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Reversing c is also available
for download at
www.cancerresearch.my,
selected private hospitals
and golf clubs.



Chairman's Message

YABhg Toh Puan

Dato' Seri Dr. Aishah Ong

Fifteen years ago, Cancer Research Initiative Foundation, or CARIF, was established by our patron, YAM Tan Sri Dato' Seri Tunku Ahmad Tunku Yahaya and I as a company limited by guarantee to conduct cancer research to find a cure for cancer.

Today, CARIF has come-of-age and as Cancer Research Malaysia, it is now ready to take on bigger, bolder things. It fills me with a sense of pride to see CRM making its mark in the international stage. The capabilities of our scientists are acknowledged by renowned collaborators from hallowed institutions such as Cambridge, Harvard and others, and our research programmes are winning grants from internationally renowned organisations including the Wellcome Trust and the Medical Research Council in the UK. Equally importantly, our research is making an impact in the lives of cancer patients, both through the genetic services, through research to discover new cures, and through improving survival for patients in the community.

Therefore, more than ever, we need a supportive and involved community who strongly believes in and advocates the importance of research. Let's work together to keep the momentum and upwards trajectory so that our ambitious goal of #reversingcancer is made a reality.



CEO's Message

Prof. Dr.

Teo Soo-Hwang

I am delighted that due to popular demand, our quarterly newsletter, now re-named "Reversing c" is making a comeback.

When we started 15 years ago, we thought we would set up an "initiative" to set up research studies and then hand it over to universities or the ministries to take this forward. Now, backed by more than 3,500 breast cancer patients, 300 ovarian cancer patients, 200 head and neck cancer patients, 3,500 healthy women, we owe it to our community to continue and to do more.

2016 is a major year for us because it is the first time that we have won international grants. But it is also a year that we realise that unless we change our funding model, we will cease to exist within 3 years and all the work that we have put in place, will go to waste.

Please join us in the next phase of our journey. In the first 15 years, we set up new impactful programmes. In the next 10 years, we will be able to bring our research to the clinic to benefit cancer patients. Help us making a future free of the fear of cancer a reality.

We hope by reading "Reversing c", you can join us in our journey. Please share the importance of early detection and screening with the women (and men!) in your life. Please talk cancer and raise funds for our work. We are waiting to hear from you at info@cancerresearch.my

About Cancer Research Malaysia



#reversingcancer

Cancer has such a terrifying grip in our lives that some people simply refused to say the word, preferring instead to use the term "Big C". The words associated with the Big C are often dark and gloomy themselves – death, pain, loss, financial catastrophe, suffering and uncertainty.

At Cancer Research Malaysia (CRM), our ultimate goal is to make the "Big C" a small reverse "C". We believe there will come a day when cancer is a disease that can be managed and controlled. Without this incredible fear, we hope Malaysians will respond differently to cancer and in turn, coming forward for screening, presenting early and going through with treatment.

Chairman: YBhg
Toh Puan Dato' Seri
Dr. Aishah Ong



YAM Tengku Datuk Seri Ahmad Shah
Al-Haj Ibni Almarhum
Sultan Salahuddin Abdul Aziz Al-Haj

Mrs. Leong
Lim Siew Lian

Patron: YM Tunku
Tan Sri Dato' Seri
Ahmad Yahaya



Encik Abd
Hamid Ibrahim

YBhg Dato' Anne Eu

YBhg Tan Sri Dato'
Dr. Ir Gan Thian Leong

Encik Alan
Hamzah Sendut

As the leading independent, non-profit research organisation in Malaysia that is dedicated to conduct impactful research and find ways to prevent, detect, diagnose and cure cancer, CRM is overseen by a strong and involved Board of Trustees.

Our scientists are among the top in the region and we continue to invest in Malaysia and Malaysians including partnering with the best researchers internationally while working on cancers common in the Asian population so that we can devise practical solutions to change the outcome for cancer patients.

CRM is a tax-exempt organisation under Section 44(6) of the Income Tax Act 1967 and we are committed to ensure that 90% of our funding goes to research.

CRM at a Glance



VISION

A future free of the fear of cancer

MISSION

Through impactful research, we work towards the day when cancer is a disease that can be controlled and no longer feared.

OUR CORE VALUES

We believe that core values start with ourselves, or DIRI as it is known in Bahasa Malaysia.

