ZaoRenWu (People): Fishballs, Tombstones and Shoelaces

Leading a Doctor from Treating Patients to Healing Hearts and Caring for the Masses

Professor Chia Kee Seng, 68, is the founding dean of the Saw Swee Hock School of Public Health at the National University of Singapore, which was established in 2011. After retiring in 2018, he has remained active in public health education. Over the years, he has worked tirelessly to advocate the importance of public health. Beyond focusing on workplace safety and health, he has also emphasised that society must greatly elevate its attention to the principle that "prevention is better than cure," especially in relation to extremely common yet often overlooked silent health killers. What, then, led him to choose a behind-the-scenes role? In this edition of *Zaorenwu*, we hear him tell his story.

Fishballs, tombstones, and shoelaces—three objects that seem completely unrelated—unexpectedly became the key turning points that led Professor Chia Kee Seng onto the path of public health.

Growing up under the "brainwashing" of his elders, Chia Kee Seng set his sights early on becoming a doctor to save lives. Before he had even entered primary school, his father left home, leaving his mother to raise him and his six siblings on her own; at the time, the eldest sister was still studying. By scraping together whatever she could, the mother managed to bring up all the children. Chia Kee Seng later graduated smoothly from Raffles Institution and went on to study medicine at the National University of Singapore. As for which specialty he would eventually choose, he did not yet have any clear plans at the time.

In 1979, while in his fourth year of medical school, he was posted to the emergency department for rotation. One night at around 1 a.m., a man entered the emergency department supported by a friend, who was carefully cradling the man's hand. The hand was wrapped in a brown paper bag, and the man's face was contorted in pain. The doctors were all curious: what exactly was inside the paper bag?

When they opened it, they found—to their astonishment—a small meat grinder.

It turned out that the patient was a fishball vendor who had met with an accident while making fishballs: half of his palm had been drawn into an

electric meat grinder. Doctors immediately placed him under general anaesthesia and arranged for technicians to saw open the metal casing of the grinder with tools, only then revealing a hand that had been severely crushed. An orthopaedic surgeon subsequently spent 16 hours performing a complex hand reconstruction surgery.

Unexpectedly, the moment the surgery ended, the orthopaedic surgeon forcefully slammed the surgical instruments onto the floor and said angrily in the operating theatre:
"This is already the second—or maybe the third—similar case I've seen this month! Can someone go out and tell them to stop putting their hands into electric meat grinders? This poor fellow—even if the surgery is successful, his hand won't be usable for the next six months. If he's the sole breadwinner of his family, what are they going to live on?"

These words dealt a huge shock to Chia Kee Seng, who was still a medical student at the time.

Treating individual patients is important; promoting population-level prevention is even more important

Chia Kee Seng said:
"Doctors often focus only on curing patients, like a car repair shop. A car gets damaged in a crash; we fix it, and we feel very accomplished because the car can run for another five years. But that doctor was different. He wasn't just a 'repairman'; he was thinking further ahead—asking whether it was possible to prevent such tragedies from happening again and again."

This way of thinking planted the seed for Chia Kee Seng's commitment to public health, and also led him, at a subconscious level, to more deeply grasp the real urgency of "prevention is better than cure."
"For me, being a doctor is certainly important, but preventing disease and injury is even more important. Prevention should not be done only at the level of individual patients; it must be promoted at the population level."

Later, while serving as a house officer at then Toa Payoh Hospital, his conviction to move into the field of public health became even stronger.

One night during a night shift, the wards were packed with fifty to sixty patients, with beds even lining the corridors. At the time, only two house officers and one fully qualified doctor were responsible for three wards—the pressure was self-evident.

That night, an elderly patient suddenly collapsed, and Chia Kee Seng immediately began resuscitation. Before he could finish handling the situation, cries for help came from another ward: a young patient had also collapsed. Worse still, the other two doctors were nowhere to be found, leaving him alone to deal with everything.

With no other choice, he handed the elderly patient over to an inexperienced nurse and focused all his efforts on saving the younger patient. At that very moment, an even younger patient was rushed in unconscious for emergency treatment.

That night, three patients passed away one after another.

This left Chia Kee Seng deeply frustrated, repeatedly questioning himself: as a doctor, one's duty is to save lives, yet so often one is powerless.

