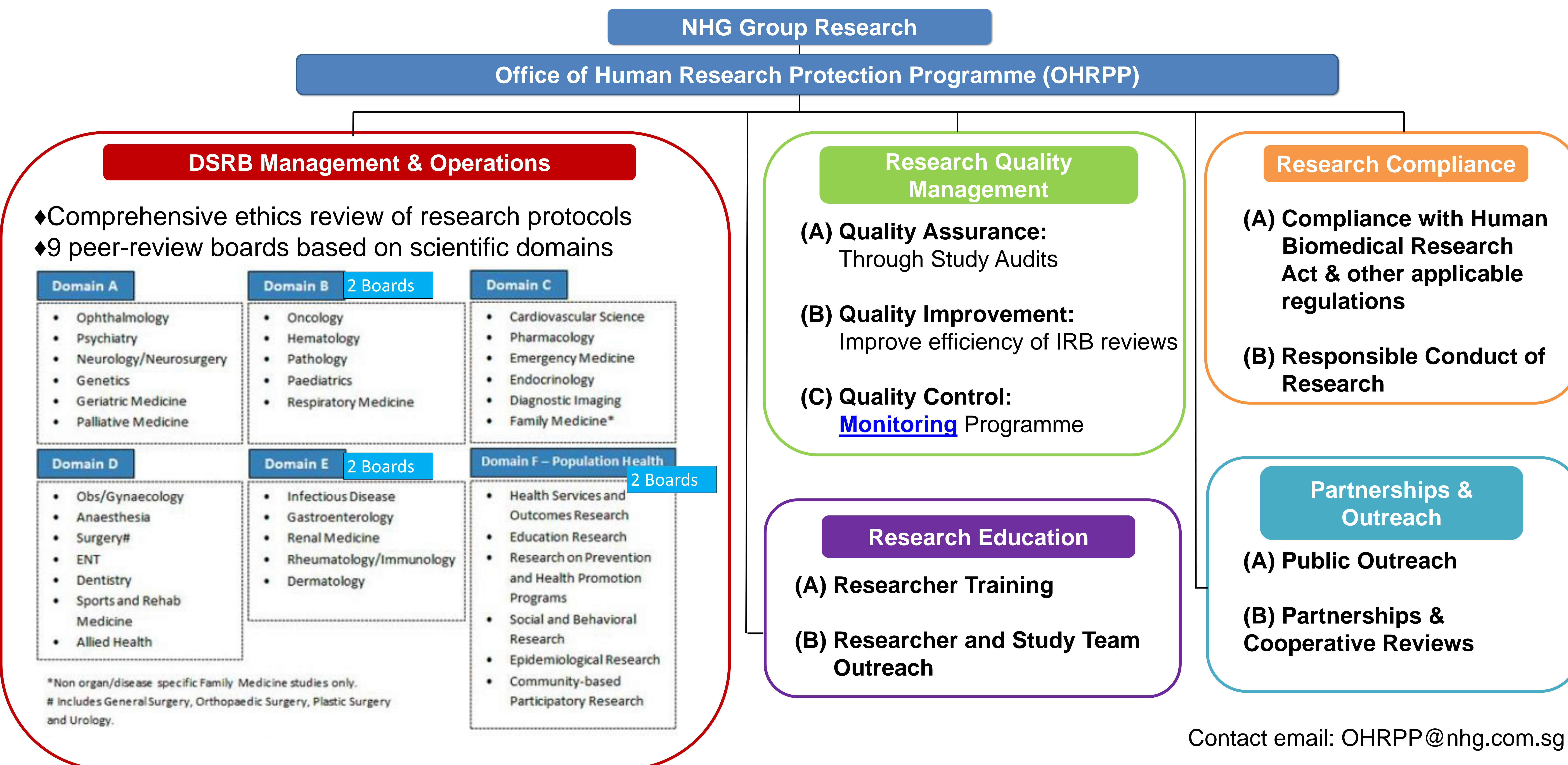


NHG Virtual Posters

@NMRC Research Symposium 2021

Overview of OHRPP

The NHG [Office of Human Research Protection Programme \(OHRPP\)](#) ensures safety and well-being of human research participants, and advocates their rights through collective efforts of its 5 functional units – (1) DSRB, (2) Research Quality Management, (3) Research Education, (4) Research Compliance & (5) Partnerships & Outreach.