- D - Diligence
- I - Integrity
- R - Respect
- I - Impactful

CRM IN NUMBERS

- 40-strong team of scientists and researchers
- 5 teams (Breast, Familial, Oral, Nasopharyngeal and Drug Discovery)
- Over 60 interns taken under our wings since our inception
- 162 scientific research publication
- 97 awards and fellowships
- 27 notable international collaborators
- 4 patents and trademarks

BRINGING PINK BACK TO THE SIME DARBY LPGA 2016

Back for the 6th year, the Sime Darby LPGA Malaysia has been a strong supporter of Cancer Research Malaysia in our effort to raise awareness on breast cancer prevention and treatment. Since its inaugural year in 2010, the tournament has raised in excess of RM2.5 million for CRM which is used to further various breast cancer programs under our care.

This year, we brought the pink back to the tournament with a *Women With Drive* Networking Brunch at Qureshi, TPC Kuala Lumpur.

Speaking on the impact that the tournament has had on raising funds for breast cancer research, Professor Dr. Teo Soo-Hwang, Chief Executive

of Cancer Research Malaysia said, "Through the support of the Sime Darby Foundation, corporates and the large number of spectators attending the tournament over the years, Cancer Research Malaysia and the Ministry of Health have managed to establish one of the first patient navigation programmes in Malaysia. There's no question that the Sime Darby LPGA Malaysia has had direct impact on saving lives in Malaysia. With the funding, we will ensure that patients, regardless rich or poor, can receive the information and support that they need so that all women have an improved chance to survive breast cancer."

Hosted by Dato' Anne Eu, a Trustee for the charity, a key feature of the

fundraiser was the *Women with Drive* speaker panel which included the likes of 2016 Merdeka Award recipient for Health, Science and Technology Professor Datuk Dr. Looi Lai Meng, Professor of Orthopaedic Surgery and member of the unit of upper limb and microsurgery, University Malaya YM Professor Dato' Dr. Tunku Sara Tunku Ahmad Yahaya and Ms. Sarah Chen. A woman with a long list of accolades to her name, Chen is Co-Founder of Asia Women Circle that drives the women's led foundation "Lean In Malaysia".





cancer
research
malaysia

thank you

FOR HELPING US MAKE A DIFFERENCE



- | | | | | | | |
|---|----------------------------|--------------------|------------------------|----------|--------|-------|
| SIME DARBY PROPERTY | YAYASAN SIME DARBY | TPC KUALA LUMPUR | QURESHI | AIRHOP | | |
| EU YAN SANG | ESTÉE LAUDER | LEAN IN MALAYSIA | MAGNUM ICE CREAM | BAKED KL | LA MER | |
| KREATE TAKEOUT | CERITA KITA KREATIF STUDIO | STANDARD CHARTERED | SCOPE INTERNATIONAL | | | |
| FOUR SEASONS RESORT LANGKAWI | BOWERHAUS | NAQUIRKEE | AMANAH BUTLER MALAYSIA | | | |
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| PERSATUAN KEBAJIKAN PROGRAM ROTI 1 MALAYSIA | | | | | | |

OVERVIEW OF BREAST CANCER RESEARCH IN CRM

Prof. Teo Soo-Hwang explains why cancer genetics research is a major factor in #reversingcancer



In 2013, Angelina Jolie announced to a shocked world that she opted to have her healthy breasts removed. This event is important as it helped highlight three important issues in the fight against breast cancer:

1. Scientists can now identify mutations in genes that can cause breast and ovarian cancers;
2. Genetic screening can help identify patients who are at risk;
3. Preventive measures against the development of breast and ovarian cancers are now possible.

Angelina Jolie's bravery is an inspiring example of #reversingcancer. She believes through genetics, she can beat cancer and reverse the impact that cancer had on her family.

Fundamentally, this is what the Breast Team in Cancer Research Malaysia is doing. Over the past 10 years, through research conducted in collaboration with the University of Cambridge and Universiti Malaya, we have identified more than 100 genetic loci that are associated with increased risk of developing breast cancer. However, for most of these genetic loci, we do not know precisely how much risk is associated with each genetic alteration.

