ADVANCING THE FRONTIER OF FAMILY MEDICINE WITH RESEARCH
ABOUT SINGHEALTH POLYCLINICS

SingHealth Polyclinics, a leader in Family Medicine, provides seamless, patient-centred and preventive healthcare that is affordable and accessible to all.

SingHealth Polyclinics’ network of 9 polyclinics provides primary healthcare services to the community. It plays an integral role in promoting a healthy lifestyle within the community and empowering families with the knowledge of common health issues, care and treatment options.

SingHealth Polyclinics is a member of Singapore Health Services (SingHealth) — a public healthcare cluster which also manages three hospitals and five specialty centres.

VISION

Leader in Family Medicine.
Excellent Health for the Nation.

MISSION

Provide better, safer and affordable care.
Nurture generations of healthcare professionals.
Advance the frontiers of Family Medicine.

FOREWORD BY CEO

DR ADRIAN EE GUAN LIANG
Chief Executive Officer
SingHealth Polyclinics

The history of polyclinics dates back as early as 1910, when the Maternal and Child Health Services was launched and the first city Outpatient Dispensary was established at South Canal Road. Today, the polyclinics have evolved to be at the helm of primary healthcare developments for the nation.

At SingHealth Polyclinics, we strive to deliver quality care to our patients and we recognise that the healthcare landscape and the needs of the population are changing rapidly. To meet the challenges ahead, we need to transform how we deliver care so that we can advance Family Medicine and bring about excellent health for the nation. Research, together with innovation, is the key thrust of our transformation — it helps us adapt, respond to our external environment and push the frontiers of Family Medicine. Research, especially in primary care, enables us to build a strong system that provides excellent care for the population and nurture generations of healthcare professionals with an inquiring spirit.

Our research journey was boosted with the formation of our SHP Research Department in 2012, headed by Dr Tan Ngiap Chuan. We have made much progress in the last 3 years — achieving numerous awards at regional and international conferences and published papers in high impact journals by medical, nursing, pharmacy and allied health staff in primary care. I am very proud of the efforts of the SHP Research team — this book documents our research journey, the milestones achieved and profiles the key researchers in SHP. It is an inspiring read and evidence that we can make our vision of being a leader in Family Medicine, a reality.

Congratulations to the Research team!
I had once written a paper, published in the Asia Pacific Journal of Public Health, describing my conceived blueprint on primary care research in Singapore when I was still a junior Family Physician. Along the way, my energy and attention were divided between research commitments and running a busy polyclinic at Pasir Ris. On hindsight, the missing elements in the blueprint for successful research endeavors include the paucity of professional guidance required to assist budding researchers transform research ideas to scientifically robust proposals and the inadequate administrative and professional support to operationalise research projects. These challenges can deter novice researchers from any research participation, and project a daunting imagery that research is difficult and impossible to execute.

The opportunity to review the blueprint surfaced when I was designated to be the director of the newly created Department of Research at SingHealth Polyclinics (SHP). What are missing in the old blueprint become the essential components incorporated in the new plan to re-energise the development of Family Medicine (FM) research in the institution. From a two-person department, it has expanded to more than 10 staff, and is still growing. Research consultation clinics are now available for experienced Family Physicians-researchers to mentor any staff planning or are currently undertaking research. This creates an internal ecosystem that is favorable for anyone with a brilliant research idea to kick-start their research journey with minimal hurdles. Serendipitously, the establishment of Academic Medicine Research Institute within the SingHealth Regional health System and Duke NUS Graduate Medical School add fuel to vitalise the research landscape in SHP.

The Department has invited distinguished Primary Care Professors, who are successful researchers, to guide us during the nascent stage of our development. We also visited the Department of Primary Care Health Sciences in Oxford University in April 2014. The trip was graciously coordinated by Prof Andrew Farmer, who was SHP first invited HMDP expert in 2013. The study visit provided us invaluable insight into the research infrastructure; talent management and versatile support team that allow primary care research to flourish. From the subsequent visiting HMDP experts, we learnt more on the creative use of database, leveraging on various funding resources to support research, incremental build-up of research capacity, mitigate the risk of overheating the development and avoid over-taxing the current limited human capital in research.