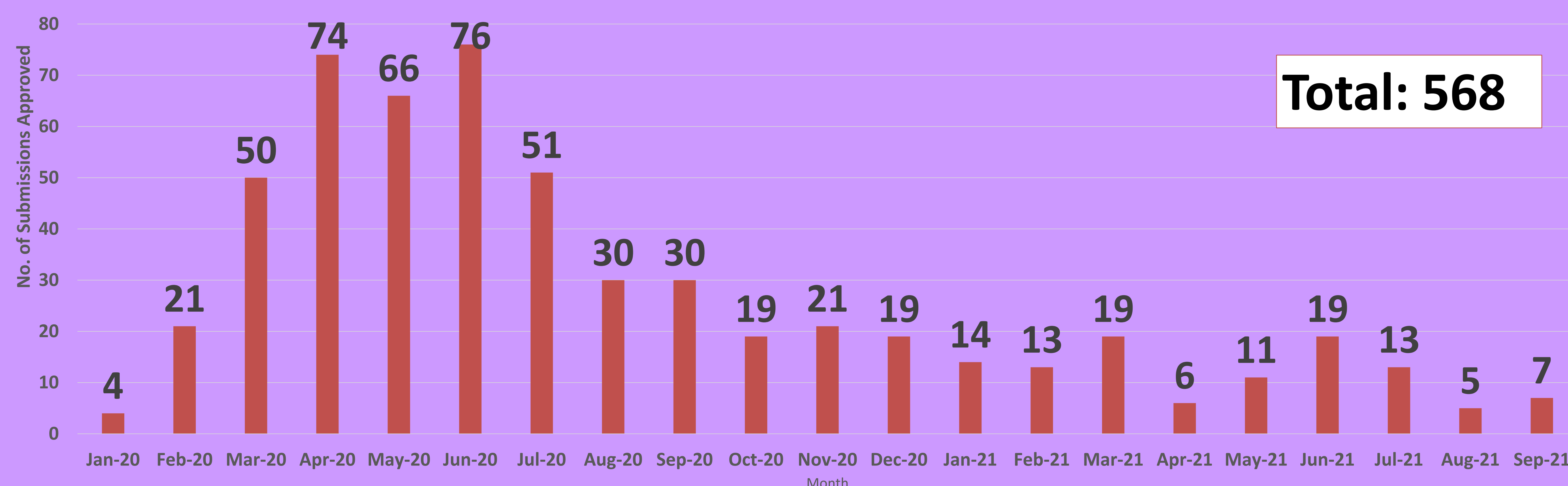
Initiatives to Expedite Ethics Approval of Covid-19 Study Submissions

The number of Covid-19 research submissions first peaked in June 2020 with 76 new studies. Due to the urgent need to initiate such studies to cater to emerging healthcare needs, DSRB implemented a series of initiatives to expedite Covid-19 related reviews, whilst continuing to provide ethics review for other research studies submissions.

DSRB Processes to Support Covid-19 Reviews

1. Fast-Track for Covid-19 Clinical Trials
2. Ad Hoc Full Board reviews
3. Issuing In Principal Approvals
4. Pre-consultations with PI & Sponsors
5. Triage to SingHealth Centralised Institutional Review Board (CIRB)
6. New DSRB Domain (E2) set up
7. Allowing non physical face-to-face informed consent taking

Number of Covid-19 Related Submissions Approved*



IRB Approval Turn Around Time

New applications: Range (1 – 161 days), Mean (23.99 days)

Study amendments: Range (0 - 228 days), Mean (9.77 days)

Includes Clinical Research, Diagnostic, Epidemiology, Medical Records, Social & Behavioral Research

* Data up till 22 Sep 2021 and includes new study applications & study amendments

Remote Research Audits During Covid-19 Pandemic

To ensure continued oversight of research conduct during the pandemic, the remote audit process was piloted. The audit scope was refined considering site limitations to accessing documents for reviews. Despite that, the use of remote audits have served well as an alternative to ensure quality of research conduct.