We are set to change this with the Collaborative Science Award bestowed by the Wellcome Trust, the first team in Malaysia to receive such from the world's largest and one of the most prestigious medical research charity based in London. Over the next 3 years, the team will work in close collaboration with researchers at the University of Cambridge, Universiti Malaya, National University of Singapore and University of Nottingham (Malaysia campus) to determine how common these 100 genetic loci are in the Malaysian and Singaporean populations, and to precisely define how much risk is associated with each of the breast cancer genes.

For the 7,000 women who have already taken part in our research studies (Malaysian breast cancer genetic study and Malaysian Mammographic Density Study), we will be able to provide you with more information about whether you have inherited a gene that increases your risk of cancer (and what you can do to reduce your risk). For Malaysian women with breast cancer and for their families, this would result in access to services and education on genetics that will give them the tools to make informed decisions about their health. For all Malaysians, we will be able to design better ways of improving access to screening for cancer in the future.



A Life Transformed by Cancer Genetics Research

Mrs. Lee's eyes lit up when Prof. Woo emerged from the conference room and she immediately gave the blushing Consultant Gynae-oncologist from University Malaya a bear hug.

"I am planning my next holiday," Mrs. Lee happily declares to the beaming Prof. Woo.

The transformation is nothing short of a miracle. Merely nine months ago, Mrs. Lee and her family were told that her ovarian cancer had recurred and that there were no more options for treating her. Her abdomen was swelling up with fluids (making her look like a pregnant woman), and her back was so painful that she was confined to a wheelchair.

Prof. Woo then enrolled her into the Malaysian Ovarian Cancer Genetic Study. The genetic test conducted at Cancer Research Malaysia showed that Mrs. Lee had inherited an altered *BRCA1* gene.

This discovery meant that Mrs. Lee would respond well to a new class of chemotherapy, called PARP inhibitors.

Through a compassionate use programme provided by a pharmaceutical company, Mrs. Lee was provided with the new therapy and the rest, as they say, is history.

Achievements by Breast Cancer Team



80 Scientific Articles

2008 – 2010: 6
2011 – 2013: 22
2014: 21
2015: 24

- 2nd Prize, Best Oral Presentation @ International Postgraduate Awards Seminar (InPRAS)
- 1st Prize, Best Oral Presentation @ Annual Scientific Conference of Malaysian Oncological Society

Ms. Nadia Rajaram,
• Avon-Foundation-AACR International Grant Award

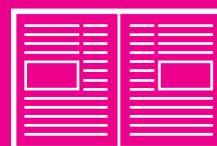
Ms. Patsy Ng,
• kConFab Familial Cancer Conference in Australia Best Poster Award

Mr. Lai Kah Nyin,
• 2nd Prize, Best Oral Presentation @ Annual Scientific Conference of Malaysian Oncological Society



25 Collective Awards

Mr. Sean Wen,
• Korean Breast Cancer Foundation Scholarship @ Global Breast Cancer Conference 2016



6 Ongoing Studies

- **Malaysian Breast Cancer Genetic Study:** Developing a better understanding of genes that are associated with an increased risk to breast cancer.
- **Malaysian Mammographic Density Study:** Developing a better understanding of mammographic density as a surrogate marker of risk to breast cancer.
- **Patient Navigation Programme:** Improving survival through patient navigation.
- Developing new therapies for breast cancer patients in Asia.

BRINGING GENETIC SCREENING AND COUNSELLING TO THE MASSES

Yoon Sook Yee, Head of Familial Cancer, shares her thoughts on the matter

In most parts of Asia, including in Malaysia, there is lack of availability of genetic counselling and genetic testing because of cost, lack of awareness among healthcare professionals about genetic testing, lack of access to appropriately trained genetic counsellors and clinical geneticists, and psychosocial barriers. In addition, there have been limited studies on the prevalence of germline alterations in *BRCA1* and *BRCA2* in ovarian cancer.

For people like Mrs. Lee (see page 7), knowing her *BRCA* status meant that she got access to a new therapy that has given her many precious months to live life to the fullest. But knowing your *BRCA* status is not for everybody. Genetic testing results are unique to each individual patients and must go hand-in-hand with genetics counselling. While genetic

screening is an elective, albeit costly, service that is offered by many hospitals in the country, there is only 3 fully qualified genetic counsellors in Malaysia!

