three years ago, I found out through a genetic test that I have an increased risk of colon cancer, so I lost nine kilos, cut out red meat and started having colonoscopies aged 37; had I waited until I was 50, it might have been too late.

## Was there anything in your upbringing that influenced your current career?

I came from a very average, below middle-class family that didn’ t have any money. We immigrated to the US fromGuangdong, China, when I was five. As a child, I was independent because my parents were both working all the time. I liked creating things but I didn’ t like school. I got kicked out of all three high schools I attended for getting into fights. I was hanging out with the wrong people, such as Chinese gangs in San Francisco.

I started working as a telemarketer at age 15 for timeshare vacation getaways. At 18, I worked full time and went to community college at night. Eventually, I graduated from the University of San Francisco. It was a very different journey I’ ve had to get to where I am today. I always knew that if I needed to make something myself, I needed to work hard and have a great business. You have to put yourself in the right situation; you have to seize each opportunity.