Pilot Remote Audit Process

Auditor sends
the research
team remote
audit
notification

3 weeks

Auditor & site
confirms date for
remote interview.
Site given list of
documents to
prepare.

3 weeks

Auditor
reviews the
essential
documents &
conducts the
remote
interview

4 weeks

Audit report
given to study
team

1 month

Study team
submits
Corrective
action and
preventive
action (CAPA)
plan

¹ Essential documents for review are redacted (do not contain subject identifiers). Examples:
Study specific training records, Study delegation log, Subject screening/enrollment log.

Take Away from Pilot

1. Need to cater for more time for site to obtain documents.
2. Interviews are crucial to identify potential audit issues that cannot be noted from review of redacted documents.
3. For For-Cause Audits to investigate more serious non-compliances, onsite visits remains the preferred tool.

Provision of NHG OHRPP Services to External Institutions

The OHRPP extends its services & ethics oversight to external parties. This allows for streamlined reviews in cross institutional collaborations. Also, it promotes and establishes high standards of human research protection across NHG and the external partners.

9 Conditions Used to Assess the Feasibility of Collaboration with External Partners

1. Compliance to
NHG Governance
Guidelines

2. Reporting of
Non-Compliance
issues to OHRPP

3. Reporting of
Data and Safety
Monitoring

4. Sufficient
Compensation
Coverage

5. Training for
Investigators in
human research
subject protection

6. Sufficient &
Qualified
Resources

7. Education of
Research
Participants

8. Institution
Commitment

9. Audit by
Research Quality
Management

External Institutions With NHG DSRB Review Arrangements

The following institutions met the collaboration criteria & have established partnerships with NHG:

- Agency for Integrated Care
- Agency for Science, Technology and Research (A*STAR), comprising of:
 - Singapore Institute for Clinical Sciences
 - Singapore Institute for Food and Biotechnology Innovation
 - Skin Research Institute of Singapore
- Dover Park Hospice
- Health Promotion Board
- Health Sciences Authority
- Lilly Centre for Clinical Pharmacology
- National University Health System

