The Malaysian Cohort

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The Malaysian Cohort: Recruitment map & Biobank

106,527 participants (2007-2012)

- Malays 44% (•)
- Chinese 33% (•)
- India 15% (•)
- Others 8% (•)
The Malaysian Cohort: Summary Data

- **Total participants** to date
  - 119,671

- **Ethnic breakdown**
  - Malays 44%; Chinese 33%; Indians 15%; Others 8%

- **Data from questionnaire**
  - Demography, medical & surgical history, occupation, environmental exposure, education, lifestyle, diet, mortality, etc.

- **Measurements**
  - Ht, Wt, BMI, Body Composition, BP, ECG, CAVI, Spirometry, Retinal scan, DEXA scan

- **Biospecimens and tests**
  - Blood (plasma, serum, MNC, whole blood, RBC), urine & stools
  - FBS, Lipid Profile, Renal Profile, FBC, HbA1c, Urine albumin

- **Mortality**
  - 7575 (6.3%) – since 2007
Research potential: Type 2 Diabetes Mellitus

Differences in prevalence of Type 2 diabetes

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<th>Malays</th>
<th>Chinese</th>
<th>Indians</th>
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<td>19.1%</td>
<td>9.1%</td>
<td>28.4%</td>
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GWAS on Type 2 diabetes involving 3000 individuals with diabetes and 3000 normals: (Abdullah N, et al, 2015)
Examples of research projects

- **Completed**
  - GWAS diabetes (with University of Newcastle, Australia)
  - Seroprevalence of Nipah and Zika virus (with Japan)
  - Community based seroprevalence of Hepatitis B and C (with the Ministry of Health)

- **On-going**
  - Adiposity studies using DEXA (with University of Oxford)
  - Diabetes study – CVD risk using retinal scan and genotyping (with University of Dundee)
Challenges

- **Sustainability**: 5 year funding cycle
- **Lack of funding for large scale genotyping**: Current genotyping studies limited to 5-10K subjects
- **International collaboration**: Consent does not cover transfer of data or biospecimens abroad
- **Follow-up (dropout)**: 60% successful follow-up and now the pandemic
- **Events at follow-up by self reporting**: Lack of electronic medical record system in Malaysia
- **Mortality cause**: 30% died at home hence will require verbal autopsy to validate cause of death