

Creating a ripple effect

CANCER is a dreadful disease particularly when it afflicts children. No one knows this better than lawyer and philanthropist Jennifer Yeo, whose youngest son was stricken with cancer when he was three.

Thanks to a bone marrow transplant, painstaking round-the-clock care by St Jude Children's Research Hospital in Memphis, Tennessee and lots of prayer, her son Frederick recovered and is now studying to be a doctor.

But for many other families with gravely ill children, the tale does not end as well. That is why Ms Yeo has made it her mission to forge a link between St Jude and doctors in Asia, to help in the battle against children's cancer.

Says Ms Yeo: "St Jude is today the biggest charity in the US. Every year they raise US\$1 billion and employ more than 3,000 scientists and doctors for basic science and translational and clinical research to find a cure for cancer. They also manufacture orphan drugs which pharmaceutical companies don't necessarily want to make because they don't make much money from them. That's simply because there are not as many children as adults with cancer, and children can't afford the drugs." Orphan drugs are those developed for rare diseases.

"St Jude isn't for profit. They don't take in many patients; they

take in those that meet their research criteria. My son had a rare opportunity to go there. I was by his bedside for six weeks, I accompanied him everywhere. I could see the kind of treatment and organisation that went into making St Jude the institution it is today. It has a survival rate of 94 per cent for childhood leukaemia." Ms Yeo spoke last November at Credit Suisse's Philanthropists Forum.

Inspired by St Jude's life changing work, Ms Yeo set up Viva Foundation for Children with Cancer in 2006, in the hope that St Jude's high recovery rates can be achieved in Asia.

"I had the rare privilege and opportunity to get to know the doctors in St Jude well and to have their help to transfer the knowledge and technology to our doctors, nurses and hospitals in Singapore free of charge. It took St Jude over 50 years and billions of dollars of funds to reach this stage. But they are willing to (help Asia) through their international outreach."

Viva Foundation for Children with Cancer's Jennifer Yeo has made it her mission to help in the battle against children's cancer

By GENEVIEVE CUA

She adds: "Dr Pui has a big heart for children in Asia. He is willing to come every year and transfer the technology and collaborate with us, so we don't have to reinvent the wheel." Ching-Hon Pui is chair of the department of oncology at St Jude and a member of Viva's external advisory board.

Upon her return to Singapore in 2005, Ms Yeo says she was struck by the number and magnitude of needs here in the children's cancer field. "At that time paediatric oncology was not a major practice in NUH because the numbers were small. I came to know they really needed manpower, facilities and Hepa air filters for transplant rooms. There was a shortage of paediatric oncologists because of the lure of private practice. It's not just salaries, but the private sector may also have more budget for facilities and manpower."

"It became clear that it was very important to retain our medical talent within public hospitals so that the man in the street can have access to excellent medical care and need not go all the way to the US. A transplant today would probably cost US\$1 million or more in the US."

Viva was set up with the help of Allen Yeo, senior consultant and assistant professor in the paediatric/hematology division at the children's Medical Institute/National University Hospital, and Dr Pui. The model is to use Viva and Singapore as a centre of excellence to reach other developing countries, offering training for doctors and nurses. "Viva's role is to be a champion and advocate, as well as a fundraiser. Doctors work within their universities and hospitals and are subject to internal rules. As an independent charity we are the cement and glue to bring them all together and link them to St Jude."

Viva raises funds for its activities. A major one is the annual St Jude-Viva Forum which serves as a venue for St Jude to share the latest and best practices in research and care

for children with cancer. The forum started as a two-day event in 2006. It has since grown to a five-day event. For the first time this year, there will also be the Viva-Asia Nursing Symposium and the CCF-Viva Learning Exchange.

"Many ask if the government should fund this or that. But the government helps us by giving us tax exemptions which encourage donors. It makes the government a de facto partner, as it forgoes the tax it would have got... Rather than wait for the government to do it, many children need treatment now. That's why we decided to start the ball rolling. In our model, we kick-start the funding for a project for three or five years, and then hand it over to the institutions which continue from there. When we start there is no track record, so we go in with the capital, confident that because there is a real need, it will be successful."

One of its first initiatives was the VUC³, a one-stop treatment centre for children with cancer at NUH in 2009. The centre comprises outpatient clinics, a day therapy centre for chemotherapy and an inpatient centre with beds, stem cell transplant rooms and isolation rooms. In 2013 the VUC³ treated 155 new children. This was three times the number handled by NUH's original cancer ward in 2006. It also supported 845 inpatient admissions and over 9,000 outpatient cases.

Another major initiative was the Viva Childhood Cancer Hub (CCH), which houses the Viva Foundation, Children's Cancer Foundation, the Singapore Cord Blood Bank, the Bone Marrow Donor Program as well as a Pals school for children with cancer. All this sits in the third floor of the Novena Specialist Centre, a location donated by the Far East Organisation.

