

**Research Assessment Exercise 2020**  
**Impact Case Study**

**University:** The Chinese University of Hong Kong

**Unit of Assessment (UoA):** 5

**Title of case study:** Improving the uptake of cervical cancer screening by minority communities

**(1) Summary of the impact** (indicative maximum 100 words)

Regular cervical cancer screening (CCS) is effective in reducing cancer risk up to 95%. Ethnic minorities show much lower uptake rates than the general population. Our research identified barriers (i.e. limited awareness and accessibility), to cancer screening among South Asians (SAs), the largest minority group in Hong Kong. In collaboration with community partners, we have developed and tested an IMPACT programme to improve screening uptake among SA women, with target beneficiaries extended to more SAs in Hong Kong and SA countries. In Hong Kong, the uptake of CCS has an observable growth of 42% over the last five years.

**(2) Underpinning research** (indicative maximum 500 words)

Cervical cancer is the fourth most common cancer among women worldwide, with 570,000 new cases recorded in 2018. In Hong Kong, cervical cancer shows prominent impact on women's health. It is crucial to the promotion of screening uptake that the information about recommended cancer screening and services can reach their target audience. Funded by six government and university grants, totalling HKD\$1,730,000, CUHK's research on the uptake of CCS was undertaken by Dr So, Dr Chan and Dr Wong.

Dr So conducted the first research study between 2013 and 2014 to examine the uptake rate of cancer screening among SAs and identify related barriers. The study discovered that the uptake of CCS among the 756 SA women subjects was low (36.9%) [**Publication-1**] compared with that of the general population (60.5%) [Published on the government website [https://www.cervicalscreening.gov.hk/english/sr/sr\\_statistics\\_ccsc.html](https://www.cervicalscreening.gov.hk/english/sr/sr_statistics_ccsc.html)]. Common barriers included health literacy, language, accessibility to screening information and services, and other cultural issues. The research team made recommendations to increase screening uptake among SAs [**Publication-1**] and developed IMPACT (Integrative Multimedia Programme for promoting south Asians' Cancer screening upTake), which comprises the following two parts:

*Evidence-based multimedia interventions.* The findings of Dr Chan's systematic review published in 2015 identified five components of effective cancer screening programmes on improving ethnic minority women's knowledge and beliefs about the topic and screening uptake rates. These components are: use of theories to guide intervention development, community-based intervention, use of culturally-relevant and linguistically-appropriate materials, highlights of key messages on cancer and screening measures, and employment of multiple intervention strategies [**Publication-2**]. The findings of Dr So's study [**Publication-1**] and Dr Chan's review [**Publication-2**] informed essential components of an evidence-based intervention for promoting cervical cancer prevention among SA women. Our survey on cancer screening behaviour informed the perceived needs and the potential effectiveness of multimedia interventions in enhancing SA women's knowledge and self-efficacy in undergoing screening [**Publication-3**]. To ensure their accessibility to educational materials, Dr So developed a website where all relevant materials have been uploaded to (<http://minorityhealth.nur.cuhk.edu.hk/>).

*Multimedia training programme for community health workers (CHWs)*. In 2014, Dr So developed and evaluated a theory-based, culturally-sensitive multimedia training programme for empowering SA women in Hong Kong as CHWs. Outcomes included increased knowledge of cancer and improved SA women's self-efficacy and competence serving as CHWs [**Publication-4**]. Culture-related factors were identified from our systematic review to inform major issues for consideration influencing ethnic minorities' screening uptake [**Publication-5**]. Findings of the multimedia training programme outcomes and the systematic review facilitated Dr Wong and Dr So's development of a randomised controlled study examining the effect of the CHW-led intervention on improving SA women's uptake of CCS. The preliminary findings showed that the intervention was feasible and acceptable to SA women. The intervention group reported significant improvement in their beliefs about CCS, compared with the control group [**Publication-6**].

A follow-up telephone survey in late 2018 found that 52.3% of the 371 SA women subjects had undergone CCS, recording a 42% increase in the uptake rate compared with the first survey conducted between 2013 and 2014.