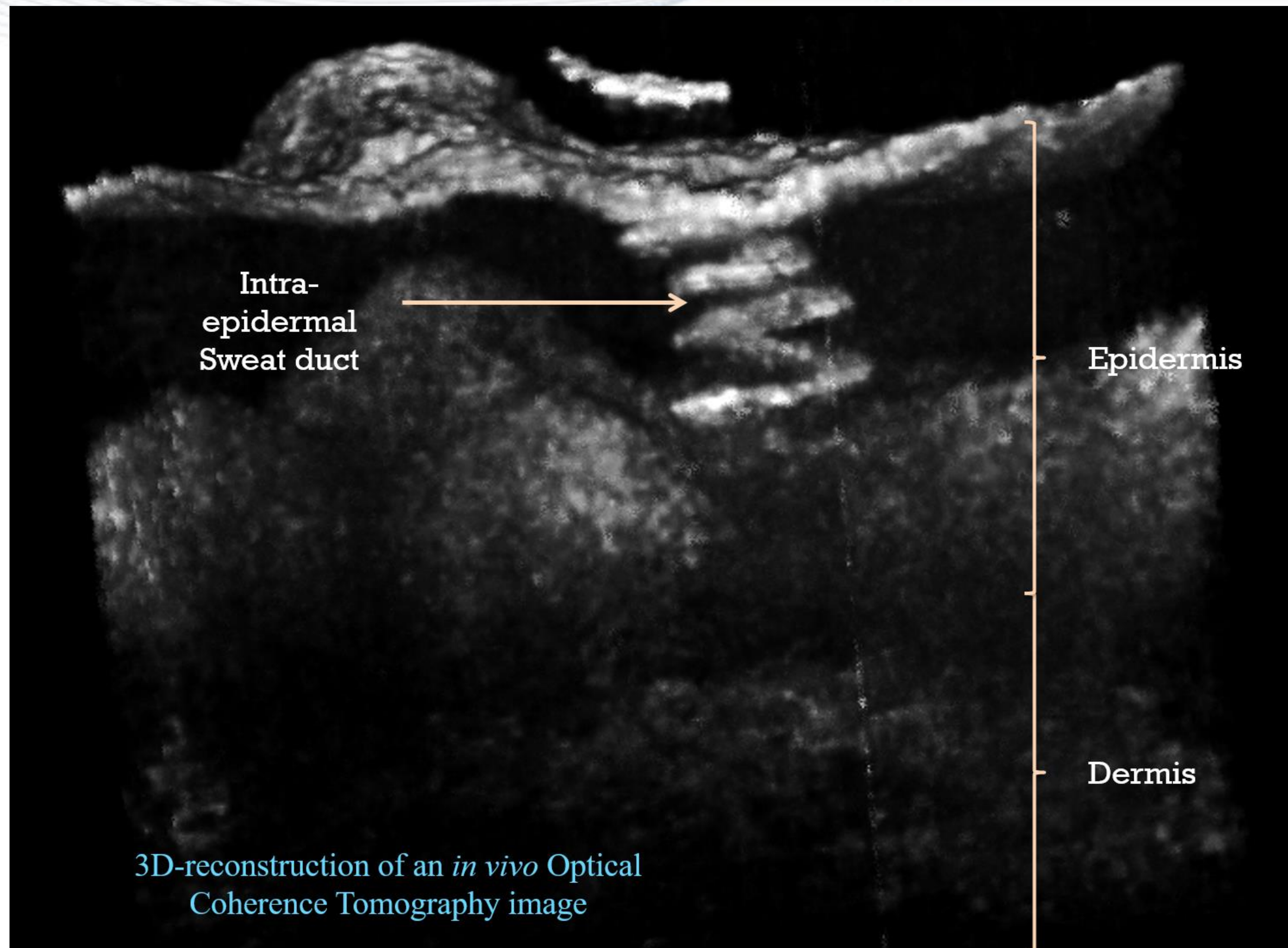
NHG Research Studies

- ◆ **National Skin Centre**
- ◆ **Yishun Health**
- ◆ **Institute of Mental Health**
- ◆ **National Healthcare Group Polyclinics**



Adding years of healthy life

Elucidation of pathogenesis and institution of curative treatments for idiopathic hypohidrosis



Hypohidrosis, or the inability to sweat, can lead to heat injuries and death.

The pathogenesis is unclear and there is no good treatment.

We found that 31% of our local cohort who suffered heat injuries had underlying hypohidrosis. Concurrently, we characterised a new clinical phenotype.

We identified obstruction of the sweat orifices at the stratum corneum being the cause of hypohidrosis and instituted a novel treatment approach using systemic retinoids.. Overall, 89% of NSC patients were treated well without recurrence of disease.

Metabolic Research at Yishun Health: longitudinal diabetes cohorts

Diabetic Nephropathy Cohort



2011: Singapore Study of Macro-angiopathy and Micro-vascular Reactivity in Type 2 Diabetes Cohort

Doris
Diabetic Kidney Disease
Onset and Progression Risk Factors Cohort

- Setup in **2002**
- ~5,800 hospital patients with diabetes, enriched with kidney disease
- Baseline blood and urine collected. Follow-up by EHR.
- Setup in **2011**
- ~2,000 hospital & NHGP patients with type 2 diabetes
- Recall every 3 yearly
- Monitor multiple endpoints – vascular function, DKD, Diabetic foot syndrome, cognitive function.
- Setup in **2017**
- ~1,200 hospital ambulatory patients with diabetes
- Web-based dietary assessment, physical activity (wearable)
- Monitor DKD, NAFLD, 24 hour ambulatory BP

Study to identify genetic risk of kidney diseases

Members of the 10th Research, Innovation and Enterprise Council (RIEC), chaired by **Prime Minister Lee Hsien Loong**, meeting on Friday afternoon (July 21, 2017) to discuss the progress made on the RIE2020 plan launched in 2016.



