**Supplementary table 4.** TIDieR Checklist for included studies

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| *Reference information***Location** | **Brief name** | **Why** (Rational) | **CRC Test**  | **What / How much**(Study design, materials, procedures) | **Who recruited/ delivered** | **How**(mode of delivery) | **Where** | **When**  | **For whom** | **Tailoring** | **Modification** |
| **Stool test uptake >65%** |
| *Cai et al 2011**Ma et al 2012**Cai et al 2016***China** (3 rural communities in Jiashan) | Population-based opportunistic screening in community | CRC mortality in China is increasing.Screening high-risk individuals is likely more efficient. | 2 x FIT, 1 x HRFQColonoscopy if positiveFOBT Colonoscopy if FOBT positive | **Design:** Cross-sectional**a.** Trained physicians went to community and completed HRFQ **b.** CHW collected 2 stool samples at interval of one week for FIT **c.** If FIT OR HRFQ were positive, colonoscopy was recommended *Test free of charge for participants* | **Recruited:** unclear**Delivered:**PhysiciansCHW | Face-to-face | Community | 2007- 2009 | Residents aged 40-74 y. *(medically and eco-nomically underserved population)* | Community visits at convenient times for participants | Study is a revised screening programme accepted by the National Cancer Screening Programme in 2006. |
| *Gong et al 2018***China** (Shanghai, 17 districts) | Population-based opportunistic screening in community | Increasing CRC incidence and mortality rates in China and low CRC screening uptake. | 2 x FIT,1 HRFQ Colonoscopy if positive  | **Design:** Cross-sectional **a.** Promotion through mass media (radio, TV, posters, health information brochures)**b.** CHCs mobilized target population with collaboration of neighbourhood committees**c.** HRFQ assessment; individuals were given 2 stool containers to collect sample at home, within an interval of 7 days, and asked to return each sample to a CHC within 48 hours after collection (reminder call - twice if no sample returned within 2 weeks)**d.** 60-second video to explain sample collection (played on repeat at CHC)**e.** 1 or 2 positive FIT OR positive HRFQ were referred for colonoscopy**f.** Contact via phone if missed follow-up*Test free of charge for participants* | **Recruited:** Media & CHC staff**Delivered:** CHC staff | Mass media Face-to-face | Community/ Community health clinics | Jan – Dec 2013 | Residents aged 50–74 y.  | Collaboration with neighbourhood and village committees to improve uptake | Findings from 1 district was not included in final analysis as data was not submitted due to different information management system used.  |
| *Zheng et al 2003***China**(Jiashan county) | Mass screening programme | CRC survival chances are higher when detected early. Develop and optimise a mass screening protocol and evaluates its efficacy in low-incidence areas. | 1 x HRFQ, 1 x reverse hemaggluti-nation FOBT (RPHA-FOBT)Sigmoidoscopy if FOBT positive | **Design:** Cluster randomization trial**a.** Field interviewers recruited participants and conducted home interviews **b.** IG was asked to complete HRFQ and submit one-article-per-slide stool sample**c.** Sigmoidoscopy for FOBT positive cases*Cost for participants not described* | **Recruited & delivered:** Field interviewers | Face-to-face | Community  | Data used from 1989-1996Residents aged ≥ 30 y.  | Residents aged ≥ 30 y.  | Stool test specifically developed for population (RPHA-FOBT) | Not reported |
| *Hassan et al 2016* **Malaysia** (Kota Setar, Kuala Muda) | Opportunistic screening by clinics | Improve screening to detect CRC early and reduce mortality  | FIT(2nd FIT if negative)Colonoscopy if one iFBOT was positive | **Design:** Cross-sectional **a.** Pre-test counselling & test explanation for potential participants at health clinics or hospital **b.** Stool container & instructions on stool collection was given**c.** Participant asked to return test kit immediately after stool collection**d.** A second FIT was conducted if 1st was negative**e.** Participants were counselled by a medical practitioner and referred for colonoscopy if FIT positive*Cost for participants not described* | **Recruited & delivered:** Medical practitioner*(MOH initiative)* | Face-to-face  | Clinics | 2013. | Patients who underwent FIT in 2013 aged ≥50 y.  | Not reported(MOH protocol was followed) | Not reported |
