

Coronavirus: Made in Hong Kong face masks a joint effort by 'chemistry godfather' and social enterprise

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A reusable face mask initiative attempts to address a pressing local problem by offering a global solution: *"The design should be universal so I'm not charging for the patent. Everyone can download the template and tailor their own masks,"* said Dr Kenneth Kwong, the mastermind behind the HK MASK project – an effort to tackle Hong Kong's shortage of surgical masks amid the deadly coronavirus outbreak.

Thanks to filters manufactured by a local company and a textile workshop organised by a local social enterprise, the reusable masks were launched on February 21 and an open day for the media to view the production line was held the Sunday before.

Kwong, widely known as "K Kwong," holds a PhD in chemistry: *"Some people online question whether I'm qualified to pull off this project. I am no face mask expert but I know a lot of the experts,"* he said.

Having been a celebrity tutor for more than 30 years and a former lecturer at the Chinese University of Hong Kong, Kwong estimated that he has taught around 100,000 students: *"I maintain good relationships with a lot of [former students] who hold important positions in various industries,"* he said, adding that the project was a collaborative effort made possible by crowdsourcing talent.

Each mask consists of **cloth pieces manufactured by social enterprise Sew On Studio**. The material is then sewn together to create a hollow pocket, filled with **replaceable filters made by local company FOCUS Filtration and Engineering Limited**.

Kwong said he does not mind if other factories mass-produced his design: *"No one should monopolise healthcare businesses... I got requests for printing 'Hongkongers, keep it up!'. Everyone can customise their masks so long as they fit on faces with a good seal,"* he said.

"Most cloth face masks don't work. It is true that they start off as anti-bacterial fabric, but you need to disinfect the mask after each use," Kwong said.

The outer cloth jacket of the HK MASK can be sterilised at high temperatures by boiling or microwaving the material at home, although the filter needs to be replaced, Kwong added. Each bundle sold contains one cloth mask with 20 to 50 filters, **costing HK\$1-2 per use**, which may be lowered depending on future circumstances.

"There are many reusable face masks with replaceable filters on the market but I doubt their effectiveness," Kwong said. During the design stage, he and his team prioritised having the mask fit tight around users' faces to ensure all air breathed would pass through the filter: "You need to weigh up every fine detail when assessing its effectiveness," he said.

Elastic straps age the quickest and need to be replaced after approximately 100 uses: *"Or else it will loosen up and allow unfiltered air to enter from the sides," Kwong said. "We tested a mask using airtight fabric. It felt tight so it meant the design worked and hence safely covered the face."*

Kwong invited English and Japanese simultaneous interpreters and foreign media to his product launch event: *"I hope to export the idea and attract talent in order to refine our design. This version needs to be perfected and I am open to teaming up with people on ideas," he said.*

Social enterprise collaboration

Forty volunteers from **Sew On Studio** have been working relentlessly for weeks on each stage of production, from its design to cutting fabrics and sewing them using machines.

"[The studio] approached Dr Kwong to collaborate after we saw his Facebook post," founder of Sew On Studio, Wilsome Lok, said.

Founded in 2016, the studio mostly serves the elderly: *"Some of them become reclusive and introverted because they feel embarrassed about their out-of-fashion and ill-fitting clothing. They think of themselves as socially unacceptable and become reluctant to go out. We are dedicated to rebuilding their dignity with better clothing," Lok said.*

Kwong said he enjoyed working with the Studio: *"Our discussion time added up to no more than one hour. There was no hesitation. We have been [working] with full force," he said.*

"The original design attached one long piece of string but it was later modified to several shorter sections to prevent misuse," Kwong wrote in a Facebook post describing his collaboration with the Studio, which helped to refine the design by taking its user base into consideration.

"We have a network of talent made up of old tailor masters, textiles and fashion graduates, and volunteers - like housewives - good to go for K Kwong's master plan," Lok said.

Mask shortage solution?

Amid the virus outbreak, face mask supplies have dwindled, with long queues forming outside pharmacies as people scramble to buy the in-demand product. The government said in a press release last Monday that it would be counterproductive to control mask distribution and prices through legislation because the problem was about inadequate supply.

Tuen Mun District Councillor Sam Cheung said the city has been struggling with the shortage: *"Even if I could secure 40,000 face masks, that would only be enough for 20,000 residents to consume in one day," he said at a visit to Kwong's face mask workshop.*

"Citizens are very anxious about the scarcity of face masks. Even as district councillors, we don't have exclusive access to face masks. We shop like everyone else. I was Dr Kwong's past student and contacted him for further information, hoping that this could be the solution to the shortage of mask supplies."

The Tuen Mun District Council approved HK\$1 million for purchasing and distributing free face masks but the project has been beset by problems: *"Our orders often got rejected. We have encountered incidents of shipments being stolen. There have been too many uncertainties. We never*

post about face masks until we have the actual stock in hand. We don't want to give people false hope," Cheung added.

In response to Chief Executive Carrie Lam's announcement last Friday of an HK\$30 billion fund – a portion of which will go to supporting local face mask manufacturers – Kwong said in a Facebook post on Friday that he had not received any support from the government yet.

Kwong's Facebook page cover photo reads: *"Regardless of whether you are yellow (Pro-Democratie) or blue (Pro-Beijing), masks are what save Hong Kong,"* with the two colours vaguely representing pro-democracy and pro-government political stances.

"I've said this multiple times. 'Masks for all' comes before anything, profit or politics," Kwong said.

P.S.

<https://www.hongkongfp.com/2020/02/21/coronavirus-made-hong-kong-face-masks-joint-effort-chemistry-godfather-social-enterprise/>