{From left to right}: Prof Thomas Coffman, Prof Tai E Shyong, Prof Wong Tien Yin & A/Prof Lim Su Chi – **Theme PIs of DYNAMO.**



Diabetes studY in
Nephropathy And other
Microvascular
cOmplications

STRAITS TIMES PUBLISHED JUL 22, 2017, 5:00 AM SGT

\$25m research effort aimed at spotting diabetic patients at risk so they can be treated earlier

Monogenic subset of people with complex traits **DHLO**.

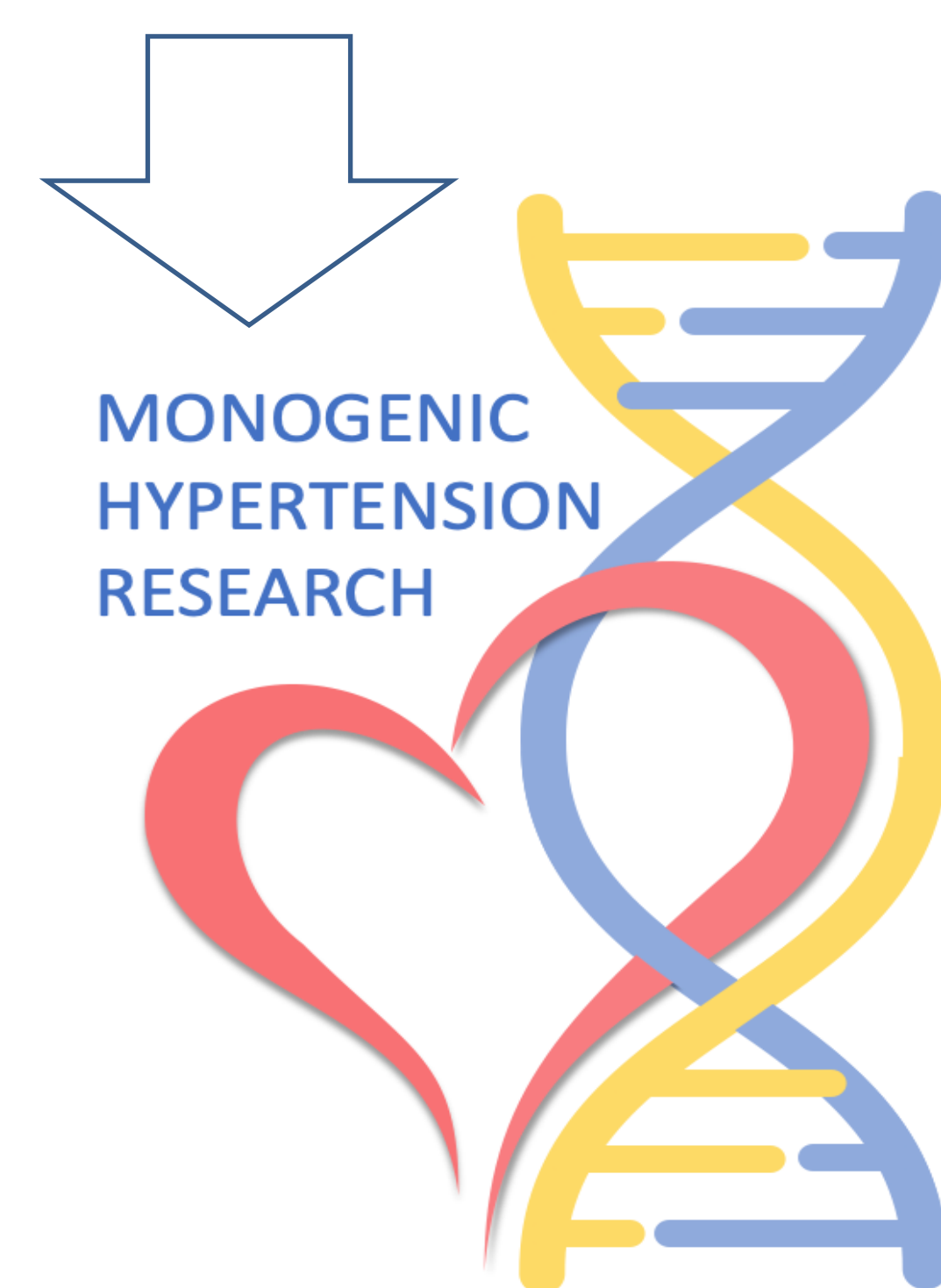
DHLO

Diabetes

Hypertension

Hyper-**L**ipidaemia

Obesity



Familial
Hypercholesterolemia (FH)



Monogenic obesity

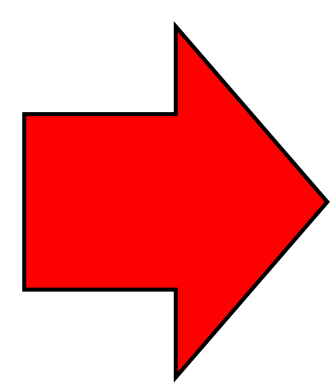
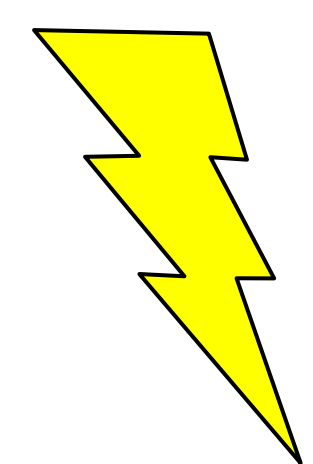
- A non-trivial subset of individuals with complex trait (e.g. DHLO) can be attributable to a monogenic condition (e.g. FH and MODY).
- Monogenic disease are individually rare but collectively abundant.
- They consume healthcare disproportionately (20/80 rule).
- Targeted therapy with favorable prognosis available.
- It also helps in prevention of disease progression and reduction of adverse events.
- They shed light on disease biology.
- We welcome collaborations from both public and private healthcare as well as scientific community.

Latent Class Analysis to Determine High-Risk Profiles of Adverse Childhood Experiences and their Interactions with Psychological Resources, High-Risk Behaviours, and Physical and Mental Disorders

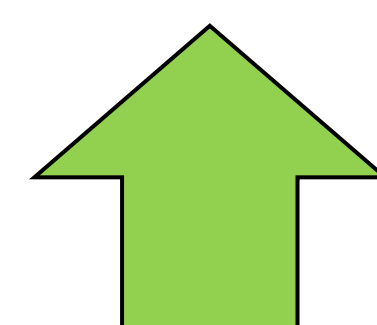
[Dr. Liu Jianlin](#), Research Fellow
[Research Division](#), Institute of Mental Health

Singapore Allied Health Award (**Gold**)
Singapore Health and Biomedical Congress 2021

