

# Implementing a Partnership for Cardiovascular Trials-2 (IMPACT-2)



# The IMPACT-2 Program

*The aim of IMPACT-2 is to establish a nationwide network to undertake high-impact multicentre clinical trials for improving health outcomes in CVD patients, and establish Singapore as a global leader in CV research.*

- **IMPACT-1** established the research infrastructure, network and 5 core analysis labs (echo, CMR, genomics, biomarkers, cardiosleep) across our 2 national heart centres and delivered 11 clinical studies.
- **IMPACT-2**
  1. Extend this successful partnership to NHGHI and form a nationwide network.
  2. Focus on delivering 8 intervention trials for improving health outcomes in patients with IHD, and diabetic + hypertensive heart disease.
  3. New project manager to provide oversight of the trials across the 3 sites.
  4. Merge facility cores to unify common processes and promote collaboration.

# IMPACT-2 OVERVIEW

IMPACT-2 CCG Research Themes and Trials		IMPACT-2 CCG Facility Core Labs					
		1. Cardiac Imaging Core Lab			2. Gen, Bio, Metab	3. Cardio-Sleep	4. Trials Support
Echo	CMR	CT					
Chronic Coronary Syndromes	1. PASSIVATE trial (SG, NZ, UK)	✓		✓	✓		✓
	2. ECONOMY trial			✓	✓		✓
	3. AMI-HOPE study				✓		✓
Acute Coronary Syndromes	4. STAT trial				✓		✓
	5. PITRI trial		✓		✓		✓
Diabetic Heart Disease	6. ADOPT trial (SG, Asia)	✓			✓		✓
Hypertensive Heart Disease	7. CRESCENT trial		✓		✓	✓	✓
	8. REVERSE-LVH trial		✓		✓		✓

# IMPACT-1 Achievements

## Securing talent awards and funding

*IMPACT-1 has put in place the Research Infrastructure, Network, and Cores required to help our researchers secure talent awards and research funding to undertake the multi-center trials for IMPACT-2.*

CT-FFR



**ECONOMY**



NMRC HSRG (\$1M)  
IAF PP (\$6M)

PITRI + IMMAC



**REDUCE-PAD**



NRF CRP  
(\$6.4M)

REMODEL



**REVERSE-LVH**



NMRC CSA  
Investigator (\$1.25M)  
+  
NMRC CTG (\$0.675M)

ASIAN-HF



**ADOPT**



NMRC CSA  
SI (\$3.25M),  
Philanthropy (\$0.76M),  
Roche (\$6.67M), Bayer  
(\$5.4M)

PITRI+IMMAC



**PASSIVATE  
AMI-HOPE**



NMRC CSA-SI (\$1.75),  
MOH HSDP (\$6.5M),  
MOHT (\$6.9M),  
AZ (\$13.5M)

SLEEP & STENT II



**CRESCENT**



NMRC CSA-SI  
(\$1.75M)

**>\$60 million** funding

# IMPACT-1 Achievements

## New Investigators

*IMPACT-1 has supported activities aimed at nurturing our budding clinician researchers*



Dr Deanna Khoo



Dr Jasper Tromp



Dr Chong Jun Hua



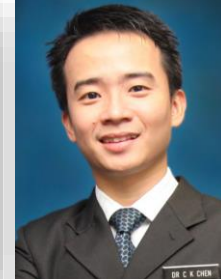
Dr Huang Weiting



Dr Lim Shir Lynn



Dr Yeo Tee Joo



Dr Chen Ching Kit



Dr Low Ting Ting



Dr Sia Ching Hui



Dr Jason Chen



IMPACT-1 **Scientific**  
Symposia Jan 2019 & July 2021



Funded **11** SEED pilot studies



Invited **6** KOLs as part of IMPACT-1  
Training/ Education/Mentorship  
Programs



# Future plans for IMPACT-2 Cores

## Core 1: Cardiac Imaging Core

### Core 1A: Echo Core Lab

- Established by IMPACT-1
- Core lab analysis for **PASSIVATE** and **ADOPT**
- *Harmonised acquisition and analysis protocols across all sites*



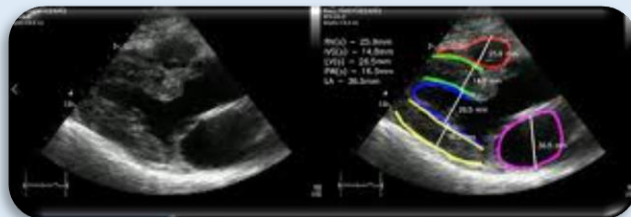
Prof Ling  
Lieng Hsi  
NUHCS



A/Prof Anders  
Sahlen  
NHCS



Dr Yong Quek Wei  
NHGHI



### Core 1B: Cardiac MRI Core Lab

- Established by IMPACT-1
- Core lab analysis for **PITRI** and **REVERSE-LVH**
- *Harmonised acquisition and analysis protocols across all sites*