Health education must reach people on the ground to truly be effective

"Sometimes the problem doesn't lie in individual capability, but in the system as a whole. Why were there only three doctors covering three wards during a night shift? I began to question the system. A doctor can only save one life at a time—this kind of impact is indeed limited. While it is hugely meaningful for the individual, from a population perspective, the influence is minimal."

In 1987, he began practising in occupational medicine and frequently saw patients from various professions. On one occasion, a patient from Malaysia complained of shortness of breath and was breathless even when climbing a single flight of stairs. Following the usual occupational medicine practice, Chia Kee Seng asked about the patient's occupation and later made a home visit, only then discovering the root of the problem.

It turned out that the patient's backyard was a "family-run workshop." Since young adulthood, he had taken over his father's tombstone-making business, cutting, grinding, and polishing stone every day. Tombstone stone contains silica, and the grinding process produces large amounts of dust. Long-term inhalation had caused severe scarring of his lungs. He was critically ill, and Chia Kee Seng was at a loss as to what could be done.

What was even more shocking was that not only was the patient's son repeating the same work, but nearly every household in the village had similar backyard workshops: some made tombstones, others marble countertops. Everyone was exposed to the same dust hazards.

“At that moment, I realised that it wasn’t enough to educate just this one family on prevention—we had to educate the entire village. Health education must go into the community in order to truly have an effect.”

Public health messaging must strike the heart to bring about genuine change

Chia Kee Seng’s students and friends often say that if he weren’t a doctor, he would certainly make an excellent stand-up comedian.

The interview took place in a modern conference room at the Saw Swee Hock School of Public Health. As soon as he entered, he chatted casually while connecting his phone to the television screen on the wall. He then lightly tapped his watch, and an image of fishballs instantly appeared on the screen. At 5:30 a.m. on the day before the interview, the reporter had received his reply email, which included a video and a 12-page slide deck—the fishball image was one of the slides.

Laughing, he said that he had just returned from New York in the United States, where he had gone to visit his son who had undergone heart surgery. “At my son’s place, while washing and chopping vegetables, I was thinking through how to answer your questions—drafting my answers in advance so I wouldn’t speak off the cuff and smash my own rice bowl, haha!”

Story after story flowed from him, keeping listeners thoroughly engaged. “When doing public health and communicating with the public, you must use topics and language that resonate.”

The shoelace story is a vivid illustration of this principle.

Since 2011, Chia Kee Seng has served as Chairman of the Workplace Health Committee under the Ministry of Manpower’s Workplace Safety and Health Council. At one annual workplace safety seminar, he stood among the audience, observing the workers’ reactions to a video.

The video contrasted two construction workers who fell from height. The worker who did not use a safety harness died on the spot; the one who did fell and suffered fractures but survived.

However, when the video ended, murmurs arose from the audience, and some even laughed. Someone bluntly said, “Next time I won’t use it—dying outright is simpler; medical bills are the scary part.” A worker from India even joked,

“There’s insurance payout for workplace death—my family back in India would prosper!”

A few years later, another video was shown at the same event, and this time, sobbing could be heard throughout the hall.

There were no gory scenes. Instead, it told the story of a father who tied his daughter’s shoelaces every morning before going to work. Then the scene cut to a hospital ward. The father lay on the bed, his right arm amputated, gazing sorrowfully at his wife and daughter, realising that he would never again be able to tie his daughter’s shoelaces.

Chia Kee Seng said:
“Both videos conveyed the same message—the importance of workplace safety—but the outcomes were vastly different. This shows that communication must be audience-specific. The key lies in how to evoke positive emotions and trigger changes in attitude.”

System design determines public health outcomes; education alone is far from enough

This skill has also underpinned his strategy over the years in communicating with the Ministry of Health and other government agencies. All the public health recommendations he puts forward are evidence-based, and he explains the core findings of research reports in ways that decision-makers without medical or academic backgrounds can understand, breaking complex ideas down into accessible terms.

“We must not act with political motives, nor advocate issues merely to highlight our own fields or professions. Some measures may be unpopular with the public, so we need political sensitivity and must think about how to lower the political cost.”

From graduating medical school to stepping down as dean of the Saw Swee Hock School of Public Health, Professor Chia Kee Seng has an intimate understanding of local public health development. How do today’s challenges differ from those of the past?

“Population ageing, chronic non-communicable diseases, the ‘three highs,’ obesity—at their core, these issues haven’t changed much. For such major problems, it can take many years, even decades, before the effects of policies become visible.”