The department now focuses on three Signature Research Programmes that are aligned to SHP’s vision to be a leader in FM and missions to provide better, safer and affordable primary healthcare services, nurture generations of primary healthcare professionals and advance the frontier of the discipline. These include patient-centric chronic disease management, critical amidst an increasing greying population; education research to groom the multidisciplinary primary healthcare professionals; and innovations in primary care to serve the patients more effectively and efficiently, riding on advancements in technology.

The seeds of research and innovations sowed in the first two years of the department’s operation are now bearing fruits. The number of research projects, multidisciplinary SHP staff embarking on research, magnitude of grants, quality of publication and even research internship for medical undergraduates are rapidly rising. I look forward to a bumper research harvest in 2015, with potential patents in the pipeline, the outcomes of three longitudinal cohort studies in diabetes, asthma and chronic hepatitis infection and completion of studies relating to sleep, dyslipidemia, diabetic eye complications, nursing research in infant nutrition, tuberculosis treatment and pharmacy research in medication review and dispensing services. The results from these studies will enhance our understanding of the management of local common diseases, provide impetus to raise the standard of primary healthcare services. These favorable deliverables from the SHP research programmes will be timely tributes to the health of Singaporeans in 2015, when the nation celebrates its 50th anniversary.
Research in SingHealth Polyclinics (SHP) began in 2001 when a small group of multidisciplinary staff gathered to form the ASPIRE (A SingHealth Polyclinics’ Initiative for Research Excellence) Committee. Led by Dr Tan Ngiap Chuan, the Committee helped facilitate research by reviewing the scientific merits of research proposals and organised research ethics training.

In 2006, the Department of Education and Research was established to cater to expanding medical education programmes in SHP. Working collaboratively with the ASPIRE committee, the department continued to support research training activities. Between 2008 and 2012, four SHP Family Physicians completed their advanced research training armed with Master of Clinical Investigation (MCI) degrees awarded by NUS.

Research assumes an expanding role in Academic Medicine. As a result, the department split into two respective departments in October 2012. The Department of Research was set up and led by its Director, Dr Tan Ngiap Chuan. By December 2014, it has expanded to a team comprising of 12 staff.

The Department of Research provides the following services:

- Assist researchers in research grant applications and budget planning
- Assist researchers in submitting applications to ethics board for review
- Establishes links with academic institutions and industry partners for research collaborations
- Administration of seed funding to support budding researchers
- Management of research data and databases, publications and grants
- Maintenance and updating of SHP research web portal
- Organise in-house research training including basic/qualitative research workshops
- Run research consultation / biostatistical consultation clinics with researchers
SHP DEPARTMENT OF RESEARCH ORGANISATION CHART

Primary healthcare covers an entire spectrum of health and disease conditions from newborn to the elderly. With the advent of the rapidly aging population in Singapore and a concomitant expanding pool of patients with chronic ailments in primary care, research focusing on chronic disease management becomes a vital pillar in SHP. Research provides the platform for the healthcare professionals in the institution to constantly review and assess the long-term health of these affected patients and the effectiveness and efficiency in which the health services are delivered to them.

SHP SIGNATURE RESEARCH PROGRAMMES (SRP)

CHRONIC DISEASE MANAGEMENT

Primary healthcare covers an entire spectrum of health and disease conditions from newborn to the elderly. With the advent of the rapidly aging population in Singapore and a concomitant expanding pool of patients with chronic ailments in primary care, research focusing on chronic disease management becomes a vital pillar in SHP. Research provides the platform for the healthcare professionals in the institution to constantly review and assess the long-term health of these affected patients and the effectiveness and efficiency in which the health services are delivered to them.

EDUCATION RESEARCH

SHP is a certified training center for the discipline of FM in Singapore with the Accreditation Council for Graduate Medical Education (ACGME). It also provides undergraduate training to medical students from the local medical colleges, student nurses from the polytechnic nursing schools and pharmacy interns in Singapore. Naturally, education research takes a central role to assess the quality and effectiveness of the various multidisciplinary training programs to nurture generations of healthcare professionals, one of our key missions. Education research will play a pivotal role to support the Academic Clinical Program (ACP) for FM due to be launched in 2015.

