Update on how SCRI support research initiatives in MOH public healthcare institutions

by A/Prof Teoh Yee Leong
CEO Singapore Clinical Research Institute





SCRI is an Academic Research Organization, subsidiary of Ministry of Health Holdings































































KEY FACTS AND FIGURES



Scientific and Operational Team in 2016

A diversified team of

57

Scientific and Operational Staff



Achievements Since SCRI's Incorporation in 2008



Worked with

736 **Investigators** Supported

Local and International Sites

Across 25 Countries



Research Findings

Published in

Publications

Conducted and Participated in

186

Workshops, Seminars & Conferences



Conducted

Studies



INTERNATIONAL RESEARCH COLLABORATION SITES

AUSTRALIA

Austin Health Cancer Clinical Trials Ballarat Regional Integrated

Cancer Centre Barwon Health Andrew Love Cancer Centre

Border Medical Oncology Research Unit

Calvary Mater Newcastle Hospital Central Coast Cancer Centre.

Chris O'Brien Lifehouse

Coffs Harbour North Coast Cancer Institute, NSW Elinders Medical Centre

Goulburn Valley Health, VIC Lyell McEwin Hospital

Macarthur Cancer Therapy Centre Monash Health Medical Opcology Newcastle Private Hospital

North Coast Cancer Institute

Northern Cancer Institute, NSW Northwest Cancer Centre Tamworth Orange Health Service Peter MacCallum Cancer Centre

Royal Brisbane and Women's Hospital Royal Darwin Hospital Alan Walker Cancer Centre

Royal Darwin Hospital. Northern Territory Royal Hobart Hospital

Sir Charles Gairdner Hospital Southwest Opcology VIC St John of God Subiaco The Tweed Hospital Townsville Hospital

BANGLADESH W

International Centre for Diarrhoeal Disease Barearch

BRUNEI -Brunei Cancer Centre

CHINA

Affiliated Hospital of Nantong University Beijing University Cancer Hospital Guangdong General Hospital Guangdong Provincial Jinan Central Hospital Naniing First Hospital Qinqdao Eye Hospital Second Affiliated Hospital of Zhejjang University Shandong Eye Hospital Shanghai Chest Hospital Sun Yat Sen University Cancer Centre The First People's Hospital of Foshan The Sixth Affiliated Hospital Xiamen Eve Centre Yantai Yuhuangding Hospital Zhongshan City People's Hospital



National Institute of Oncology and Radiobiology

HONG KONG

Alice Ho Nethersole Hospital Hong Kong Eye Hospital Prince of Wales Hospital Queen Mary Hospital

INDIA -

All India Institute of Medical Science Amrita Institute of Medical Sciences Aravind Eye Hospital Christian Medical College

G. Kuppuswamy Naidu Memorial Hospital Kidwai Memorial Institute of Oncology LV Prasad Eye Institute Mazumdar Shaw Cancer Centre Nizam's Institute of Medical Science Regional Cancer Centre Trivandrum Tata Memorial Hospital

INDONESIA

Denpasar General Hospital Cipto Mangunkususmo General Hospital (RSCM) Dharmais Hospital National Cancer Centre

Dr Soetomo Hospital Faculty of Medicine University of Indonesia Hasanuddin University Jakarta Eve Center

Rumah Sakit Dr. Sardjito Jogjakarta Sanglah General Hospital University of Indonesia University of Padjadjaran

IAPAN .

Chiba University Hospital Chupoku Central Hospital Equichi Eye Hospital Gunma University Hospital Hiroshima Red Cross Hospital & Atomic-bomb Survivors Hospital Ideta Eve Hospital Iwate Medical University Kansei Rousai Hospital Kobe City Medical Center General Hospital Kokushikan University Komaki City Hospital Kyoto Prefectural Medical University Miyata Eye Hospital National Hospital Organization Disaster Medical Center Northern Fukushima Medical Center Ogaki Municipal Hospital Okamoto Eve Clinic Osaka University Graduate School of Medical Hospital Otemae Hospital

Sapporo medical university hospital

Tokushima Prefectural Central Hospital

Tokai Central Hospital

University of Toyama

Tottori University Hospital

MALAYSIA CO

Hospital Raja Permaisuri Bainun Hospital Kuala Lumpur Hospital Universiti Kebangsaan Malaysia Institut Jantung Negara Institute of Respiratory Medicine International Specialist Eye Centre Mahkota Medical Centre Pantai Hospital Kuala Lumpur Penang Adventist Hospital Penang General Hospital Sarawak General Hospital University Malaya Medical Centre