Rather than directly fund or subsidise treatments for children, Viva has chosen to support the training and knowledge route as it potentially can help a larger number of children. Says Ms Yeo: "We do not directly fund patient treatment because we don't have enough money. One pa-

tient will need S\$250,000 to undergo two and a half years of treatment. If we had S\$1 million we can pay for only four patients and it will make no difference to the cure rate.

"In our forum we bring in top doctors from St Jude... They present papers and train doctors from the whole region. We also raise travel grants to pay for doctors to come and learn. With what they know they go home and give better treatment to children. In some areas the cure rate is only 10 or 20 per cent, some at 50 or 70 per cent.

"What is the difference between a cure rate of 79 and 79.5 per cent? To a parent, a child is either alive or dead. It's all or nothing. We feel we can do more this way."

She adds: "If you train one doctor, he will save lives for the rest of his professional life. He will help us train more doctors and that's how it multiplies. It's the ripple effect. We throw the first stone and a ripple forms. That's why we are passionate about training more doctors and nurses."

So far the efforts are bearing fruit. Between 1997 and 2002, Singapore's five-year event-free survival rate for acute lymphoblastic leukaemia (ALL) was 74 per cent and 41 per cent for acute myeloid leukaemia (AML). Under the 2010 clinical trial for ALL, the event-free survival rate is now 90 per cent at the four year mark (end of 2014). For AML, under the 2006 clinical trial, the survival rate is now 75 per cent at the eighth year mark.

"We really hope the day will come when we can raise funds for treatment. But in the meantime we are still trying to build up the capability of doctors and nurses in Singapore and the region."

Meanwhile, Ms Yeo recently established Viva China Children's Cancer Foundation in Hong Kong. The group is a separate legal entity from the Viva in Singapore, although Ms Yeo is also a director of the China group. Viva China is working with 20 hospitals to raise the cure rate for childhood cancer in the country, where many families have only one child. ☐

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PHOTO: ARTHUR LEE

Extending a helping hand

FREDERICK Yeo, son of lawyer and philanthropist Jennifer Yeo, does not recall the pain he suffered when he had leukaemia as a child. Instead, he recalls the warmth of doctors and caregivers at St Jude Children's Research Hospital in Memphis, US.

He was diagnosed with cancer at three. He has since recovered and, now 21, is studying to be a doctor.

Ms Yeo says: "He tells me he had happy days at St Jude. I couldn't believe it. He was on morphine drip for three weeks because of the pain."

"He said he couldn't quite remember the physical suffering, but he remembered the warmth and kindness of the people – the doctors, nurses and volunteers. That is what makes St Jude so special."

At the time that Frederick was invited for treatment at St Jude, he had already endured four and a half years of treatment. He suffered two relapses. At St Jude he was given a bone marrow transplant.

Ms Yeo says the treatment approach at St Jude was markedly more intense than the typical hospital. "For leukaemia, the way to cure cancer is to give very heavy chemotherapy to kill the cancer cells. In the process you kill good cells as well. There is a danger that if you give too much chemo, the patient will die from it. Or he

may die from infection as the chemo wipes out all the immunity."

"At St Jude, they give heavy chemotherapy. After that they have the expertise, the drugs, doctors and nurses, and 24-hour laboratories to pull the patient back from the cliff."

"In this part of the world, we don't have all those components in place at the same time. We may not have the drugs or enough nurses trained to that level. The result is doctors tend to give less chemo, and the patient may relapse. Once the patient relapses again and again, the cancer cells become resistant. You either kill the cells, or they become resistant and grow stronger and impossible to cure."

Post-operation, Ms Yeo's family was housed in living quarters equipped with Hepa air filters. "Post transplantation, there are potential complications. You need experience, drugs. You need a 24-hour laboratory because the child has no immunity. You need a medical team to be the child's external immunity. They keep checking his blood. "How many have a chance to go overseas and into St Jude? We are so blessed. That's why I feel so passionate that we must bring all the St Jude knowledge and talent into Singapore."

After nine months at St Jude, she was told by doctors that they had done all they could. A year later, after "a series of miracles", the leukaemia disappeared.

"I would say many things made a difference. First, it was a miracle. He got better without medication after about a year. The only thing I did was to pray everyday for him."

"I remember my husband's school motto '*Ora et Labora*' – pray and work, in that order. Pray as if everything depends on God. Work as if everything depends on you." Ms Yeo is married to George Yeo, who was foreign minister in those years. His school was St Joseph Institution.

In more recent years, St Jude pioneered the infusion of "natural killer" cells from parents into young patients with acute myeloid leukaemia (AML). The killer cells attack the cancer cells.

"Many are alive today because of this technique... In saving the children we may save our own lives. When you think about it, the children are the poorest of the poor and weakest of the weak. They have no voice and are totally dependent on parents. In most cases, the parents are young wage earners. They don't have much savings; they are so lost." ☐