INNOVATIONS IN PRIMARY CARE

SHP has been actively exploring new effective ways to provide quality care for patients and their families, and therefore, we need to develop healthcare innovations to advance the frontier of FM. SHP staff will tap on the expertise of engineers, designers, information technology and info-communication professionals in other academic institutions and partner them to develop innovative and low-cost devices and systems to better serve the patients. Research is applied to evaluate the cost-effectiveness, safety and acceptability of these new gadgets. Looking ahead, research will provide fuel to spark creativity and develop a culture of innovations amongst its multidisciplinary staff.
RESEARCH MILESTONES

2001
Formation of SingHealth Polyclinics (SHP) ASPIRE Committee

2002
Dr Tan Ngiap Chuan received the 1st SingHealth Foundation research grant for SHP

2006
Establishment of SHP Department of Education and Research

2008
Organised the 1st SHP Qualitative Research workshop

2008–2012
Four SHP Family Physicians graduated with NUS-MCI (Master in Clinical Investigations) degree

2010
Organised the 1st SHP Research Consultation Clinic (RCC) session

2012
Organised the 1st SHP Biostatistical Consultation Clinic session

2012
SHP Department of Education and Research became two separate departments
Establishment of SHP Department of Research in October 2012

2013
Organised the 1st SHP Research Writing Workshop
Hosted MOH-HMDP Visiting Experts: Prof Andrew Farmer, University of Oxford and Prof David Price, University of Aberdeen, UK

2014
Organised the 1st SHP Basic Research Workshop
Hosted MOH-HMDP Visiting Expert: Prof Chris Salisbury – University of Bristol, UK
1st SHP Institutional Clinician Scientist: Dr Andrew Wee

CURRENT FUNDED PROJECTS

• Insulin Resistance and Mild Cognitive Impairment (MCI) in Older Chinese Adults with Pre-Diabetes and Diabetes: Cognitive Effects of Lifestyle Intervention and Metformin Treatment in a Randomised Controlled Trial
PI: Dr Andrew Wee Kien Han (in collaboration with NUS — A/Prof Ng Tze Pin)

• Assessing the risk of coronary artery disease and its association with anxiety disorders amongst patients presenting with chest pain in a primary healthcare setting: a comparison of 3 predictive models
PI: Dr Sinead Wang Zhen

• Lipid HEALTH study: Lipid Health beliefs Affecting Lipid Treatment and Health-seeking behaviour
PI: Dr Tan Ngiap Chuan / Dr Paul Goh (in collaboration with Duke-NUS — Prof Tazeen Jafar)

• Insomnia and healthcare utilisation: a cross-sectional study of 2 primary care clinics in Singapore
PI: Dr Andrew Ang Teck Wee

• Biomechanical risk factors in trigger finger
PI: Dr Koh Kim Hwee

• Cohort study of patients with chronic hepatitis B infection in primary care
PI: Dr Tan Ngiap Chuan

• Asthma Self-Management Phone Intervention Research (ASPIRE study)
PI: Dr Tan Ngiap Chuan

• A Randomised Controlled Trial to Improve Diabetes Outcomes through Financial Incentives
[Simplified Title: Trial to Incentivise Adherence for Diabetes (TRIAD)]
Site PI: Dr Shah Mitesh (in collaboration with Duke-NUS — Dr Marcel Bilger)

• Management of Hypertension and multiple risk factors to Enhance Cardiovascular Health — A Cluster of Randomised Trial in SingHealth Polyclinics pilot study (SingHypertension study)
Site PIs: Dr Paul Goh Soo Chye / Dr Jason Chan Meng Huey (in collaboration with Duke-NUS — Prof Tazeen Jafar)

• Feasibility-Pilot Study of the Association between Muscle Strength & Tinetti Performance Oriented Mobility Assessment (POMA) Score with Serum Vitamin B12 Levels in Elderly Diabetics of Marine Parade Polyclinic
PI: Dr Andrew Wee Kien Han

• “BE KIND” — Behaviour, Experiences, Knowledge and Information needed by newly-diagnosed (type 2) Diabetic patients
PI: SSN Hamidah Bte Karim
2014

2nd Prize (Oral Presentation) – CGH-EHA Scientific Meeting 2014
Presenter: Nurse Clinician Lee Hwee Khim
Title: The socio economic impact and quality of life of patients with tuberculosis undergoing direct observed therapy in public primary care clinics in Singapore
Best Poster Presentation – SingHealth Duke-NUS Scientific Congress 2014
Study team comprising Dr Tan Ngiap Chuan (SHP), Dr Rahul Malhotra (Duke-NUS)
Title: Association of Hand Grip Strength and 4-year Mortality among Elderly Singaporeans