Prevalence of Adverse Childhood Experiences
in Singapore = 64%

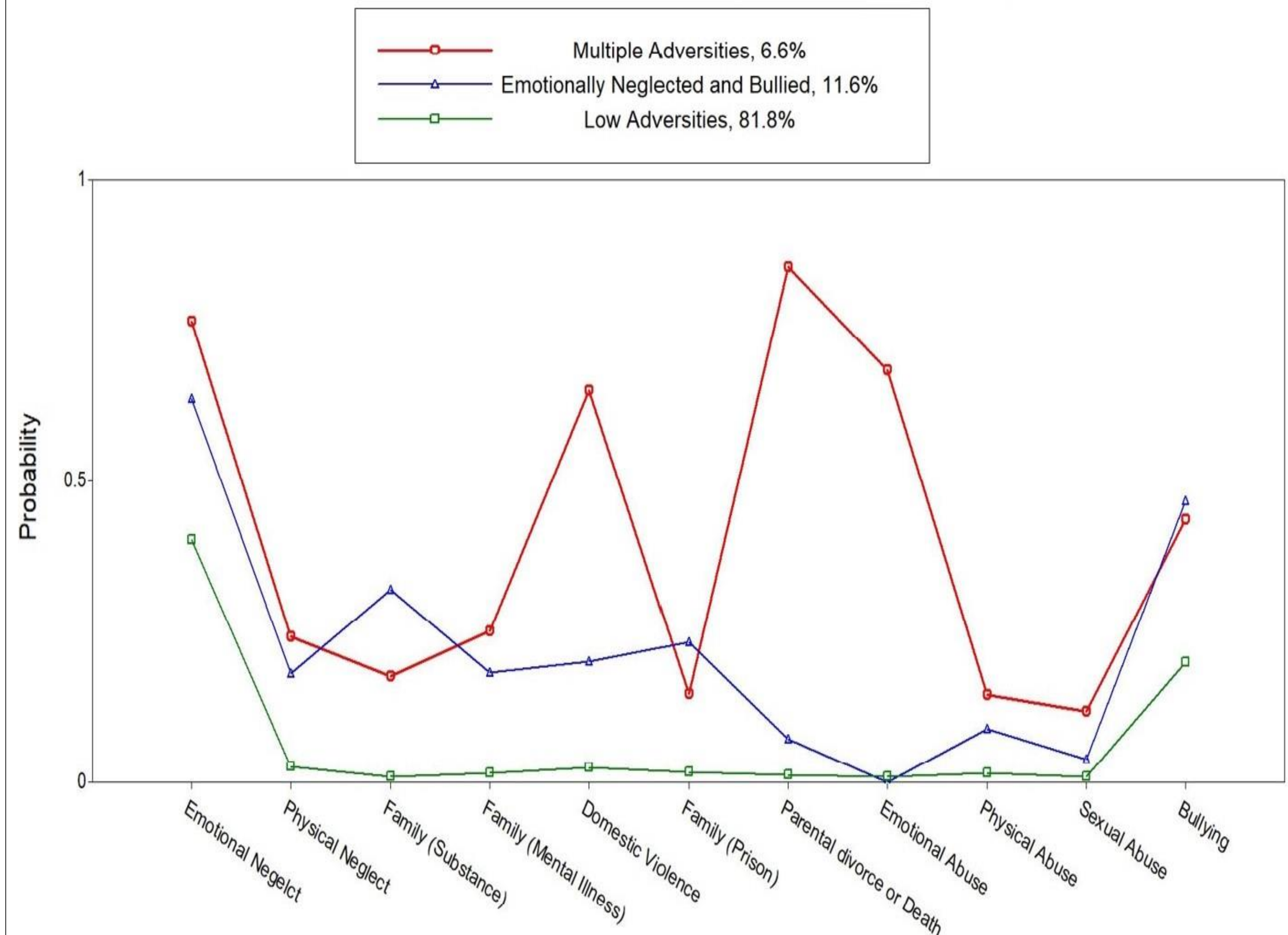


ELEVATED RISK:
Mental Disorders
Suicidality



PROTECTIVE FACTORS REDUCE RISK:
Interventions to boost **positive mental health** and
social support are important (read more [here](#))

Latent class profiles of adverse childhood experiences



Acknowledgements:

The Singapore Mental Health Study 2016 was funded by the Ministry of Health, Singapore and Temasek Foundation Singapore [RF07 (2015-2017)]