| *Noriah et al 2010* **Malaysia**(Seremban) | Comparison of house-to-house intervention, awareness campaign and opportunistic testing in clinics | Early detection of CRC improves chances of cure. Aim was to determine feasibility, acceptability and cost implications of screening with FOBT.  | 1 x FOBT Colonoscopy if FOBT positive | **Design:** Cross-sectional**Group 1: HOUSE-TO-HOUSE**random sampling of participants – *(recruitment unclear)***Group 2: AWARENESS CAMPAIGN** 2000 pamphlets on colorectal cancer were distributed at supermarkets, bus stations & housing areas**Group 3: OPPORTUNISTIC TESTING** **IN CLINICS**Patients invited by the health care workers. Patients came to the health clinic for other treatments or for follow-up. Health education on colorectal cancer was given to the patients.FOBT was completed as part of each strategy and participants were referred to colonoscopy if FOBT positive*Test free of charge for participants* | **Recruited:**Health care workers/ media**Delivered:** Health care workers*(Organised/ funded by government)* | Face-to-face / media | Community / clinics | 15th Sept – 31st Dec 2007 | Adults aged ≥50 y. | Different approaches were tested to identify which is most acceptable.  | Not reported.  |
| *Tze et al 2016***Malaysia**(Low-income communities in Sentul, Selayang, Gombak, - PPR Intan Baiduri, PPR Taman Wahyu and PPR Taman Prima Selayang, Lembah Subang, Setapak, Cheras - Perumahan Awam Seri Sabah and PPR Hiliran Ampang. | Community education intervention | CRC screening is important for early detection. Low socio-economic groups are prone to late stage diagnosis and poorer survival rate in Malaysia.  | 1 x FITColonoscopy if FIT positive | **Design:** Cross-sectional **a.** Engagement of community leaders, mass distribution of flyers, posters, banners**b.** Trained volunteer medical students went door-to-door to promote campaign and recruit individuals**c.** Screening workshop eligible participants (how to use, when and where to return FIT kit)**d.** Drop-off kits within 2-3 days at collection stations within communities**e.** Results were returned to participants within 2 weeks**f.** Trained nurses visited CRC positive patients in their homes & scheduled appointment for colonoscopy*Test free of charge for participants* | **Recruited & delivered:** Volunteer medical students (with support from community leaders)*(Organised by an NGO)* | Face-to-face Small media | Community | 2010-2015(Annual 1-year long project, over 5 years, different district every year) | Residents aged ≥ 50 y.  | Intervention conducted in 3 local languages.  | Different type of test was used between 2010-2012 and 2013-2015 |
| *Aniwan et al 2017***Thailand**Bangkok, Chiang MaiSongkhla,Khon Kaen  | Clinical / health promotion intervention | Impact of different hemoglobin levels of theFIT on advanced neoplasia, cancer detection, and the diagnostic miss rates between high-risk and average-risksubjects has not been studied. | 1 x FIT, 1 x Colonoscopy | **Design:** Cross-sectional**a.** Individuals who attended different health promotion programs at hospitals were recruited**b.** Subjects were interviewed to assess their clinical risk using the APCS score by nurses**c.** 1 x FIT followed by colonoscopy – subjects received explanation on stool collection and collected sample within 3 days before colonoscopy and analysed within 7 days*Cost for participants not described* | **Recruited:** unclear**Delivered:** Nurses | Face-to-face | Hospital | Dec 2014 – Dec 2016 | Participants from 6 hospitals across Thailand aged 50-75 y. | Local hospitals to recruit participants when visiting for other reasons– greater compliance through opportunistic screeningUse of Asia Pacific CRC Screening Score | Not reported |
| *Remes-Troche et al 2020***Mexico,** Veracruz | Mass media screening intervention | CRC incidence is increasing and insurance plans cover 85% of population for CRC screening and treatment. No organised national screening programme is in place.  | 1 x FIT Colonoscopy if FIT positive | **Design:** Cross-sectional **a.** Recruitment through weekly newspaper adverts (for 3 months, in 2 newspapers)**b.** Eligible participants were interviewed **c.** Printed instructions for home sample collection were provided**d.** Participants were asked to return FIT within 3 days after receiving test kit**e.** Colonoscopy for FIT positive participants*Test free of charge for participants* | **Recruited:** Media **Delivered:** Unclear  | MediaFace-to-face | Community | 15 May 2015 – 15 Jan 2016 Adverts for 3 months | Adults aged ≥50 y.  | Not reported | Not reported*(Authors noted that other recruitment strategies are required to reach various population groups and strategies tailored to national priorities and resources are needed)* |