Recognising this under-served need that impacts 5,000 new breast cancer patients, 1,000 new ovarian cancer patients and countless relatives each year, together with Professor Dr. Woo Yin Ling, Consultant Gynae Oncologist at University Malaya and many doctors all over Malaysia, we have recently launched the **MaGic Study** [Mainstreaming Genetic Counselling for Genetic Testing of *BRCA1* and *BRCA2* in Malaysian Ovarian Cancer Patients].

In this study, we worked with Professor Nazneen Rahman at the Institute of Cancer Research at the Royal Marsden Hospital in London to

develop a training module to teach cancer genetics to oncologists and gynae-oncologists. Concurrently, we worked with scientists at the University of Melbourne to develop a test that can be conducted in up to 90 patients at a time, thus increasing the number of patients who can be tested together and reducing the cost for each of the patients.

For Dr. Joanna Lim, the lead in the genetic testing protocol, all the hard work in setting up a robust assay is worth it.

“Genetic testing may cost up to RM8,500 per patient. With this new method, we can offer the test at RM1,200 for the basic test and RM1,700 for the comprehensive test. This is a savings of more than RM6,000 per patient,” quipped Dr. Joanna.



ABOUT MAGIC STUDY



3 Years
(2016-2019)



15 Participating
Hospitals



800 Ovarian
Cancer Patients

- Universiti Malaya Medical Centre, Kuala Lumpur
- Institut Kanser Negara, Putrajaya
- Hospital Ampang, Kuala Lumpur
- Hospital Kuala Lumpur
- Hospital Likas, Sabah
- Hospital Sultan Ismail, Johor
- Hospital Sultanah Bahiyah, Kedah
- Hospital Tengku Ampuan Afzan, Kuantan
- Hospital Umum Sarawak
- Beacon International Specialist Centre, Selangor
- Gleneagles Penang
- KPJ Sabah Specialist Centre
- Loh Guan Lye Specialist Centre, Pulau Pinang
- Pantai Hospital Kuala Lumpur
- Tung Shin Hospital, Kuala Lumpur

If you would like to know more about MaGic Study or the genetics services offered by Cancer Research Malaysia, go to cancerresearch.my/MAGIC.



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NO HEADFRAME 

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- HEALTH SCREENING & WELLNESS CENTRE



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What You Should Know About Breast Cancer



Research is the best defence against cancer. With better understanding about the disease, we can seek cures and improve prevention and treatment strategies.

Cancer research advocacy, including millions of survivors, have driven a remarkable surge in attention and resources to treat the disease. So speak up!





Early detection is key. Knowing your genetic status, breastfeeding, exercising and performing screenings could reduce incidence of breast cancer.

A genetic test that looks at gene alterations (like BRCA1 or BRCA2) may help identify if you are at higher risk of developing cancer.





The practice of breast self-examination empowers women to take responsibility for their health.



Regular mammography screening for women over 50 years old can detect cancers as small as 2mm!



BE INFORMED ABOUT BREAST CANCER



The pink ribbon has been the symbol of raising breast cancer awareness since 1992.

93
PERCENT

In some countries, 93% of breast cancer patients survive more than 5 years. Today, drugs and treatment are developed much faster too (more than 50% in 2010-2015)

68
PERCENT

Cancer is the cause of 68% of deaths around the world.

25

25 is the age we recommend every woman to start breast self examination. Early detection of breast cancer can lead to greater likelihood of survival.



Although rare, men can also develop breast cancer.



IT STARTS WITH ME

Early detection is in your hand. You can help yourself by performing monthly breast self examination.



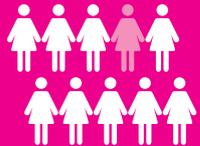
27% of all breast cancer deaths are due to alcohol, being overweight and obese, and a sedentary lifestyle. Get physically active and start moving right now.



Breast cancer survival rate has increased from 30% in 1970 to 75% in 2010.



Knowing your family history helps you understand your risk. Get everyone involved in awareness and prevention.



The first symptom of breast cancer for many women is a lump, but 9 out of 10 (90%) are benign. That means they are not cancer.