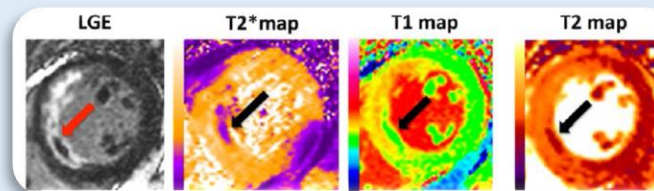
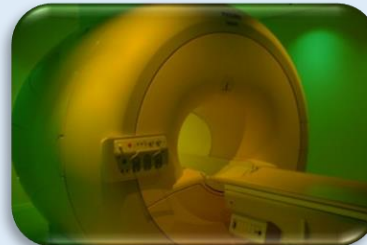
Asst Prof  
Calvin Chin  
NHCS



Asst Prof  
Chai Ping  
NHGHI



Dr Prabath  
Joseph Francis  
NHGHI



### Core 1C: Cardiac CT Core Lab

- New for IMPACT-2
- Core lab analysis for **PASSIVATE** and **ECONOMY**
- *Harmonised acquisition and analysis protocols across all sites*



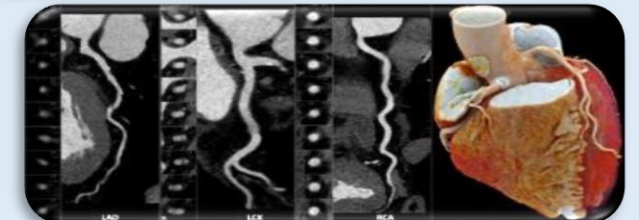
Asst Prof  
Lohendran  
Baskaran  
NHCS



Asst Prof  
Lynette Teo  
NHGHI



Dr Yew Min Sen  
NHGHI



# Future plans for IMPACT-2 Cores

## Core 2: Genomics, biomarkers, metabolomics

- Established by IMPACT-1
- Merged genomics and biomarkers and metabolomics added.
- Core lab analysis for **all studies**.
- *Harmonised protocols across all sites.*



Prof Mark Richards  
NUHCS



Prof Roger Foo  
NUHCS



Prof Stuart Cook  
NHCS



Asst Prof JP Kovalik  
NHCS



Dr Kevin Leong  
NHGHI



## Core 3: Cardiosleep Core

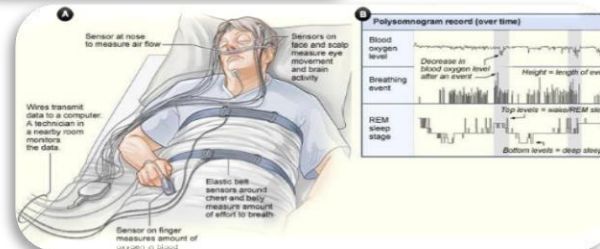
- Established by IMPACT-1
- Member of international consortiums
- Core lab analysis for **CRESCENT**
- *Establish local collaborations*



A/Prof  
Ronald Lee  
NUHCS



Asst Prof  
Calvin Chin  
NHCS



## Core 4: Clinical studies support

- Established by IMPACT-1
- Research nurse support for **all trials**.
- A new project manager will coordinate IMPACT-2 across the 3 sites.



Prof Derek  
Hausenloy  
NHCS



A/Prof  
Ronald Lee  
NHCS



Prof David  
Foo  
NHGHI





# IMPACT-2 Clinical Trials

## Theme 1: Chronic Coronary Syndromes

### PASSIVATE trial

- Anti-inflammatory agent to reduce coronary atheroma in AMI.
- SG-led multi-national trial (SG, UK, NZ).
- Builds on IMMAC and PITRI studies (IMPACT-1).
- Supported by CRC, CT, Echo, Biomarker cores.



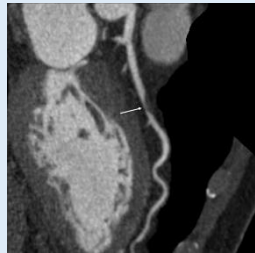
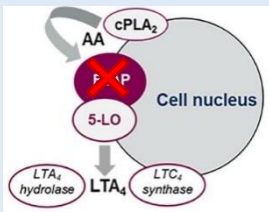
A/Prof Mark Chan  
NUHCS



Prof Derek Hausenloy  
NHCS



Dr Yew Min Sen  
NHGHI



### ECONOMY trial

- CT-FFR to detect CAD (clinical outcomes/cost-benefit).
- Builds on CT-FFR study (IMPACT-1).
- Supported by CRC, CT, Biomarkers.



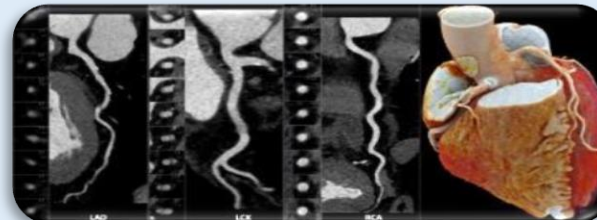
A/Prof Zhong Liang  
NHCS



Asst Prof Chai Ping  
NHCS



Dr Yew Min Sen  
NHGHI



### AMI-HOPE trial

- Improve AMI outcomes by optimising medical care using digital technology (clinical outcomes/cost-benefit).
- Builds on IMMAC and PITRI studies (IMPACT-1).
- Supported by CRC, Biomarkers.