| *Dimova et al 2015***Bulgaria** (Plovdiv) | Opportunistic self-testing intervention delivered by clinics | CRC incidence is high in Bulgaria but no population based screening is in place. To test feasibility of testing with FIT | 1 x FIT Extra 1 x FIT and fibrocolonoscopy if positive | **Design:** Cross-sectional**a.** GPs contacted 20 health-insured patients via email or call**b.** Participant agreed, visited GP & received test kit, educational brochure and questionnaire **c.** Participants completed self-testing at home (following instructions) & returned completed questionnaire & kit to their GP within 2 weeks **d.** Reminder call or email was sent after 2 weeks if no response was received from the participants **e.** Positive FIT – participants were asked to repeat the test and referred with for fibrocolonoscopy*Test free of charge for participants* | **Recruited and delivered:** GPs | Personal contact (call, e-mail, face-to-face) | Clinics | Jun – Sept 2013  | Health-insured, asymptomatic adults aged ≥45 y.(each GP randomly selected 20 individuals) | Face-to-face contact and personal notification through GPEvidence informed task force recommendations were employed for intervention use. | Not reported |
| *Sucevaeanu et al 2005***Romania**(Dobrogea) | Media and clinical intervention | Increasing incidence and mortality of CRC in Romania. Few studies conducted in Easter Europe on CRC screening. Aim was to test feasibility of CRC screening intervention in Romania.  | FOBT (3 consecutive stool samples)Colonoscopy or barium enema investigation if FOBT + | **Design:** Cross-sectional **a.** Local newspaper was used to inform target population about screening**b.** GPs informed all interested subjects about screening **c.** GPs offered participants gFOBT for the collection of three consecutive stool samples; FOBT was classified as positive if at least one of the 3 samples was positive**d**. Participants with 1 positive stool sample were referred to for colonoscopy or barium enema (if colonoscopy could not be performed)*Cost for participants not described*  | **Recruited:** Media**Delivered:**GPs  | MediaFace-to-face | Hospital | May 2003 – Nov 2004 | Adults aged ≥50 y.  | Colonoscopy / barium enema investigation was conducted as suitable | Not reported |
| *Scepanovic et al 2017***Serbia**(Population-based) | Opportunistic screening with self-testing FIT organised by clinics | Increase in CRC incidence and mortality. Improve early detection and test acceptability of take-home FIT.  | 1 x FITColonoscopy if FIT + | **Design:** Cross-sectional pilot study**a.** Participants recruited by GPs during clinic visits**b.** Questionnaire completed to assess eligibility**c.** FIT home-test kit (& instructions) given to participants**d.** Return of sample within 7 days **e.** Participants were contacted over the phone if result was negative and asked to consult their GP if test was positive who scheduled a colonoscopy (follow up after 2 y. if negative)*Test free of charge for participants* | **Recruited & delivered:** GP | Face-to-face | Primary health care centres | Aug – Nov 2013 | Adults aged 50 – 74 y.  | Convenient for those who visited GP for other purposes  | Not reported |
| *Gholampour et al 2018* **Iran****(**Fasa City) | Educational intervention based on the Health Belief Model  | CRC screening programme is in place with low participation rates. HBM- based education has shown to improve screening in other studies.  | 1 x FOBT Colonoscopy if FOBT positive | **Design:** Quasi-experimental study with control group*Based on Health Belief Model and Social Cognitive Theory***a.** Participant recruited based on Household Health Files in health care centres were invited to completed a HBM-based questionnaire **b.** Information about FOBT and stool collection container was given to participants (option to take stool sample at home or in laboratory)**c.** IG received 8 x lectures (2 sessions per week & 2 x monthly follow-up sessions); counselling and face-to-face training about screening; follow-up meetings on the tests, sending recall cards, providing advice, encouragement, and help for screening. One session was attended by a family member as well as health centre officials and doctors for support.**d.** FOBT was conducted for both IG and CG if stool containers were returned. **e.** FOBT results delivered over phone (on request the results were sent in written test forms) **f.** Referral to colonoscopy for FOBT positive cases*Test free of charge for participants* | **Recruited & delivered:** Researchers | Face-to-face | Recruitment through clinics / training delivered in health centre halls | 2016-2017 | Males aged >50 y. | Very personalised intervention (see description)Physician of same sexTelegram group for exchange of information  | Not reported |