SIGNS & SYMPTOMS



Lump



Change of shape and size



Dripping



Invisible lump

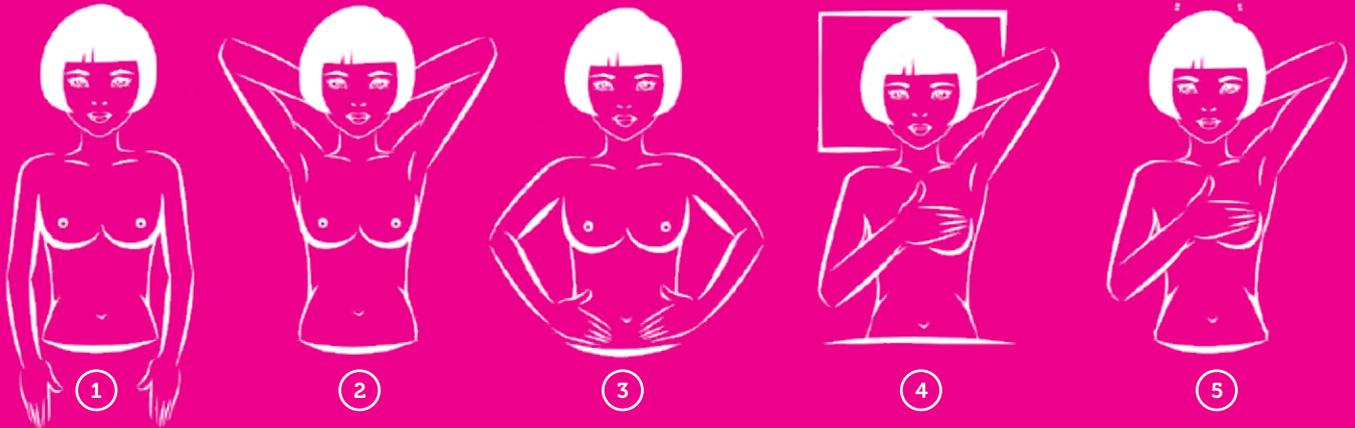


Orange-like skin



Pulled-in nipple

BREAST SELF-EXAMINATION



- ① ② ③ Examine your breasts in the mirror, arms down, up and on your hips.
- ④ ⑤ Examine your breasts in bed while lying down and in the shower.
- ⑥ Press your fingers on your breast working in a circular motion when examining.
- ⑦ Squeeze your nipple to check for any discharge.



Source: pinkupthepace.com

You can choose to use any of the three patterns:



UP/ DOWN



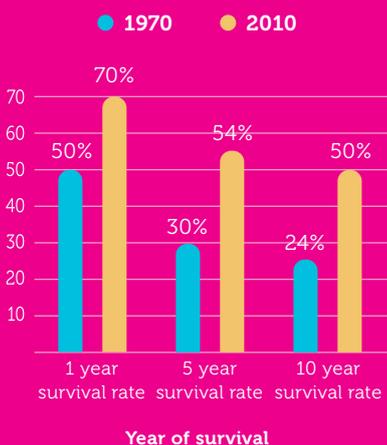
CIRCULAR



WEDGE

Positive Thoughts Only

SURVIVAL HAS DOUBLED SINCE 1970s



source: http://publications.cancerresearchuk.org/downloads/Product/CS_REPORT_SURVIVAL.pdf

“Having had cancer, one important thing to know is you’re still the same person at the end...most people come out the other end feeling more like themselves than ever before.”

Kylie Minogue
Australian singer and actress
Breast Cancer Survivor

PINK RIBBON CENTRE: INNOVATION MEETS INTUITION



Maheswari Jaganathan, CRM's Patient Navigator Programme Co-ordinator shares her experience running the Pink Ribbon Centre in Hospital Tunku Ampuan Rahimah, Klang

What is Patient Navigation Programme?

PNP was first established by Dr. Harold Freeman in 1990 and has proved to reduce late presentation and improved survival outcomes in the African American community in New York. It is an ecosystem where the community and healthcare professionals collectively run a navigation programme that is integrated with a hospital's existing breast cancer patient management protocol to ensure that patients get access to the treatment that they need. A big part of PNP is coming up with innovative ways and solutions to remove any challenges or barriers faced by the patient. It is not just about science and finding new ways to manage breast cancer patients efficiently, it is also about using your intuition and experience to help patients overcome their challenges.

What is a barrier?

A barrier is anything that stops a patient from getting treatment in a timely manner. It could be financial,

psycho-social, geographical and so on. For example: a woman who earns daily wage by working as a cleaner may not want to go to hospital at all as she would lose her income. Or, a parent who is unable to arrange for babysitting services may elect to skip getting her chemotherapy that day and then decides not to re-schedule for fear of getting scolded by her doctor.