He recently published a commentary in *The Straits Times* on the hidden risks of chronic disease locally. The article noted that according to the *2024 National Population Health Survey*, an estimated 800,000 people locally are 'silent' sufferers of the three highs (high blood sugar, high blood pressure, and high cholesterol). They have not been diagnosed or sought medical treatment, which means they also have not taken corresponding steps to improve their lifestyles to avoid complications.

The survey also showed that the prevalence of diabetes locally is about 9.1%, hypertension 33.8%, and high cholesterol 30.5%. Even more worrying is that among those diagnosed with hypertension and high cholesterol, about half were previously completely unaware of their condition; among those who already knew and were seeing doctors, more than half had conditions that were not adequately controlled.

"This highlights a crucial point: the problem is not a lack of health promotion campaigns, but flaws in system design. Relying solely on publicity and education is far from sufficient."

He therefore suggested that the Ministry of Health could consider adjusting funding for the three major healthcare clusters, shifting the objective away from "doing more treatments and charging more fees" toward "keeping patients out of hospital and well controlled." Starting with the three-highs population, if each cluster can manage these patients well and prevent hospitalisation due to complications, they would receive full funding. This would incentivise healthcare institutions to proactively design new care models, such as making reminder calls for follow-ups, helping patients collect medication, and actively monitoring their conditions.

After the article was published, did Chia Kee Seng receive calls or enquiries from policymakers? He laughed and replied:
"In fact, communication has always been happening behind the scenes. When the time is right, we speak publicly through the media. If the relevant departments completely disagreed, I wouldn't have written that article."

Local healthcare system 'splitting and merging': which model works best?

2683—this is not a four-digit lottery number, but a snapshot of the administrative evolution of Singapore's public healthcare system.

In the 1980s, a global wave of privatisation and corporatisation of government departments emerged in an effort to improve administrative efficiency in social service institutions. The Singapore government followed this trend and established Health Corporation of Singapore Pte Ltd to manage all restructured hospitals.

These hospitals were granted operational autonomy and competed with one another, even offering high salaries to poach doctors from other hospitals. However, this competition led to a lack of collaboration, causing many opportunities for economies of scale or technological advancement to be missed.

In 1999, the Ministry of Health restructured the model, dividing the healthcare system into two major networks along the Central Expressway: the western network became the National Healthcare Group (NHG), and the eastern network became Singapore Health Services (SingHealth).

Ten years later, the system was further subdivided into six regional healthcare systems. In addition to the original two groups, JurongHealth, the National University Health System, Alexandra Health, and the Eastern Health Alliance were added. There were even proposals to further expand to eight regions, adding Woodlands Health Campus and Sengkang Health.

In 2017, the Ministry of Health consolidated the six into three clusters—what are now familiar as NHG, SingHealth, and the National University Health System—to pool resources.

Argues that three public healthcare clusters should become one system with three operators

Chia Kee Seng said that the original intention behind splitting into multiple clusters was to introduce healthy competition to improve population health. However, there is no evidence showing that these goals were achieved while administrative costs increased. On the contrary, resource fragmentation, coordination difficulties, and doctors' loyalty to their own clusters rather than the entire public healthcare system have constrained overall optimisation.

In a truly fair, information-symmetric environment, competition is of course beneficial—everyone competes on efficiency, quality, and innovation from the same starting line. But in healthcare, patients and providers do not stand on equal footing. Patients can hardly be said to be "autonomous," while service providers hold almost all the information and decision-making power.

Chia Kee Seng illustrated this with the example of his son's recent surgery. "I'm a doctor; I understand surgical procedures and complication risks—in theory, I know these things. But when it comes to actual decision-making, it's entirely the surgeon on the operating table who calls the shots. If at that moment he thought, 'Valve replacement is simpler and more profitable,' I would have almost no ability to counterbalance that."

He said that when clusters are made to compete, each naturally wants to earn more, secure more resources, or gain influence within the system. As a result, decisions may not necessarily be in the best interests of the country and all patients, and may instead lead to unhealthy behaviours—such as poaching talent and resources, developing incompatible systems, and trapping patients in fragmented services where "where you seek care determines your outcome."

He stressed that in healthcare and social services, competition is suitable only for a small number of segments and must be carefully designed. The vast majority of basic services should be unified, coordinated, and shared.

"In reality, we currently have three healthcare systems. This should not be the case. We should have one healthcare system with three operators. If one day it changes, I wouldn't be surprised at all."