| *Salimzadeh et al 2017***Iran**(Tehran, rural & urban) | Integration of health navigation system into screening programme | Increase in CRC incidence and prevalence in Iran. Patient navigation (PN) may help to reduce costs and improve access to health services in low-resource settings. Aim to identify implications for scaling-up CRC screening at the national level. | 1 x FITColonoscopy if FIT positive | **Design:** Cross-sectional pilot study**a.** Eligible individuals were identified & contacted by HN over phone (rural) or public announcements (urban) **b.** Participants attended in-person interview with HN at health centres; awareness was assessed; FIT testing barriers addressed and information on CRC symptoms, risk factors and screening were provided (30 min); worries were addressed**c.** Participants received FIT kit & educational pamphlet on how to obtain stool**d.** Participants were asked to return stool sample within 2 days after sampling to health houses (reminder call after one week if FIT kit was not returned) **e.** 1 week after sample collection, FIT results were sent back to health centres. HN notified all participants with a negative FIT of results and recommended FIT screening in the next year; individuals with a positive FIT result were notified to schedule a colonoscopy within 4 weeks. **f.** Colonoscopy: HN delivered detailed instructions on bowel preparation for colonoscopy.*Test free of charge for participants* | **Recruited & delivered:**Health navigators (HN)  | Phone calls, public announcements Face-to-face | Community health centres | 1 x 30 min session with HN*Study timeframe not described* | Adults aged 45-75 y.  | Native public health workers were hired and trainedCRC awareness was assessed and screening was explained in plain language. Personal concerns addressed during interview2 different recruitment approaches were rural/ urban  | Not reported |
| **Stool test uptake 45-65%** |
| *Khuhaprema et al 2014***Thailand** (Lampang province) | Pilot implementation program of CHW | No population based opportunistic CRC screening in Thailand. CRC is increasing. Piloting program to reduce deaths through primary prevention and screening. | 1 x FITColonoscopy if FIT positive | **Design:** Cross-sectional**a.** Recruitment in urban areas mainly through posters and in rural areas face-to-faceb. Pamphlets & stool collection pots distributed by CHW to eligible participants on household visits (*as part of routine visits that take once every 6 months*)**c.** Participants were given instructions on how to collect stool sample & asked to return sample within 3h of completion to Primary care unit or CHW**d.** FIT was carried out at the PCU by nurse or CH in front of the participant (participant was informed at visit of result)**e.** Colonoscopy appointment was fixed if FIT positive*Cost for participants not described*  | **Recruited & delivered:** CHW | Face-to-face | Community | April 2011- Nov 2012 | Residents aged 50-65 y. | Use of existing service (i.e. CHW visit every 6 monthsPrint materials in Thai languageCHW were trained to improve skills needed to deliver intervention | Not reported |
| *Bankovic Lazarevic et al 2016***Seriba**(Population-based) | National organised CRC screening programme of Serbia | High CRC incidence and mortality rate and late stage diagnosis. Reduce CRC incidence and mortality through early detection | 1 x FITColonoscopy if FIT positive | **Design:** Cross-sectional**a.** Target population (identified through database of those with health insurance and other citizens) invited via phone and letters to perform**b.** FIT delivered by general practitioners in primary health care centres**c.** Colonoscopies performed if FIT positive *Cost for participants not described* | **Recruited & delivered:** Physicians*(Programme conducted by MOH)* | Personal communication (letter/ phone call, face-to-face) | Primary health care centres | 2013-2014 (2 years) | Adults aged 50-74 y.  | Not reported | Intervention was extended from 20 municipalities to 28 in the 2nd year.  |