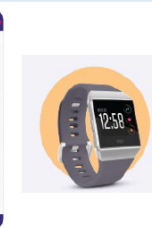
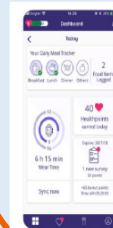
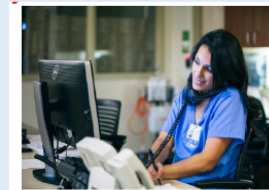
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NUHCS



Prof Derek Hausenloy  
NHCS



A/Prof Ho Hee Hwa  
NHGHI



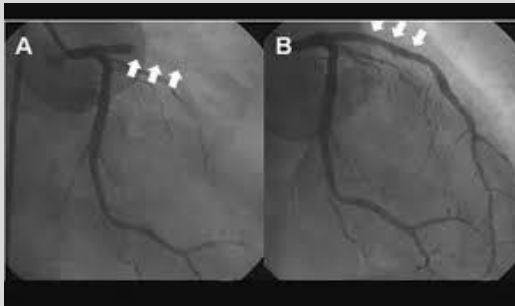


# IMPACT-2 Clinical Trials

## Theme 2: Acute Coronary Syndromes

### PITRI trial

- Cangrelor to reduce MVO and MI size in STEMI.
- Support from CRC, CMR, Biomarker, Biostats Cores.



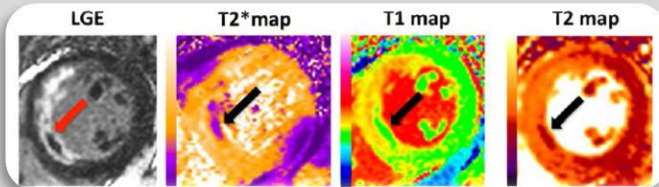
Prof Derek Hausenloy  
NHCS



A/Prof Mark Chan  
NUHCS

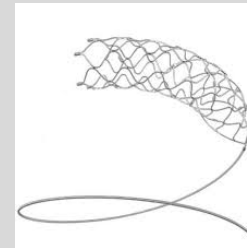
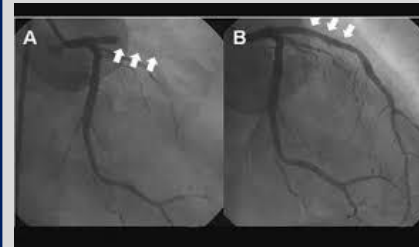


A/Prof Ho Hee Hwa  
NHGHI



### STAT trial

- Stent retriever to improve perfusion in STEMI patients with refractory thrombi.
- Builds on PITRI, IMMAC studies (IMPACT-1).
- Support from CRC, Biomarker cores.



Asst Prof Deanna Khoo  
NHG-HI



A/Prof Ronald Lee  
NUHCS



A/Prof Aaron Wong  
NHCS



# IMPACT-2 Clinical Trials

## Theme 3: Diabetic Heart Disease

### ADOPT study

- Optimising medical therapy in high-risk DM patients to prevent CVD.
- SG-led multi-national trial.
- Builds on ASIA-HF study (IMPACT-1).
- *Supported by CRC, Echo, CMR, Biomarker cores.*



Prof Carolyn Lam  
NHCS



Asst Prof Chanchal  
Chandramouli  
NHCS



Asst Prof Shir  
Lynn Lim  
NUHCS



Dr Loh Seet  
Yoong  
NHGHI

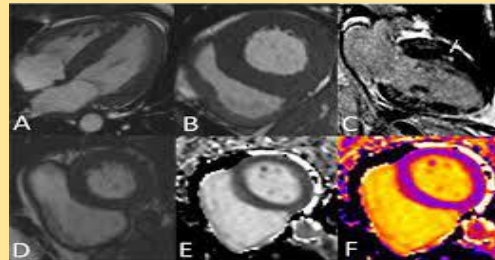


Asian Diabetes  
Outcomes  
Prevention Trial

## Theme 4: Hypertensive Heart Disease

### REVERSE-LVH

- Entresto to prevent LV remodelling in hypertensive patients.
- Builds on REMODEL study (IMPACT-1).
- *Supported by CRC, CMR, Biomarker cores.*



Asst Prof  
Calvin Chin  
NHCS



A/Prof  
Ronald Lee  
NUHCS



Dr Loh Seet  
Yoong  
NHGHI

### CRESCENT

- Mandibular Advancement Device to prevent HT and LV remodelling in OSA.
- Builds on Sleep+Stent and REMODEL studies (IMPACT-1).
- *Supported by CRC, Cardiosleep, CMR, Biomarker cores.*



A/Prof  
Ronald Lee  
NUHCS



Asst Prof  
Calvin Chin  
NHCS