MONGOLIA [1]

University of Malaysia



National Cancer Center, Mongolia

MYANMAR



Yangon GI & Liver Centre

NEW ZEALAND

Auckland City Hospital Christchurch Heart Institute Christchurch Public Hospital **Dunedin Hospital** University of Auckland

NORWAY -

PAKISTAN



Aga Khan University

PHILIPPINES >

Baguio General Hospital and Medical Center Brokenshire Hospital Cebu Velez General Hospital Chong Hua Hospital Davao Doctors Hospital Davao Medical Center Dayao Medical School Foundation De La Salle Hornital East Ave Medical Center Jose Reves Memorial Medical Center Lung Center of the Philippines Makati Medical Center Perpetual Succour Hospital Philippine General Hospital

Quezon Institute St. Luke's Medical Center The Medical City Tropical Disease Foundation University of Santo Tomas Hospital Visayas Community Medical Center

SOUTH AFRICA

GVI Capegate The Oncology Centre

West Visavas State University

Medical Center

SOUTH KOREA

Aiou University Hospital Asan Medical Center

Bundang Seoul National University Hospital CHA Bundang Medical Center Cheonnam University Hwasoon Hospital Dong-A University Hospital Gachon University Gil Hospital Hallym University Sacred Heart Hospital INHA University Hospital Kim's Eye Hospital

Korea University Anam Hospital National Cancer Centre Korea Samsung Medical Center Seoul National University Hospital Severance Hospital Yonsei St Mary's Hospital

St Vincent's Hospital



King Fahad Medical City

SRI LANKA

National Cancer Institute of Sri Lanka University of Kelaniya, Sri Lanka

TAIWAN P

Chang Gung Memorial Hospital, LK China Medical University Hospital Koo's Foundation SYS Cancer Center Mackay Memorial Hospital National Cheng Kung University National Taiwan University Hospital Shuang Ho Hospital Taichung Veteran's General Hospital

Taipei Medical University Hospital Taipei Tzu Chi General Hospital Taipei Veterans General Hospital Tungs Taichung Metroharbor hospital

Wan Fang Hospital

THAILAND =

Central Chest Institute of Thailand

Chiang Mai Hospital Chiang Mai University Hospital Chulabhorn Hospital

Chulalongkom Hospital King Chulalongkorn Memorial Hospital Mahidol University

National Cancer Institute Thailand Phramongkutklao Hospital Prasat Neurological Institute

Siriraj Hospital

Thammasat University Hospital

UNITED STATES

Duke University

VIETNAM

Ho Chi Minh City Eye Hospital National Hospital of Pediatrics Vietnam National Institute of Ophthalmology



INNOVATIO

Overview of Investigator Initiated Clinical Trials Activities



Pre-grant activities

- Protocol design
- Budgeting
- Site feasibility
- Consultations on trial operations
- Project management (e.g. with external funder)

Main study activities

- Project management
- Monitoring
- Data management
- Biostatistics
- Use of database (Oracle or REDCap)

PI has an idea

Grant approved

IRB and HSA approval, Study starts

Study ends

Data cleaned

End of publication

Supportive Study activities

- QA & compliance
- Project management
- Software licenses (Oracle, SAS)

Post-study activities

- Manuscripts writing
- Secondary analysis
- Re-check data





Partnership between ARO/Research Office and Hospital in conducting a clinical trial



ARO/Research Office responsibilities

Sponsor Protocol design Sample size calculation Overall project management Preparation of research database Monitoring of data entry Management of data Investigations Monitoring of safety event Analysis of data **Publication**

Staff involved: Epidemiologists, **Biostatisticians** Project Manager Clinical Research Associates Research Informatics





Site responsibilities

Site feasibility Protocol submission to IRB/HSA Screening of suitable patient Recruitment of patient Consent taking **Examination of patients** Conduct Lab/imaging tests Investigational drug administration Follow-up of patient Data entry Safety reporting to IRB and HSA Site study closure

Staff involved: Investigators (doctors) Clinical Research Coordinators

Research assistants



SCRI supported "first-in-man" trials on discovery/ development drugs from NUS, DukeNUS, A*Star etc.