| *Huang et al 2014***China** (Hangzhou, Shanghai, Harbin) | Opportunistic screening by invitation – comparing FIT vs FIT & high-risk score | FOBT alone may fail to detect lesions due to intermittent bleeding. Screening protocol should be based on cost-effectiveness in resource- limited settings.  | 1 x FOBT vs. 1 x FOBT & HRFQColonoscopy if positive | **Design:** Modelling study / cross-sectional**a.** CDC officials contacted participants**b.** Participants were asked to complete HRFQ and take FOBT **c.** Participants with positive HRFQ or FOBT were referred for colonoscopy*Cost for participants not described* | **Recruited & delivered:** CDC officials | Unclear (likely face-to-face) | Unclear (likely community) | July 2006 – Dec 2008 | Residents aged 40-74 y.  | Study was conducted to identify one out of 8 most cost-effective scenarios to inform future interventions.  | Not reported |
| **Stool test uptake <45%** |
| *Wu et al 2019* **China** (Pudong New Area, Shanghai) | Community mobilisation intervention | Previous studies showed high sensitivity of screening procedures and high false positive rate. Aim was to optimize the risk assessment tool and seek an optimal initialscreening protocol for CRC | 2 x FIT, 1 x HRFQ Colonoscopy if FIT or HRFQ positive  | **Design:** Prospective cohort study **a.** Recruitment through community mobilization**b.** Risk assessment of eligible participants**c.** Two stool samples were collected within 1 week by community health care staff from participants**d.** Colonoscopy referral if FIT or HRFQ positive*Test free of charge for participants* | **Recruited:** *[community mobilisation]***Delivered:**Community health care staff | Face-to-face interview and stool collection  | Community | 3 rounds of screening between 2013-2019*(2 rounds, i.e. 2013-2017 included in analysis)* | Residents aged 50-79 y. | Stool collection by CHW to improve participation | Risk assessment tool was modified from previous studies to improve accuracy of tool. |
| *Abuadas et al 2018***Jordan**(Amman) | Educational intervention based on the Health Belief Model | Increasing CRC incidence and no screening programme for average-risk individuals.  | 1 x FOBT | **Design:** Quasi-experimental study with control group*Based on Health Belief Model* **a.** 1-hour educational session on CRC and screening recommendations (IG), i.e. presentation, discussion, hand- out of educational materials on CRC and screening recommendations provided to patients visiting the hospital out-patient department**b.** participants were offered ‘cards’ to perform screening via FOBT *Test free of charge for participants* | **Recruited & delivered:**Research team | Face-to-face | University hospital | 1st July – 3rd Nov 20151 x 1hour education sessionData was collected 4 weeks later | Adults aged 50-75 y.  | Program based on Health Belief Model | Not reported (Except for measurement tool, i.e. modified Arabic version of the Champion Health Belief Model Scale) |
| *Li, Qian, et al 2019* **China**(Pudong New Area, Shanghai) | Large community-based CRC screening programme, invited by post | High CRC incidence and mortality in China. Aim was to evaluate the quality (performance during implementation) of the programme. | 1 x FOBT, 1 x HRFQ Colonoscopy if FOBT or HRFQ positive | **Design:** Prospective cohort study **a.** Screening invitations sent to target population by primary care physicians**b.** HRFQ and FOBT was provided**c.** Reminders were sent if no response within 1 month, reminder was sent once a month for 3 months**d.** FOBT positive participants were referred for colonoscopy *Test free of charge for participants* | **Recruited & delivered:** Primary care physician | Mail | Community Health Centres | 2 x screening rounds between 2013-2016 | Residents with medical insurance aged 50-74 y.  | Primary care physicians at CHC were used to reduce service cost. Authors conclude that risk assessment may need to be better tailored in future to better assess target population’s risk. | Residents who did not meet the age criteria were screened if interested.Modifications were made to some measures in the analysis to ensure accurate program performance indicators.  |