Tell us about Pink Ribbon Centre in Hospital Tunku Ampuan Rahimah in Klang.

One of our main collaborators, Professor Dr. Nur Aishah Taib, consultant breast surgeon and Head of the Breast Unit at the Faculty of Medicine of University Malaya, said it perfectly, "Preventive measures that can be taken to increase survival rate **must** begin with an understanding of the reasons why women delay seeking medical treatment."

Unfortunately, in Malaysia, many patients are dying from breast cancer because of late presentation. On

the other hand, many women who present early are afraid of treatment and so, they either delay seeking treatment or opt for alternative medicines that do not work.

We chose to open the first PNP, known as Pink Ribbon Centre, and collaborate with Hospital Tunku Ampuan Rahimah (HTAR) in Klang for several reasons. One, HTAR is a low-resource hospital that serves a population of 1.27 million people covering 12 districts in Selangor, 84 Klinik Kesihatan and 24 Klinik Desa. Two, HTAR keeps a systematic record of its breast cancer patients which allows us to track patients and review their historical data. Three, HTAR possesses a highly dedicated and motivated clinical team led by Dato' Dr. Mohamed Yusof bin Abdul Wahab, its Head of Surgical Services.

Pink Ribbon Centre opened its doors on 1 January 2015 and serves as a demonstration project for the evaluation of state-wide and nationwide implementation in the future.





How does PRC work?

The big idea is PRC would serve as a one-stop centre: the moment you step into HTAR with your referral letter, you will be immediately directed to PRC. Here, trained nurse navigators will record comprehensive history of your background in order to determine your barriers and to assist the in-house doctor, who is permanently assigned to PRC, to counsel and explain treatment options. Appointments with the various departments such as radiology, surgical and oncology would be made by the navigators, who would follow-up with you to ensure that you turn up. If you need additional assistance, the community navigator provided by CRM will work on connecting you with appropriate bodies or welfare organisations such as Jabatan Kebajikan Masyarakat Malaysia, Hospis Klang, Hospis Malaysia, Lembaga Zakat Selangor, Majlis Kanser Nasional and so on. We even sit with patients before they go into surgery to help answer questions and ease their anxiety. A lot of "heart" goes into being a navigator.

Can you share the first year result?

We found that all patients said that health literacy is their main barrier. This is followed by logistics, financial, emotional and communications barriers.

All patients with suspicious breast lump or lesion were given appointment within 14 working days at the Breast Clinic, ahead of the 80% standard required by Ministry of Health. Percentage of breast cancer patients going for definitive surgery within 4 weeks of diagnosis increased to 86%, ahead of the 75% standard.

What is next for PNP?

The results from PRC show that even in low-resource hospitals, we can improve care through a PNP-integrated breast clinic. With more resources, partnerships and better coordination, we will be able to achieve better outcomes. Together with HTAR, Jabatan Kesihatan Negeri Selangor and Ministry of Health Malaysia, we are now working towards a Selangor state-wide implementation.

The Patient Navigation Programme is made possible because of generous donations received through the Sime Darby LPGA Tournament. From 2010 to 2014, gala fund-raising dinners have raised funding necessary to set up the pilot programme, but from 2015, the funds raised have dropped. Get in touch with us today to see how you can contribute and set-up PNPs in hospitals in your area.

STEPS TO SETTING-UP PINK RIBBON CENTRE



Qualitative perception study with nurses.



Formation of the PNP Team consisting CRM staff and medical practitioners in HTAR.



Granted approval for a PNP site, dubbed as Pink Ribbon Centre, in HTAR.



Granted funding from Sime Darby LPGA.



Placement of PNP Programme Coordinator to train nurses as navigators and integrate PNP into HTAR's breast cancer patient management protocol.



Pilot run of Pink Ribbon Centre to improve workflow and train the navigators.



Pink Ribbon Centre officially opened its doors on 1 January 2015.