Mrs Janet Quah, one of the first volunteers to undergo the experimental therapy, with Dr Toh Han Chong (right) of the NCCS, who is leading the trial, and Dr Teoh Yee Leong, chief executive of the Singapore Clinical Research Institute. ST PHOTO: MARK CHEONG

Treatment that aids body's fight against cancer on trial

DOCTORS at the National Cancer Centre Singapore (NCCS) are trying out a new treatment that helps the body fight cancer.

If successful, it will give patients another shot at getting better after mainstream options like chemotherapy have been exhausted. The treatment, developed by a US biotechnology firm, is currently in Phase 1 of clinical rials, meaning that it is being tested for safety and potential side effects.

Of the four late-stage cancer patients who have had the therapy, which involves a single injection, one developed a rash which faded after a few days. The others experienced no

"Being on a clinical trial doesn't mean that you're a guinea pig," said Dr Toh Han Chong, who is leading the trial. "It can give you an additional treatment that you may not otherwise be able to get access to.'

The therapy uses a weakened virus as a vehicle to introduce a combination of proteins into the patient's This boosts the immune system's ability to identify and attack cancer cells. "Cancer patients generally have a very weak immune system.' explained Dr Toh, a senior consultant at NCCS' medical oncology division.

He added that cancer cells are "masters of disguise", making it hard for the immune system to pick them up. He hopes to recruit around 20 more patients for the trial over this year.

One of the first to volunteer was Mrs Janet Quah, 60, who was diagnosed with breast cancer in 2009.

"(Joining the trial) wasn't something that I had to think about for a very long time," said the administration manager. "I don't feel any different afterwards.

Those keen on finding out more can e-mail chong.hui.shan@nccs.com.sg or call 6346-8431. Inettel@sph.com.sg





Potential treatment for Zika to go on trial in S'pore

An antibody that can potentially be used to treat the Zika virus has be en the green light to be tested on

ingapore patients. The Health Sciences Authority has approved human trials here of the antibody known as Tyzivumab. The clinical trial, which is billed as a world's first, is administered by healthcare group SingHealth and overseen by the Singapore Clinical Research Institute (SCRI).

It comes after nine months of de-It comes after nine months of de-velopment by Tychan, a Singapore clinical-stage biotechnology com-pany, in partnership with WuXi Bio-logies, which is based in China. The current paradigm of taking years to bring a drug from discov-

ry to the clinic does not allow us to effectively deal with outbreaks of emerging diseases," said Mr Teo Ming Kian, chairman of Tychan,

"To make a difference to outbreak interventions, research discovery must be translated into medicines within such timelines. The develor ment of Tyzivumab is a first step in this direction," he added.

About 24 healthy volunteers will take part in the first phase of the sor Teoh Yee Leong, a public health



clinical trial, said Tychan, with two FAST TRACK

more phases likely to follow.

The antibody works by stopping the virus from fusing with a person's cells and replicating itself.

It has been proven safe and effective in animals, said Tychan in a media release last week.

The first case of locally transmitear, about 450 people had been in-

been low in the past year, with one case reported last month.

neurological complications such as microcephaly in babies born to women who contracted Zika durng their pregnancy. Nevertheless, Associate Profes

MR TEO MING KIAN, chairman of Tychan, or

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physician and chief executive of SCRI, said: "It is very important for us to have a potential Zika therapeutics in the future to tackle the threat of Zika infection.

vector for such

transmit dengu

fever. ST FILE PHOTO

missions because of the presence of

Aedes mosquitoes, the vector for such transmissions. These mosquitoes also transmit

dengue fever.

The drug development process is generally quite long and it could take many years before a new drug can be made available to the public. But if this potential Zika therapeu-tics is successful, it would definitely be impactful to the medical community as this would be the first time

Currently, there is no specific

SCRI partnerships in research projects with high public health impact to Singaporeans

VEDNESDAY, JUNE 7, 2017 | THE STRAITS TIMES

Study to see if atropine drops can prevent myopia in children

31/2-year study by national eye centre will probe if Irug can have impact at early onset of myopia

roppe eye drops, which are used to tret myopia, can stop the

Te Singapore National Eve Centre SNEC) is now embarking on a 3'/wear study to "determine if atropse eye drops can actually pre-venor slow the onset of myopia in youg children with myopic par-ent just before it starts, or at the verearly onser".