2013

Best Oral Presentation (Clinical Medicine) – CGH-EHA Scientific Meeting 2013
Presenter: Dr Tan Hwee Leong (study team includes Dr Gilbert Tan and Dr Tan Ngiap Chuan from SHP)
Title: Orthostatic hypotension - Prevalence and associated risk factors amongst the ambulatory elderly in an Asian population
Best Poster Presentation CGH-EHA Scientific Meeting 2013
Presenter: Dr Joanne Quah Hui Min
Title: Health as a value in older vs younger primary care patients

AWARDS (2012-2014)

Gold Award in 1st TTSH Nursing Conference 2013
Presenter: Nurse Clinician Jacqueline Giovanna de Roza
Title: Exploring Singaporean mothers’ knowledge, attitude and practice about weaning diet

2012

3rd Prize – Oral Presentation (Nursing) in CGH-EHA Scientific Meeting 2012
Presenter: Nurse Clinician Lian Lay Geok
Title: Knowledge, practice and barrier to self-footcare amongst people with type 2 diabetes mellitus managed in primary care: would they be able to achieve their glycemic control?

1st Prize – Poster Presentation (Nursing) in CGH-EHA Scientific Meeting 2012
Presenter: Nurse Clinician Nghoh Soh Heng Agnes
Title: Adult asthma patients who smoke: how much do they know about smoking and its effects on asthma?
Dr Tan Ngiap Chuan was appointed as the Director of Research in SHP in October 2012, after serving as Clinic Director of SHP-Pasir Ris from 2002. He graduated with both the Master in Family Medicine and Master in Clinical Investigations (NUS). Dr Tan is an adjunct assistant professor at Duke NUS Graduate Medical School and a Clinical Physician faculty member of the SHP Family Medicine (FM) Residency Program. He is a Fellow of the College of Family Physicians of Singapore and a member of the College Council since 2010. He is also the recipient of the Singapore Healthcare Humanity award in 2010. He is also the recipient of the SingHealth GCEO Excellence Award for Outstanding Clinician in 2012.

Dr Tan is also a member of the SingHealth Research Council and the Academic Medicine Research Institute. He received the MOH HMDP award in 2002, and was attached to the Queen Mary School of Medicine & Dentistry, University of London for his immersion in primary care research under the mentorship of the late Prof Yvonne Carter.

Dr Tan’s research focuses on assessing the management of chronic diseases, such as diabetes mellitus, hypertension, dyslipidemia, asthma and chronic hepatitis B infection. He is currently involved in longitudinal studies relating to outcomes of diabetic patients in primary care under the Singapore Consortium of Cohort Studies, the Singapore National Asthma Program and a SingHealth Foundation funded database on patients with chronic Hepatitis B infection. His other research interests include innovative approaches to serving the patients in primary care through the design of new care delivery system and point-of-care devices and their evaluations for application in clinical practices.

Dr Tan receives research grants exceeding S$1.2 million and serves as a grant reviewer for applicants of the SingHealth Foundation and Hong Kong Health and Research Fund grant call. Dr Tan publishes in local and international medical journals and delivered oral and poster presentations in numerous conferences, with awards received at the WONCA World Congress in Singapore in 2007 and WONCA Asia Pacific Regional (APR) conferences in 2011 and 2014. He serves as a reviewer for various local and international medical journals such as the International Journal of Asthma and Allergy, Current Diabetes Review and the Malaysian Family Physician.

Dr Tan is the main facilitator in the SHP Basic Research and Qualitative Research workshops respectively and uses the Research Consultation Clinics as a platform to mentor researchers from SHP, General Practitioners and medical students from local medical schools. He is also appointed by the College of Family Physicians Singapore as a trainer for the research module for Fellowship trainees since 2010. Dr Tan was invited by WONCA APR and the Fiji College of General Practitioners to conduct the “Primary Care Research Workshop” in Nadi in 2013. Together with Prof Ng Chirk Jenn from University of Malaya and A/P Goh Lee Gan from National University of Singapore, Dr Tan pioneered a new method of intensive research coaching for primary care professionals known as “Research Championship”, which inaugurated at the 2nd Asia Pacific Primary Care Research Conference in 2010. Based on the “Preparation-Intensive Coaching-Competition” or “PICC” model, the championship has become the highlight of the conference.