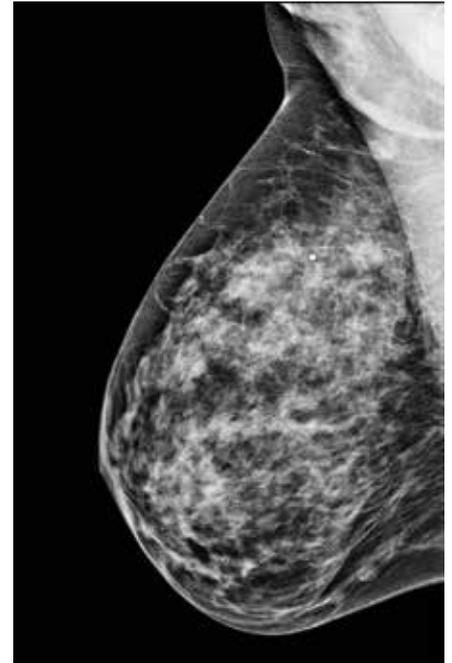
The MyMammo Study

The Malaysian Mammography Study

Breast cancer is the most common cancer among women, and in Asia, breast cancer incidence is increasing at 3% per annum because of increasing "westernisation" and urbanisation, and changes in lifestyle factors.

The big question is:
Is it possible to prevent breast cancer?

The answer is in the **mammograms.**



When you look at a mammogram film, you will see white areas. They reflect the amount of glandular and fibrous tissue in the breast. High mammographic density, or more white areas, has been shown to be associated with several lifestyle-related risk factors of breast cancer and is highly heritable (meaning it can be passed on from generation to generation). Therefore, investigating the lifestyle and genetic factors that influence mammographic density will help us determine the underlying causes of breast cancer. In addition to that, we would like to know if we can improve the accuracy of breast cancer risk prediction models that we are developing for women in our population by including mammographic density into these models.

In collaboration with Professor Per Hall and the investigators of the Karolinska Mammography Project for Risk Reduction of Breast Cancer (KARMA) study in Sweden, we are also investigating whether there are variations in mammographic density and factors associated with mammographic density in Swedish and Malaysian women which may explain why the breast cancer incidence rates are higher in women of European ancestry.

The results, in turn, will enable us to develop of effective screening strategies and improve prevention.

BREAST CANCER IMMUNOTHERAPY

Cancers find different ways of fooling the immune system into thinking that cancer cells are just like normal cells so that they can grow unchallenged. Cancer immunotherapy describes the numerous approaches which can be used to train the immune system to recognise cancer cells as abnormal. This works either by using cell-based approaches, or using man-made approaches, such as antibodies and peptides.

In the past, doctors used to treat patients according to where the cancer is located. This means, cancer of the breast is treated with one type of chemotherapy and cancer of blood cells is treated with a different type of chemotherapy. Today, the advances we have made in genetics mean we are able to determine the genes and biomarkers that drive development of cancer. It opens up avenues for new treatment or therapies that previously would not have been described for that particular cancer.

Genome sequencing analysis of breast cancer in Asian women has been limited in the past. This is mainly due to the high cost to do so, and the lack of quality tumour samples. But now with better, faster and cheaper DNA sequencing technologies, CRM is able to assemble one of the largest cohorts of breast cancer tissue samples and are collaborating with Professor Carlos Caldas and Dr. Chin Suet-Feung at the University of Cambridge to comprehensively analyse these samples.

This work will lead to a better understanding of biomarkers in Asian breast cancers and may pave the way for breast cancer immunotherapy.

This study is funded by the Breast Cancer Awareness campaign by The Estée Lauder Companies, and made possible with the support of the Newton Grant, Universiti Malaya, Sime Darby Medical Centre.

“

I was told once that we need optimism, love and physical exercise. That is true. In addition to that, the treatment that one receives should be based on good evidence. That's what research is. There is no such thing as "This is it," or "We don't need to conduct further research."

Research accelerates the advancement of treatment and provides patients with better survival odds and improved quality of life.

So get over your hesitation and get on board. You can make a difference to mankind. ”

#itstartswithME
#reversingcancer

Tunku Sara, survivor



Be A CRM Volunteer!



66

Everybody can be great. Because anybody can serve. You don't have to have a college degree to serve. You don't have to make your subject and your verb agree to serve. You don't have to know the second theory of thermodynamics in physics to serve. You only need a heart full of grace. A soul generated by love. ♡♡

Martin Luther King, Jr.

Volunteers are vital to us. Without people like you offering time and support, we would not be able to raise the funds we need to further our research programmes.

Come visit us at our labs and meet the people behind Cancer Research Malaysia to learn how you can make a difference and be a part of a ground breaking social movement that is committed to **#reversingcancer**.