Mopia, more commonly known as hort-sightedness, is increasing prevalent throughout the word, especially in Singapore whre 80 per cent of children are set a develop it by the age of 18, ac-coring to SNEC. As press conference yesterday,

Assciate Professor Audrey Chia invstigator for the Atropine Treat mer Of Myopia 3 (Atom 3), said thenew study is a collaboration betreen the Singapore Eye Re-seath Institute (Seri), Singapore Clircal Research Institute (SCRI)

"folike Atom 1 and 2, which were treament-based studies to reduce myoia progression in myopic chil-drei, Atom 3 is different as we are targting children who have yet to devlop myopia," said Dr Teoh Yee Leog, SCRI chief executive officer. lithe Atom 3 study, children will be iven low-dose atropine eye

dros of 0.01 per cept. Tk new study taps the success of Ator 2, conducted from 2005 to 2012 which showed that low-do

myopia progression by 50 per cent to 60 per cent, with no side effects with the higher dose of 1 per cent.

Chia Shernin, 10, who partici-

pated in Atom 2, said: "The eye drops are good as they have stopped my eyesight from worsen-ing. It is not painful at all." Shernin's mother, Madam Jes-

sica Seah Yen Leng, 46, said: The eye drops are not a miracle drug. Good eye habits are still important. For example, I am strict with my children reading in poor light

schools conduct more hands-on activities for children, so that they do not spend too much time

enrolling their child in the Atom 3 study may contact Seri on 6322-4500 or 6322-4501, or leave their contact details at

tom3@seri.com.sg The child must be between five The child must be between five and nine years of age, with at least one parent with myopia, as the study is targeting children with a higher risk of myopia. They must not have sought treat-

ment for myopia prior to this study

Myopia is increasingly prevalent throughout the world, especially in Singapore where 80 per cent of children are set to develop it by the age of 18,



Can humble aspirin rein in cancer?

Singapore centre leads global study on use of cheap drug to stop colon cancer recurring



which eases fever and pain, and stat-ins, which lower cholesterol, have something in common. They are among an increasing number of old drugs that doctors

are reassessing to treat other condi-tions, including cancer. Statins are being studied to prevent prostate cancer and aspirin, to stop the recurrence of color-

ectal cancer.

A benefit of repurposing older drugs is their lower cost, given that many patients cannot afford expen-

sive new drugs.
At the National Cancer Centre, Singapore (NCCS), doctors are king at aspirin, a 100-year-old t that aspirin can nearly halve

'Aspirin is the grandmother of all drug repurposing," said Dr John Chia, a senior consultant medical oncologist at NCCS.

It was first used a century ago to

treat pain and fever but, in the 1980s, doctors found that its mild blood thinning" side effect was highly effective in preventing rec rent heart attacks and strokes. Today, more than 100 million

day to prevent blood clots. Now, the interest in aspirin is no

longer in relation to strokes and rt artacks but firmly on cancer. "Drug repurposing can potenti ly see a cheap, good and powerful drug like aspirin prevent and even

treat cancer effectively," said Dr Toh Han Chong, deputy director of NCCS. He and Dr Chia are leading the first global clinical trial, named Ascolt, to see if aspirin can stop the recurrence of cancer after surgery. The multi-centre, randomised tri-

al which began in 2009, will study the role of aspirin in high-risk stage 2 and stage 3 colorectal cancer patients who have completed their standard cancer treatment.

Ascolt is cited often at interna- Lanka, South Korea, Taiwan, Malay tional cancer meetings and in medi-

ortant trials to watch, said Dr Chia. In 2012, the National Cancer Insti-

tute in the United States listed one of the most provocative ques-The trial has recruited 800 of its

target of 1,200 patients and is due to nplete recruitment in two years The idea first came to Dr Toh and Dr Chia in 2006. They then wrote their first grant proposal for such a and the third commonest in the trial. From 2009, it took the doctors world, affecting 1.2 million people. four years to build up a network of

trative regions in Asia. These comprise China, India, Sri

If aspirin proves to be effective change global clinical practice. Everyone with stage 2 or 3 colorectal cancer will be put on it, said Dr Chia. It will have an immediate im

pact and save 10.000 lives each year at a very low cost, he added. Colorectal cancer is the most common cancer in Singapore, af-fecting about 1,000 people a year,

Dr Toh noted that aspirin is im more than 60 partner hospitals in II tant as there are now only a few other countries or special adminisdrugs that can prevent high-risk stage 2 and stage 3 colon cancer

> "And there are many spectacula there have been five clinical trials t colon cancer but these were all negative. If the trials had been positiv the treatments would have added

Despite the promise of an effective drug against recurrent cancer.