## RESEARCH DOMAIN/PROJECTS

**Lipid HEALTH study**: Lipid Health beliefs Affecting Lipid Treatment and Health-seeking behavior

**Assessing Acquired Color Vision Impairment (ACVI) amongst patients with type 2 Diabetes Mellitus (ACVI-DM study)**

**Cohort study of patients with Chronic Hepatitis B infection in primary care**

**Research Grants**

- Lipid HEALTH study (from Singapore Heart Foundation)
- Cohort study of patients with Chronic Hepatitis B infection in primary care (from SingHealth Foundation)
- SingHypertension study as co-I: Management of Hypertension and multiple risk factors to Enhance Cardiovascular Health — A Cluster of Randomised Trial in SingHealth Polyclinics (from NMRC)

**Selected Publications**

Dr Andrew Wee is an Associate Consultant (Family Physician) of SHP-Marine Parade. He obtained his MBBS (Singapore) degree in 1996 and MMed (Family Medicine) in 2002. He received his Collegiate Fellowship from the College of Family Physicians Singapore in 2011. He went on to complete the Master of Clinical Investigation from NUS-YLLSOM in 2012. In October 2014, he was part of the first batch of family physicians to be recognised and received as a Fellow of the Academy of Medicine Singapore (FAMS). His accolades for medical excellence include the Star Award – Singapore Health Quality Service Award 2014 and Star Award – Eastern Health Alliance Caring Awards 2014.

Dr Wee’s passion for research started at a very young age, having created his very own mini-biology lab at home. Apart from his innate spirit of inquiry, his deep passion for public interest and safety also spurs him to do research. He advocates the synergistic combination of clinical quality with research to improve patient care.

Dr Wee is a recipient of the 2014 ExxonMobil-NUS Research Fellowship which ensures protected time for him to undertake noteworthy research projects in the polyclinics. He is also an active member of the SHP Research Committee (ASPIRE) and is a peer reviewer for scientific journals.

Dr Wee has a keen interest in the diverse fields of botany, zoology, pharmacology, psychiatry, chronic diseases (diabetes mellitus, hypertension, dyslipidaemia, neurodegenerative diseases), obesity, nephrology and cancer biology.

**RESEARCH DOMAIN/PROJECTS**

Feasibility-Pilot Study of the Association between Muscle Strength and Tinetti Performance Oriented Mobility Assessment (POMA) Score with Serum Vitamin B12 Levels in Elderly Diabetics of Marine Parade Polyclinic

Evaluating Vitamin B12 Deficiency in Diabetic Patients of the Family Physician Clinic (FPC) of Marine Parade Polyclinic

Insulin Resistance and Mild Cognitive Impairment (MCI) in Older Adults with Pre-Diabetes and Diabetes: Cognitive Effects of Lifestyle Intervention and Metformin Treatment in a Randomised Controlled Trial

**RESEARCH GRANTS**

Feasibility-Pilot Study of the Association between Muscle Strength and Tinetti Performance Oriented Mobility Assessment (POMA) Score with Serum Vitamin B12 Levels in Elderly Diabetics of Marine Parade Polyclinic (SingHealth Foundation Grant in April 2013).

Insulin Resistance and Mild Cognitive Impairment (MCI) in Older Adults with Pre-Diabetes and Diabetes: Cognitive Effects of Lifestyle Intervention and Metformin Treatment in a Randomised Controlled Trial (Site PI – NMRC Individual Research Grant in 2012).
Dr. Joanne Quah is the Clinic Director of SHP-Outram. She obtained her MBBS degree in 2001 and MMed (Family Medicine) in 2006 from the National University of Singapore (NUS). She went on to complete her Master of Clinical Investigation from NUS in 2010 together with the first batch of graduands, and is also a Fellow with the College of Family Physicians Singapore since 2010.

Her research interests revolve around primary care, and include diabetes mellitus, quality of life, depression, value of health, multi-morbidity and education research. Dr. Quah has also attended numerous scientific conferences to deliver oral and/or poster presentations.