| *Salimzadeh et al 2013***Iran** (Tehran) | Education intervention based on the preventive health model  | High prevalence of CRC in Iran. Address barriers towards CRC screening to increase uptake.  | (not offered as part of intervention) | **Design:** Community-based randomised Trial *Based on Preventive Health Model***a.** Participants were identified from health club registry and contacted by phone**b.** In-person interviews were conducted with agreed participants**c.** IG: Face-to-face education with research assistant (20 min to review education booklet) **d.** 3 min reminder call after 2 weeks (up to three attempts) (to provide encourage screening attendance)**e.** Screening was self-reported (either FOBT or colonoscopy)*Participants covered potential screening costs* | **Recruited & delivered:** Researchers | TelephoneFace-to-face | Community health clubs | July 2011-Nov 20121 x education session1 x reminder call  | Adults aged ≥50 y.  | Interviews in health clubs (convenience)Theoretical constructs were incorporated and tailored to Iran. | Not reported |
| *Huang et al 2011***China** (Shanghai - 1 community from each of 4 districts) | Community-based health education intervention  | High CRC incidence and mortality in China. Community education may be important for screening uptake.  | 1 x FOBT | **Design:** Quasi-experimental**a.** Recruitment: door-to-door to attend lectures**b.** Monthly lectures in community centres after which participants received information leaflets and FOBT kit**c.** Face-to-face interview post lecture*Test free of charge for participants* | **Recruited & delivered:**Health workers from CDC & public hospitals | Face-to-face | Community/ local community health service centres & Centre for Disease Control | May 2008 – May 2010Monthly lectures | Local residents | Lectures conducted in local community recreation centres | Not reported |
| *Lin et al 2019***China**(Guangzhou) | Mass media and community intervention | The screening protocol has been adapted by China National Committee of Cancer Early Detection and Treatment to address increasing CRC incidence. This study evaluated compliance and yield.  | 1 x HRFQ 2 x FIT Colonoscopy if HRFQ or FIT positive | **Design:** Cross-sectional **a.** Newspapers & TV reported that government is inviting all residence to CRC screening **b.** Everyone eligible received SMS reminder**c.** HRFQ completed by GP in local CHCs**d.** 2 x FIT screens (repeated after one week) - faecal samples collected by CHW in health centres**e.** Referral for colonoscopy if FIT positive*Test free of charge for participants* | **Recruited:** Media **Delivered:**GP & CHW*(Municipal government provided subsidies)* | Mass media, text messageFace to face  | Community Health Centres | 2015-2017 | Residents aged 50-74 y.  | Stool collection by CHW to improve participation  | Not reported |
| **Colonoscopy only**  |
| *Chen et al 2019***China** (22 cities in 16 provinces) | Population based screening of high-risk individuals | Lack of evidence on participation and diagnostic yield of population-based CRC screening by colonoscopy in China.  | 1 x HRFQ Colonoscopy if positive | **Design:** Cross-sectional**a.** Participants were invited by phone calls and personal encounter with trained staff**b.** Social media and community advertisements were used to raise awareness about programme**c.** HRFQ assessment by trained staff**d.** Colonoscopy if HRFQ positive*Test free of charge for participants* | **Recruited & delivered:**  Trained staff | Face-to-facePhone calls | Community | October 2012- October 2015  | Residents aged 40-69 y.  | Risk assessment was based on Harvard Risk Score but was tailored to Chinese population | Not reported |
| *Garcia-Osogobio et al 2015* **Mexico**(Medica Sur Hospital) | Workplace screening intervention | Data collected on CRC incidence and mortality in Mexico is poor. Aim was to determine the prevalence of CRC neoplasm.  | 1 x Colonoscopy | **Design:** Cross-sectional**a.** Recruitment: Personalised invitation letter sent to target population & public announcements were posted at hospital website**b.** Informative meetings about study/ screening**c.** Personal interviews were conducted to ensure participants were asymptomatic**d.** Colonoscopy was conducted with all eligible participants*Test free of charge for participants* | **Recruited & delivered:** Employer | MailWebsiteFace-to-face | Workplace (Hospital) | 2009-2010 | Employees aged 40-79 y.  | Personalised letters | Not reported |

CHC – community health clinics/ centres; CHW – community health worker; CRC – colorectal cancer; FOBT – Fecal Occult Blood Test ; FIT – Fecal Immunochemical Test; GP – general practitioner; HRFQ – high risk factor questionnaire; HN – health navigator; HW – health worker; y – years

\*Where: all colonoscopies were conducted at a hospital