Sponsored session

Colorectal Cancer Screening

Organised by

Canadian Partnership Against Cancer
Partenariat Canadien Contre le Cancer
The burden of Colorectal Cancer in Asia

Dr Saunthari Somasundaram
<table>
<thead>
<tr>
<th>Region</th>
<th>2018 Males (APC 0%)</th>
<th>2018 Females (APC 0%)</th>
<th>2018 Both sexes</th>
<th>2020 Males (APC 0%)</th>
<th>2020 Females (APC 0%)</th>
<th>2020 Both sexes</th>
<th>2030 Males (APC 0%)</th>
<th>2030 Females (APC 0%)</th>
<th>2030 Both sexes</th>
<th>2040 Males (APC 0%)</th>
<th>2040 Females (APC 0%)</th>
<th>2040 Both sexes</th>
</tr>
</thead>
<tbody>
<tr>
<td>South-Eastern Asia</td>
<td>27,081</td>
<td>22,820</td>
<td>49,901</td>
<td>39,155</td>
<td>33,162</td>
<td>72,317</td>
<td>49,809</td>
<td>43,564</td>
<td>93,373</td>
<td>49,809</td>
<td>22,728</td>
<td>(+83.9%)</td>
</tr>
<tr>
<td>Australia and New Zealand</td>
<td>7,150</td>
<td>7,039</td>
<td>14,189</td>
<td>7,541</td>
<td>7,384</td>
<td>14,925</td>
<td>7,763</td>
<td>7,902</td>
<td>11,682</td>
<td>11,841</td>
<td>4,691</td>
<td>(+65.6%)</td>
</tr>
<tr>
<td>Asia</td>
<td>292,190</td>
<td>247,546</td>
<td>539,736</td>
<td>310,142</td>
<td>262,761</td>
<td>572,903</td>
<td>416,055</td>
<td>353,942</td>
<td>770,007</td>
<td>530,917</td>
<td>238,727</td>
<td>(+81.7%)</td>
</tr>
<tr>
<td>Asia (Both sexes)</td>
<td>17,952 (+6.1%)</td>
<td>15,215 (+6.1%)</td>
<td>33,167 (+6.1%)</td>
<td>123,875 (+42.4%)</td>
<td>106,396 (+43.0%)</td>
<td>230,271 (+42.7%)</td>
<td>509,395</td>
<td>211,849 (+85.6%)</td>
<td>450,576 (+83.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1  Trends in colorectal cancer incidence and mortality: three groups of temporal pattern

<table>
<thead>
<tr>
<th>Group 1: incidence ↑ mortality ↑</th>
<th>Philippines*, China*, Colombia†, Bulgaria†, Costa Rica†, Brazil†, Russia†, Belarus†, Estonia, Lithuania, Croatia, Spain, Latvia, Poland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 2:</td>
<td>Canada, Denmark, Switzerland, Ireland, Sweden, Singapore, Finland, Norway, Slovakia, UK, Netherlands, Italy, Malta, Slovenia</td>
</tr>
<tr>
<td>incidence ↑ mortality ↓</td>
<td></td>
</tr>
<tr>
<td>Group 3:</td>
<td>US (White), US (Black), Austria, New Zealand, Czech Republic, Iceland, France, Japan, Australia, Israel</td>
</tr>
<tr>
<td>incidence ↓ mortality ↓</td>
<td></td>
</tr>
</tbody>
</table>

*Medium human development index (HDI), refers to 0.534 < HDI ≤ 0.710.
†High HDI refers to 0.710 < HDI ≤ 0.796.
Very high HDI (all remaining countries) refers to HDI > 0.796.
Risk Factors: Colorectal Cancer
Asia Pacific Cohort Studies Collaborative