RESEARCH DOMAINS/PROJECTS

Health-related Quality of Life in the Primary Care Elderly Population with Multiple Morbidity

Health as a Value in Older vs Younger Primary Care Patients: Determinants of poor sleep quality in elderly patients with Diabetes Mellitus, Hypertension and Hyperlipidemia

Reliability of Family Medicine Residency Program Monthly Core Topic Multiple Choice Questions as Formative Assessment to Predict Residents’ Performance at the In-Training Examination

Video Consultation Teaching and the use of Real vs Standardised patients in Postgraduate Medical Education in SingHealth Polyclinics

SingHealth Polyclinics Master of Medicine (Family Medicine) Preparatory Workshop: Feedback from participants and performance of participants at the actual exam

SELECTED PUBLICATIONS


RESEARCH GRANT

SingHealth Foundation Health Services Research Grant for the study on “Prevalence, Perceptions and Barriers to care of Depression among Geriatric Primary Care patients in Singapore.”

AWARD

Led a team of NUS-YLLSOM medical students to clinch first prize - Best Poster Award (Research) at the CGH-EHA Annual Scientific Meeting for the project - “Health as a value in older versus younger primary care patients”, November 2013.
Ms Hamidah Binte Kari is a Senior Staff Nurse in SHP-, and MMED (FM) in 2011. She is also a Fellow in the College of Family Physicians Singapore since 2014. She recently attended the WONCA Asia Pacific Regional Conference 2014 in Kuching, Malaysia where she received a Merit Award for the Oral Presentation category for the project “When the Phone Rings: A Qualitative Study on its Effects on Patient’s and Healthcare Worker’s Experiences During Primary Care Consultation.”

**RESEARCH DOMAIN/PROJECTS**

- Impact of phone usage during primary care consultations
- Master of Medicine (Family Medicine) examination: Assessing its Relevance and Values in Enriching Learning (MARVEL): A primary care physician’s perspective
- Assessing the risk of coronary artery disease and its association with anxiety disorders amongst patients presenting with chest pain in a primary healthcare setting: a comparison of 3 predictive models (CHERISH)
- BE KIND ‘Behaviour, Experiences, Knowledge and Information needed by Newly-diagnosed (type 2) Diabetic patients”

Dr Agnes Koong is the Clinic Director of SHP-Marine Parade. She obtained her MBBS degree in 2001 and the Graduate Diploma for Family Medicine in 2007, subsequently went on to do his Postgraduate Family Medicine studies, where he obtained his MMED (Family Medicine) from NUS in 2011. He also obtained his Collegiate Membership from the College of Family Physicians Singapore (MCFPS) in 2014.

**RESEARCH DOMAIN/PROJECTS**

- Insomnia and Healthcare Utilisation: A Cross-sectional Study of Two Primary Care Clinics in Singapore (INSTILL)
- 12th Institution of Engineers Singapore (IES) Innovative Design Award in May 2013 for his Tennis Elbowciser project
- 12th Institution of Engineers Singapore (IES) Innovative Design Award in May 2013 for his Tennis Elbowciser project
- Selected Publications

Mr Hanniel Lim currently works as a Physiotherapist in SHP-Tampines. He obtained his Bachelor of Physiotherapy (First Class Honours) from the University of Queensland, Australia in 2009. Among his achievements was a Bronze Award from the 10th Institution of Engineers Singapore (IES) Innovative Design Award in May 2013 for his Tennis Elbowciser project.

**RESEARCH DOMAIN/PROJECT**

Biomechanical Innovation Device in Rehabilitation

**PATENT**

Tennis Elbowciser: An elbow-exercising invention related to the field of human limb correction device, that alleviates elbow joint pain from a person diagnosed with lateral or medial epicondylalgia, more commonly known as “Tennis elbow” and “Golfer’s elbow”.

**SELECTED PUBLICATION**


Mr Hanniel Lim currently works as a Physiotherapist in SHP-Tampines. He obtained his Bachelor of Physiotherapy (First Class Honours) from the University of Queensland, Australia in 2009. Among his achievements was a Bronze Award from the 10th Institution of Engineers Singapore (IES) Innovative Design Award in May 2013 for his Tennis Elbowciser project.
Dr Ian Phoon is a Family Physician in Pasir Ris Polyclinic. He obtained his MBBS degree (Singapore) in 1999 and his MMED (Family Medicine) in 2005. He is also a Fellow of Postgraduate Family Physicians Singapore since 2010. His other appointments include Adjunct Lecturer in NUS-YLLSOM and Adjunct Assistant Professor in Duke-NUS since 2013.