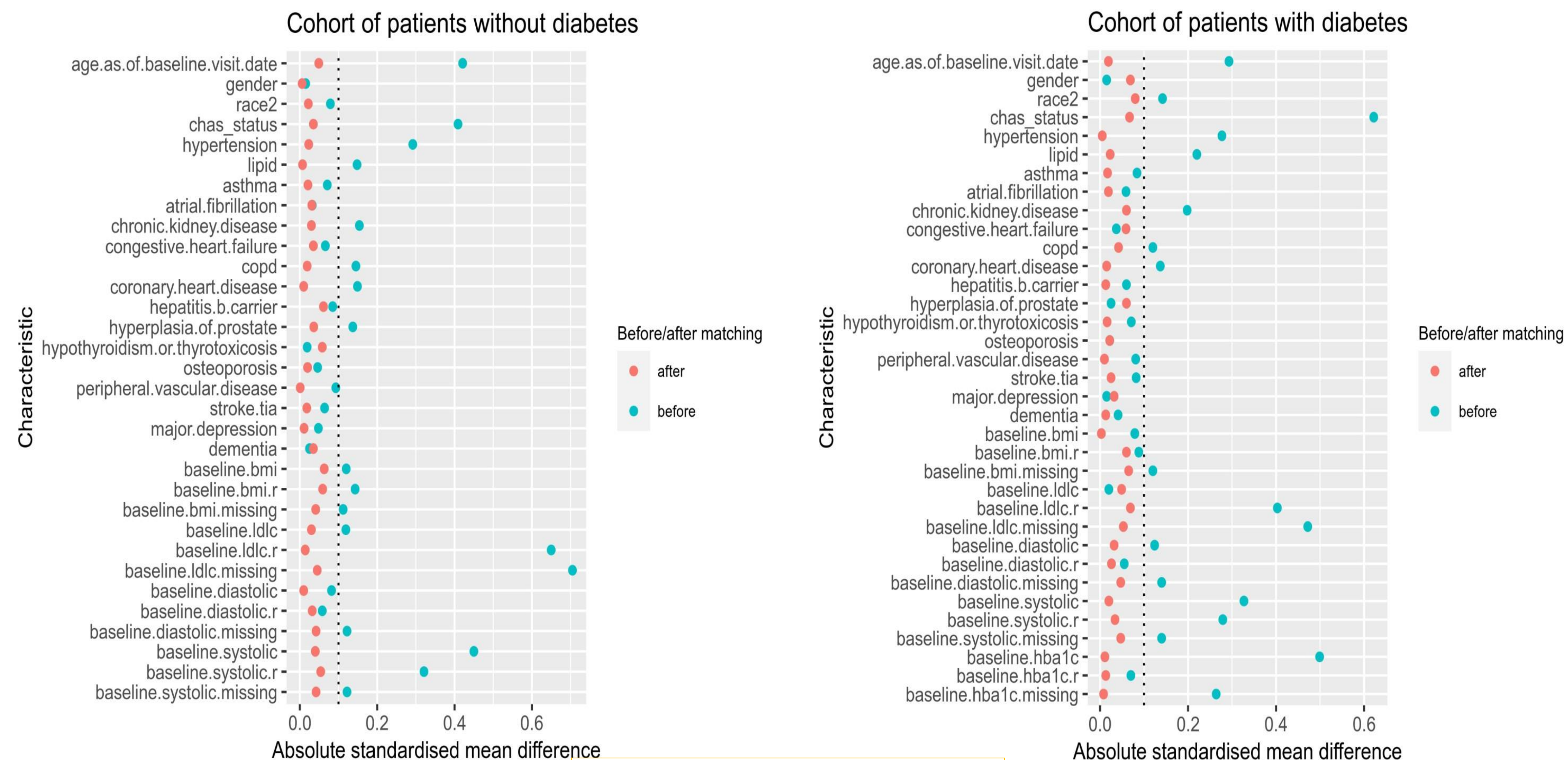
An evaluation study was carried out as proof of value to mainstream video consultations in NHGP for chronic disease management.

During the COVID-19 period, video consultation was implemented.

The clinical effectiveness of video consultation (VC) versus face-to-face (FTF) consultation was evaluated via a retrospective observational study on propensity score-matched cohorts.

RESULTS

Propensity score matching statistics



Full Poster:



In conclusion, VC is non-inferior to FTF consultation in the follow-up period of 6 months. Further work needs to be done to evaluate the clinical effectiveness of VC over a longer term.

For comprehensive evaluation of VC, ongoing work is being done in the areas of: Resource utilisation/costs, Clinical safety audit, Patient satisfaction & experience, Perspectives of physicians, organisational implementers/leaders and policymakers