<table>
<thead>
<tr>
<th>Variable</th>
<th>(95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (5cm)</td>
<td>1.10 (1.03 -1.18)</td>
<td>0.006</td>
</tr>
<tr>
<td>Body mass index (2kg/m²)</td>
<td>1.06 (1.00 -1.11)</td>
<td>0.04</td>
</tr>
<tr>
<td>Waist circumference (2cm)</td>
<td>1.00 (0.95 -1.07)</td>
<td>0.96</td>
</tr>
<tr>
<td>Cigarette smoking (Yes/No)</td>
<td>1.43 (1.09 -1.88)</td>
<td>0.01</td>
</tr>
<tr>
<td>Cigarettes smoking (5 per day)</td>
<td>1.00 (0.92 -1.09)</td>
<td>0.99</td>
</tr>
<tr>
<td>Diabetes (Yes/No)</td>
<td>1.26 (0.92 -1.73)</td>
<td>0.16</td>
</tr>
<tr>
<td>Fasting blood glucose (1mmol/L)</td>
<td>1.02 (0.88 -1.18)</td>
<td>0.82</td>
</tr>
<tr>
<td>Physical activity (Yes/No)</td>
<td>0.77 (0.60 -0.98)</td>
<td>0.03</td>
</tr>
<tr>
<td>Alcohol (Yes/No)</td>
<td>0.90 (0.70 -1.17)</td>
<td>0.45</td>
</tr>
</tbody>
</table>
Conclusion

• CRC is considered one of the clearest markers of the cancer transition - distinct gradients across human development levels and trends point towards widening disparities and an increasing burden in countries in transition

• Without targeted resource-dependent actions incidence of CRC in Asia will continue to increase
  • Improvement in treatment options and accessibility are vital
  • Prioritisation of primary prevention and early detection through integration into health plans
Supporting Manitobans in Colorectal Cancer Screening

Creating opportunities in the North

Dr. Sri Navaratnam
President and Chief Executive Officer
CancerCare Manitoba
Colorectal cancer in Manitoba

Over 850 Manitobans are diagnosed each year

2\textsuperscript{nd} leading cause of cancer deaths

~13\% of all cancer cases in the province
Colorectal Cancer Screening in Manitoba
How do we measure up?*

DATA SOURCE: Statistics Canada Canadian Community Health Survey
*The number reflects the percentage of Canadians who self report they are up to date with CRC screening (FOBT in past 2 years, or colonoscopy/flex sig in past 5 years.
Manitoba’s colorectal cancer screening program

- Established in 2007, the program has
  - Mailed 597,000 FOBT kits
  - Analyzed over 205,000 tests
  - Referred over 5,200 individuals for colonoscopy
  - Found close to 250 cancers
ColonCheck Operations

- Maintain a data base registry to identify eligible individuals
- Send correspondence including FOBT kits and test results.
- Arranges follow up for participants testing positive.
- Evaluate program operations
- Educate the public & healthcare providers
Northern Challenges

Population Distribution

Northern Manitoba
Population aged 50-74
14,896

Southern Manitoba
Population aged 50-74
372,104
Northern Challenges

Geography

- Limited infrastructure
- Winter roads
- Air travel not possible in many communities
- Extreme weather conditions
- Limited financial resources
ColonCheck efforts in the North

Since 2012, FOBT kits are regularly sent to eligible persons living in the North

Collaborations with clinicians

Kits handed out at mobile breast screening clinics

Community outreach and education
ColonCheck efforts in the North

Toolkit for healthcare providers

Community visits & participation in health awareness activities.

Translated resources and interpreter services

Awareness campaigns through social media and local radio stations
FOBT Participation Rates

Canadian target (60%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total MB</th>
<th>Total North</th>
<th>ColonCheck MB</th>
<th>ColonCheck North</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2011-2012</td>
<td>30%</td>
<td>10%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>2013-2014</td>
<td>40%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>2015-2016</td>
<td>50%</td>
<td>30%</td>
<td>10%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Combined* Screening Rates

*FOBT in past two years, colonoscopy/flex. sig in 5 years
## ColonCheck Outcomes

**PARTICIPATION**

January 1, 2015-December 31, 2016

<table>
<thead>
<tr>
<th>REGION</th>
<th>Total ColonCheck Kits Analyzed</th>
<th>Successful FOBT Result</th>
<th>Positive Result</th>
<th>Negative Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitoba</td>
<td>51,718</td>
<td>49,461</td>
<td>2,473 (5%)</td>
<td>46,988 (95%)</td>
</tr>
<tr>
<td>Northern Manitoba</td>
<td>1,203</td>
<td>1,136</td>
<td>75 (6.6%)*</td>
<td>1,061 (93.4%)*</td>
</tr>
</tbody>
</table>