**Selected Publications**


**Research Domain/Projects**

- Direct Observed Therapy Study — A Commitment to Optimise the Management of Tuberculosis (DOTCOMT): Understanding the socioeconomic impact and quality of life of patients with tuberculosis undergoing DOT in primary care in Singapore.
- An Investigation of Singapore Women’s Knowledge, Attitudes and Practices Associated with Menopause.

**Award**

- 2nd Prize — Oral Presentation on “The Socio-economic Impact and Quality of Life of Patients with Tuberculosis Undergoing DirectObserved Therapy in Public Primary Care Clinics in Singapore”, CGH Scientific Meeting, November 2014.

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Ms Jacqueline De Roza is an Advanced Practice Nurse (APN) in Community Health in SHP-Geylang. She completed Advanced Diploma in Nursing (Community Health) in 2008 and a Master of Nursing in 2010.

**Selected Publication**


**Research Domain/Projects**

- Exploring Singaporean Mothers’ Knowledge, Attitude and Practice (KAP) About Weaning Diet: A Qualitative Study
- Multidimensional Factors Affecting Medication Adherence Among Adults with Chronic Diseases on Monotherapy in Singapore: A Cross-Sectional Study

**Award**


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Ms Lee Hwee Khim serves as a Nurse Clinician in SHP-Outram and has worked in the primary health care for the past 14 years. She obtained her Bachelor of Nursing degree from La Trobe University (Singapore) in 2000 and the Advanced Diploma in Nursing (Community Health) in 2004. She is also a Certified Diabetes Educator.

**Selected Publication**

- An Investigation of Singapore Women’s Knowledge, Attitudes and Practices Associated with Menopause.

**Research Domain/Projects**

- A study to assess the utility of healthcare kiosks for follow up of stable chronic disease
- Retrospective study of management of urinary tract infections amongst polyclinic doctors and surveillance of antibiotic resistance pathogens causing community acquired urinary tract infections

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Dr Juliana Bahadin is the Clinic Director of SHP-Bedok. She obtained her MBBS degree in 1997 and Master of Medicine (MMED) in Family Medicine in 2005. She is also a Fellow in the College of Family Physicians Singapore since 2010. Her other appointments include Adjunct Lecturer in NUS-YLLSOM and Adjunct Assistant Professor in Duke-NUS since 2013.

**Selected Publications**


**Research Domain/Projects**

- Direct Observed Therapy Study — A Commitment to Optimise the Management of Tuberculosis (DOTCOMT): Understanding the socioeconomic impact and quality of life of patients with tuberculosis undergoing DOT in primary care in Singapore.
- An Investigation of Singapore Women’s Knowledge, Attitudes and Practices Associated with Menopause.

**Award**

- 2nd Prize — Oral Presentation on “The Socio-economic Impact and Quality of Life of Patients with Tuberculosis Undergoing Direct Observed Therapy in Public Primary Care Clinics in Singapore”, CGH Scientific Meeting, November 2014.
from the NUS-YLLSOM in 2007, and continued her studies in Singapore to obtain her MMed (FM) in 2011. She became a Fellow of the College of Family Physicians Singapore (CFPS) in 2014. Dr Wang also holds Graduate Diplomas in Geriatric Medicine, Mental Health, and Family Practice Dermatology.

**RESEARCH DOMAIN/PROJECTS**
- Assessing the risk of coronary artery disease and its association with anxiety disorders amongst patients presenting with chest pain in a primary healthcare setting: a comparison of 3 predictive models (CHERSHI)
- Master of Medicine (FM) examination: Assessing its Relevance and Values in Enriching Learning (MARVEL)- A primary care physician’s perspective

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**DR SINEAD WANG ZHEN**
Dr Sinead Wang is the Deputy Clinic Director of SHP-Marine Parade. She is also a Core Faculty Member of the SingHealth Polyclinics Family Medicine (FM) Residency Programme. She graduated Medicine (FM) Residency from the NUS-YLLSOM in 2007, and continued her studies in Singapore to obtain her MMed (FM) in 2011. She became a Fellow of the College of Family Physicians Singapore (CFPS) in 2014. Dr Wang also holds Graduate Diplomas in Geriatric Medicine, Mental Health, and Family Practice Dermatology.