This is mainly because aspirin is o cheap, costing I cent a tablet. It is not commercially viable for pharceutical firms to invest heavily in a large clinical trial. There will be

Hence, he and Dr Toh have reed heavily on charities and foundations such Singhealth Foundation, Lee Kim Tah and The Silent ndation. Last month, they received more than \$1 million from a

There is an urgent need for formal testing to change current clinical ONE-CENTWONDER DRUG?

We are conducting the from recurring after surgery.

attempts to validate the effectiveness of aspirin in preventing cancer recurrence. It is exciting to be \$50,000 to each patient's bill. part of a remarkable

rivate Swiss foundation called Ris ing Tide Foundation for Clinical ncer Research.

first clinical trial that

"In comparison, aspirin looks so per cost-effective," said Dr Toh. that costs a cent. it has been a struggle to find com-mercial funding for the trial.

thaler, director of the foundation. funding" from the National Medical Research Council and support from the Singapore Clinical Re-

Ascolt also has Australian govern

ment funding to expand there. Two years ago, the Australia Gastrointestinal Trial Group polley entists. "Aspirin in colon cance was polled as the No. 1 research pr ority," said Dr Eva Segelov from the University of Sydney, who is the

Patients and doctors are very er astic about the trial. The group is now recruiting strongly in Autralia and New Zealand, she added The trial doctors think there is asonable chance that the trial will

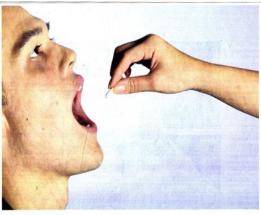
show aspirin to be effective. So do European experts, which is why there are two similar trials be ing done by Dutch and British researchers this year, said Dr Toh Two further trials are being planned

"Whenever a phase 3 drug trial i announced as positive, the share price of that pharmaceutical firm will go up," said Dr Chia. But in the case of aspirin, this "windfall" in benefits will accrue directly to patient and their communities, said Dr Toh

wanching@sph.com.sp







will see if aspir after surgery

clinical trial, named Ascolt



SCRI partnership in research projects with high public health impact to Singaporeans





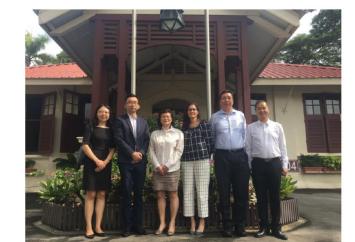
(http://www.channelnewsasia.com/news/singapore/not-all-dengue-patients-with-low-platelet-count-need/3639344.html)

Not all dengue patients with low platelet count need transfusions: Study

- . By Chan Luo Er, Channel NewsAsia
 - Posted 30 Mar 2017 23:53
 - Updated 31 Mar 2017 01:00

The Adult Dengue Platelet Study (ADEPT) involved researchers from Tan Tock Seng Hospital, the National University Hospital, Singapore General Hospital, Changi General Hospital and Malaysia's University Malaya Medical Centre.

The study enlisted 372 patients between 2010 and 2014 across the four public hospitals in Singapore. It was funded by the National Medical Research Council (NMRC) under STOP-Dengue Translational Clinical Research Programme and coordinated by the Singapore Clinical Research Institute (SCRI).



Study to test new diabetes programme





MOH funded \$5m pre-diabetes study with Singhealth, HPB and SCRI



INNOVATION IN CLINIC

Researchers from Malaysia and Singapore that took part in the Adult Dengue Platelet Study.

What SCRI can help if a PI is planning to apply NMRC grant?

- Contact SCRI to ask for Protocol design and sample size calculation (this support is provided free to PIs)
- SCRI can help to scope the operations budget (eg project management, study monitoring, data management, data analysis) required for the study and support the submission of grant to NMRC. SCRI staff maybe coinvestigators of the study
- If PI is successful in obtaining the study grant, SCRI can support some of the logistics operations (eg project management, study monitoring, data management) at subsidized fee or help PI to look for external outsource vendor
- When study completed, SCRI Biostatistician can help publication







Thank You