*No statistical difference from Manitoba rates (p<.05)*
ColonCheck Outcomes

POSITIVE FOLLOW UP*

January 1, 2015-December 31, 2016

*no statistical difference from Manitoba rates (p<.05)

Follow up colonoscopy: 67/2,251
Adenoma detected: 37/1,005
CRC detected: 6/68
Despite challenges facing northern populations in accessing timely health care, ColonCheck’s efforts has had a positive impact on the colorectal cancer rates in the north. Since our contribution commencing in 2012:

- Survivorship has improved from 35.3% (2006-2008) to 60.62% (2014-2016)
- Screening participation (combined) has grown from 25% (2009-2010) to 38.4% (2014-2016)
- FOBT participation has grown from 3% (2009-2010) to 21.5% (2014-2016)
Colorectal Cancer Screening and Early Detection Efforts in Malaysia

Nor Saleha Ibrahim Tamin (MD. MPH)
Ministry of Health Malaysia

Disclosure of interest: None declared
Introduction

Area: 330,803 km²
Total population of 31.19 million (2016)
Male Female ration = 1.07 : 1
3 major ethnics group: Malay, Chinese, Indian
The statistics of Colorectal Cancer in Malaysia

- Colorectal cancer ranked number 1 among males and number 2 among females in Malaysia.
- Contributed to 13.2% of all cancers.
- Lifetime risk is 1 in 39 Chinese, 1 in 72 Malay and 1 in 83 Indian.
- ASR differ by states.
The statistics of Colorectal Cancer in Malaysia

- **ASR 14.6/100,000 (male), 11.1/100,000 (females)**
- Incidence higher in Chinese compared to Malay and Indian and Malay
- Majority diagnosed at late stages (III & IV) 65% Male and 66% Female
1. The National Cancer Control Blueprint, endorsed by the Cabinet in 2008, mentioned colorectal cancer as one of the cancers of concern and suggested that screening programme should be initiated.

2. Feasibility Study on Population Based Colorectal Cancer Screening in Malaysia” using iFOBT (IHM in 2008-2009 in Seremban)

3. Health Technology Assessment (HTA) 2011

4. Pilot project in 6 states - Perak, Pulau Pinang, Terengganu, Pahang, Negeri Sembilan and Wilayah Persekutuan Kuala Lumpur in (March 2012 - March 2013)

5. Adoption of stepwise approach → To plan and implement intervention based on local considerations and needs.
IMPLEMENTATION – the policy

• Objective: To detect pre-lesion and colorectal malignancy at the earliest stage possible among the population.
• Target group: Asymptomatic Malaysian male and female aged 50 – 70 years old
• Started in 2014 as a first phase (stepwise approach)
• Implemented in whole country at the selected health clinics identified by the State Health Office.
• Approach: Selective opportunistic screening
  • 2-tiers: iFOBT followed by colonoscopy
  • Single iFOBT test
• Recommended test used for screening in Malaysia is qualitative iFOBT
• Monitoring through return and audit visit
Implementation – the policy

- All iFOBT positive patients must be referred to hospital (SOPD/MOPD) for colonoscopy.
- Arrangement for hospital appointment: done by staffs at health clinics by calling the identified liaison officers at the hospitals.

- To increase number of screening every year
- To keep good records of patients screened/offered screening
- To keep tract of clients given specimen bottles
- To keep tract of iFOBT results
- To keep good records of patients referred/refused referral
- To trace colonoscopy/HPE results from hospitals
- To give TCA to those with iFOBT negative/positive
- CME for clinic staffs/promotion to clients
- Asymptomatic individuals categorised as high risk
- Patients presented with signs and symptoms should be assessed properly