**RESEARCH DOMAIN/PROJECTS**
- Masks in Preventing Aerosol Spread: Knowledge and Experience amongst Singapore Residents — A Qualitative Study
- Comparison of transcutaneous bilirubinometer with serum bilirubin measurements in healthy late preterm and term neonates in Singapore
- Sustained and White Coat Hypertension in Primary Care — Diagnosis, Risk Factors and role of Retinal Vascular Imaging. — Co-investigator (collaboration with SERI)

**SELECTED PUBLICATIONS**
- An Approach to Common Urological Disorders (Contributing Co-author, 2013) — by SGH Urology Department.

**AWARD**
- Champion, 1st Research Championship, 2nd Asia Pacific Primary Care Research Conference, Singapore 2010.

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**DR KOH KIM HWEE**
Dr Koh Kim Hwee is a Family Physician in SHP-Tampines. He received his MBBS (S’pore) in 2007. He was later trained in surgery and obtained the MRCS (Glasgow) in 2010. He subsequently went into Family Medicine (FM) training and obtained the MMed (FM) in 2012 and MCFP(S) in 2013. Dr Koh also has interest in psychiatry and dermatology, and obtained the Graduate Diploma in Mental Health in 2012 and Graduate Diploma (FP) in Dermatology in 2013.

**RESEARCH DOMAIN/PROJECTS**
- Direct Observed Therapy Study — a Commitment to Optimise the Management of Tuberculosis (DOTCOMT): Understanding the socioeconomic impact and quality of life of patients with tuberculosis undergoing DOT in primary care in Singapore
- An Investigation of Singapore Women’s Knowledge, Attitudes and Practices Associated with menopause
- Exploring Singaporean Mothers’ Knowledge, Attitude and Practice (KAP) About Weaning Diet: A Qualitative Study

**SELECTED PUBLICATIONS**

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**MS STEPHANIE TEO SWEE HONG**
Ms Stephanie Teo is the Deputy Director, Nursing Administration in SingHealth Polyclinics. She obtained a Master of Health Science Management degree from the University of Sydney in 2009. She was awarded the SingHealth Lee Foundation-DS Lee Foundation Excellence in Nursing Award for Nursing Leader in 2010. She also received numerous research-related training which include Nvivo training (for qualitative research), SPSS and the Joanna Briggs Institute (JBI) Comprehensive Systematic Review training in Adelaide and has participated in the 3rd Asia Pacific Primary Care Research Conference in 2011.

**RESEARCH DOMAIN/PROJECTS**
- Biomechanical Risks Factors in Trigger Finger
- Lipid HEALTH study: Lipid Health beliefs Affecting Lipid Treatment and Health-seeking behaviour

**AWARD**
- First Prize – Clinical Poster Award, CGH Annual Scientific Meeting, 2009

**SELECTED PUBLICATIONS**
SingHealth Polyclinics continue to increase its efforts to develop and nurture the research potential of its multi-disciplinary staff by organising basic and qualitative research workshops, participating in local/overseas scientific symposiums or conferences and attending talks on conducting proper and responsible research.

**HIGHLIGHTS OF RESEARCH FINDINGS**

**Medical undergraduates can also deliver quality public health talks to patients and caregivers when guided by their tutors.**


**Empowering primary healthcare professionals with research related skills relevant to their specific study is challenging due to time and resource constraints in busy primary care settings. “Research Championship”, a new approach to train novice researchers with intensive personalised coaching within a competitive, award incentivised environment, has been developed and is now the highlight of the Asia Pacific Primary Care Research Conference.**

Tan NC, Ng CG. The novel “Prepare-Intensive Coaching-Compete (PICC)” model to learn research. Education Primary Care 2012;23(2): 120-124

**Home and working environment may have an impact on the dietary and lifestyle habits of the younger adult patients with diabetes.**


**Smoking worsens the quality of life for patients suffering from asthma, increases their risk of cough (71%), breathlessness (39%) and awakening at night (84%).**


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