Every sen and every kind word strengthens our spirit and resolve to realise our vision of a future free of the fear of cancer.

If you are interested to help in any kind of capacity, sign up as a CRM volunteer here: <http://www.cancerresearch.my/join-us>

CANCER RESEARCH MALAYSIA AS CSR-OF-CHOICE

Altruistic corporate social responsibility is a form of corporate social responsibility (CSR) that goes beyond ethical behaviour to voluntarily donate time and/or money towards a good cause. Cancer Research Malaysia has been fortunate to partner with like-minded organisations that truly believe investing in cancer research is crucial in building a resilient and robust community.

The implementation of prevention, early detection, and treatment strategies could potentially save 2.4 million-3.7 million lives every year—the vast majority of them in low and middle-income countries (such as Malaysia), yielding an economic benefit in excess of USD\$400 billion. The measures with the highest potential for clinical and economic influence are those geared toward tobacco and obesity control, vaccines, early detection and treatment, palliative care, and health systems planning, with the creation of cancer registries¹.

These are areas where, together, we can make a real difference that lead to an improvement in outcome for Malaysian cancer patients. If you would like to adopt Cancer Research Malaysia as your CSR-of-Choice and join the ranks of these altruistic companies to lead the charge in **#reversingcancer**, please get in touch with **Ms. Rafizah Amran**, our Head of Communications at rafizah.amran@cancerresearch.my or **Tel: (03) 5639 1969**.

¹ Union for International Cancer Control.
The Economics of Cancer Prevention and Control.

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Corporations have an extraordinary opportunity to bring resilience to a fragile world by ensuring that the communities in which they are members are resilient. This is already in progress. Global challenges such as climate change, poverty, inequality, and youth unemployment each have their own trajectory of corporate impact, and corporate leaders are beginning to realise that when neighbourhoods and communities flourish, corporations flourish too. 99

Lynda Gratton, Professor of Management Practice at London Business School and author of "The Key".



COMING UP IN THE NEXT EDITION OF REVERSING C.

HEAD AND NECK CANCER RESEARCH

Cancer Research Malaysia has been conducting research on head and neck cancers since our inception. The two most common types of head and neck cancers are nasopharyngeal (located at the back of the nose) and mouth cancers and the majority of these cancers are diagnosed in Asia – making it very much an Asian cancer.

A crucial step towards understanding how cancer develops is to find out the differences between cancer cells and normal cells. This is where our expertise is needed. Years of research on oral and nasopharyngeal cancers have helped the team in CRM to identify several antigens (proteins) that are unique to the oral and nasopharyngeal cancer cells.

Extensive further research then showed that cancer cells are dependent on these antigens to grow – which means if we could put a “red flag” on these antigens, our immune system can be activated and trained to recognise cancer cells as the enemy and eliminate them. Just like vaccinations that we receive to alert our immune system towards harmful infectious agents, this form of immunotherapy i.e. cancer vaccines can be used to alert and ramp up our immune system to fight cancer. The vaccines have demonstrated promising results in the laboratory and the team is currently conducting preclinical studies before they can be further tested in the clinic.



DRUG DISCOVERY PROGRAMME

Many plants and natural products have shown that they possess unique potential as an additional source of anticancer and chemo-preventive agents. In fact, 50% of cancer therapies currently used in clinics are derived from natural products. Malaysia is one of the world's 12 mega-diversity centres and is home to 10% of living organisms in the world. With an estimated 15,500 species of higher plants, the next anti-cancer drug could well be within our own backyard!

We combine our multi-disciplinary expertise to determine what cancer genes these compounds target so that the effect will specifically target cancer cells, resulting in effective anti-cancer effects with the minimal side effects. Currently our data suggests that some of the compounds that we have isolated target genes that are important for cancer development, giving us the rationale to study these in more detail so that they can continue to be developed for clinical testing.



ARE YOU TAKING YOUR
BREASTS SERIOUSLY

?



*YOUR PROTECTION
STARTS WITH EARLY
SCREENING.*

**SCHEDULE YOUR
MAMMOGRAM
TODAY!**

WE CAN. I CAN.



*JOIN
FORCES TO
MAKE A
DIFFERENCE*



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DAY 4 FEB**



*Speak
out.*



*PREVENT
CANCER*

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