To be referred to SOPD/MOPD for further assessment and colonoscopy

Not to perform iFOB test at the health clinic
• Recruiting clients to be screened
• Currently only about 50% of Health Clinic providing the service.
• Better uptake in selected races
• Specimen – stool sample (not as easy as urine) → defaulter tracing
• Refusal for referral to hospital (around 10%)
• Promotion of screening is limited due to limited infrastructure to cope with a high demand for CRC screening
• Delay in getting scope appointment (in certain area)
• Around 40% colonoscopy of those referred not done (defaulted – to do defaulter tracing / (not given appointment) / logistic issues)
• No back referral to the referring health clinics on colonoscopy results → liaison officer at the hospital to facilitate
<table>
<thead>
<tr>
<th>Year</th>
<th>No. of clinics</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>(262)</td>
<td>n %</td>
</tr>
<tr>
<td>2015</td>
<td>(414)</td>
<td>n %</td>
</tr>
<tr>
<td>2016</td>
<td>(474)</td>
<td>n %</td>
</tr>
<tr>
<td>2017</td>
<td>(545)</td>
<td>n %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. screened</td>
<td>11,230</td>
<td>16,743</td>
<td>30,128</td>
<td>33,576</td>
<td>No. screened</td>
</tr>
<tr>
<td>Positive iFOBT</td>
<td>799</td>
<td>1,508</td>
<td>2,706</td>
<td>3,425</td>
<td>10.2</td>
</tr>
<tr>
<td>Referred for scope</td>
<td>740</td>
<td>1,316</td>
<td>2,402</td>
<td>3,028</td>
<td>90.5</td>
</tr>
<tr>
<td>Refused referral</td>
<td>59</td>
<td>192</td>
<td>304</td>
<td>317</td>
<td>9.5</td>
</tr>
<tr>
<td>Not underwent colonoscopy</td>
<td>0</td>
<td>137</td>
<td>390</td>
<td>893</td>
<td>29.4</td>
</tr>
<tr>
<td>Underwent colonoscopy</td>
<td>477</td>
<td>662</td>
<td>1,174</td>
<td>1,953</td>
<td>64.4</td>
</tr>
<tr>
<td>Result: Cancer</td>
<td>20</td>
<td>27</td>
<td>44</td>
<td>86</td>
<td>4.4</td>
</tr>
<tr>
<td>Result: Polyp</td>
<td>21</td>
<td>33</td>
<td>126</td>
<td>350</td>
<td>17.9</td>
</tr>
</tbody>
</table>
Summary

- Colorectal cancer screening still fairly new in Malaysia
- Opportunistic with specific targeted age group
- Using qualitative iFOBT
- iFOBT followed by colonoscopy
- Getting client to be screened / getting the stool sample / refused referral / referred but scope not done / delay getting the scope result / histopathology result are among challenges faced
- Screening will be continued and focus on getting the public aware of the availability of the service / importance of screening and prompt + correct treatment /
THANK YOU

drnorsaleha@moh.gov.my
Tripartite Collaboration Between Public, Private, and People Sectors for FIT Screening

Foo Seck Guan Kenneth
Singapore Cancer Society
Tripartite Collaboration Between Public, Private, and People Sectors for FIT Screening

Most **Commonly Diagnosed** Cancer in Singapore

**9,807 cases** diagnosed from 2011 to 2015

**3\(^{rd}\) Cancer Killer with 3,906 deaths**
Tripartite Collaboration Between Public, Private, and People Sectors for FIT Screening

**Singapore Cancer Society**
- Partnership Lead
- Provision of Fecal Immunochemical Test
- Awareness & Education
- Reminders and Results

**Public Sector**
Health Promotion Board & 13 Public Hospitals
- Coordinate follow-up appointments

**Private**
- Guardian, Watsons, Eu Yan Sang, Polyclinics
- 101 Distribution Points
- Assist to Promote
Tripartite Collaboration Between Public, Private, and People Sectors for FIT Screening

Snapshot of Participant Experience

Collection & Return of FIT KIT via post

Lab Test Receive Result via Post

HPB staff to arrange for appointment if tested positive

Hospitals provides consultation and treatment, if required

Discharged and follow-up by Hospitals

Negative cases will receive a reminder for rescreen next year

Non-cancer cases to follow-up with FIT or scope

Future Plans

SCS follow-up with dropout cases
Singapore Cancer Society distributes 90% of the total numbers FIT Kits in Singapore.