**(3) References to the research** (indicative maximum of six references)

[1] So, W. K. W., Law, B. M. H., Chow, K. C., Chan, D. N. S., Chan, C. W. H. (2019). A Mixed-method Study Examining Cancer Screening Uptake among South Asian Ethnic Minorities in Hong Kong. *Asia-Pacific Journal of Oncology Nursing*, [https://doi.org/10.4103/apjon.apjon\\_36\\_19](https://doi.org/10.4103/apjon.apjon_36_19) [Epub 11 Sep 2019]

[2] Chan, D. N. S., & So, W. K. W. (2015). A systematic review of randomised controlled trials examining the effectiveness of breast and cervical cancer screening interventions for ethnic minority women. *European Journal of Oncology Nursing*, 19(5), 536-553. doi: 10.1016/j.ejon.2015.02.015

[3] So, W. K. W., Wong, C. L., Chow, K. M., Chen, J. M. T., Lam, W. W. T., Chan, C. W. H., & Choi, K. C. (2017). The uptake of cervical cancer screening among South Asians and the general population in Hong Kong: A comparative study. *Journal of Cancer Policy*, 12, 90-96. doi: 10.1016/j.jcipo.2017.03.015

[4] So, W. K. W., Kwong, A. N. L., Chen, J. M. T., Chan, J. C. Y., Law, B. M. H., Sit, J. W. H., & Chan, C. W. H. (2019). A theory-based and culturally aligned training program on breast and cervical cancer prevention for South Asian community health workers: A feasibility study. *Cancer Nursing*, 42(2), E20-E30. doi: 10.1097/NCC.0000000000000543

[5] Chan, D. N. S., & So, W. K. W. (2017). A systematic review of the factors influencing ethnic minority women's cervical cancer screening behaviour: From intra-personal to policy level. *Cancer Nursing*, 40(6), E1-E30. doi: 10.1097/NCC.0000000000000436

[6] Wong, C. L., Choi, K. C., Law, B. M. H., Chan, D. N. S., & So, W. K. W. (2019) Effects of a community health worker-led multimedia intervention on the uptake of cervical cancer screening among South Asian women: a pilot randomized controlled trial. *International Journal of Environmental Research and Public Health*, 16(17), 3072. doi: 10.3390/ijerph16173072

**(4) Details of the impact** (indicative maximum 750 words)

**1. Increase the uptake of CCS among SA women through raising their awareness of the importance of early CC detection; improve their accessibility to cancer screening information and services in collaboration with community partners**

From 2015 to 2017, we delivered IMPACT (an evidence-based multimedia intervention) in 11 out of 18 districts (>60%) in Hong Kong with the support of 54 community partners. Over 90% of the 1,061 SA women joint the programme reported improvement in the awareness of CCS

and prevention, accessibility to information/ services, and self-efficacy in undertaking screening. Printed educational booklets were delivered to 3,200 SA women, including those unable to join the programme [Evidence-1]. The programme was extended to local and different ethnic groups through our website established in July 2018 (<http://minorityhealth.nur.cuhk.edu.hk/>), with its hyperlink shared on 22 community partners' websites and social media [Evidence-2]. Over 16,500 visitors browsed CCS information online between October 2018 and September 2019.

With the great support from six South Asian community centres or organisations, our ongoing funded project has trained seven CHWs [Evidence-3]. It raised the awareness among SA women of the importance of early CC detection and promoted screening uptake in which the SA women who received CHW-led intervention reported a higher screening rate (94%) than those without (28%). [Evidence-4]. Feedback from various stakeholders (SA women, CHWs, community partners) also reflected the significance of the project. Participants appreciated its help in raising their awareness. One CHW wrote "My entire family would like to thank CHW project for helping people like us in taking pap screening test." A leader of South Asian association commented, "We initially had difficulties in promoting CCS to our members. However, your programme is so effective that it actually encouraged some of them to undergo screening". With these positive feedbacks, four other community centres and ethnic minority associations also nominated their members to participate in CHW training [Evidence-3]. A total of 12 CHWs have been trained by the end of September 2019.

The impact of our programme on promoting CCS over the past five years was reflected in a follow-up survey on 371 SA women participating in multimedia interventions. The results showed a 52.3% uptake rate of cervical screening test, marking a 42% increase compared with the first survey conducted between 2013 and 2014 [Evidence-5].

## **2. Expand to benefit more ethnic minorities in Hong Kong, as well as women and healthcare providers in SA countries**

The IMPACT programme has been successfully adopted in developing Asian countries such as Nepal. In February 2019, with the support of Asian College for Advance Studies and Nobel College, the project team reached out to educate over 210 healthcare providers, nursing students and educators. Both colleges have agreed to incorporate our educational materials into their nursing curricula [Evidence-6]. The Government of Nepal has recognised our expertise and fully supported our mission to implement IMPACT and enhance the quality of healthcare services as well as health education for cancer prevention in rural areas. The project team will visit western Nepal (Baglung) in October 2019 and prepare a report of situational analysis for the Ministry of Health of the Government of Nepal [Evidence-7].

With the success of the IMPACT programme, our team adopted a similar multimedia intervention approach to educate SA women about breast health and HIV/AIDS. For breast health, 1,067 SA women received the "Get Checked not Scared" programme with 3,237 printed educational booklets delivered. The intervention effectively increased participants' knowledge of breast cancer (95%), importance of breast screening (93.8%) and accessibility to services (93.7%) [Evidence-8]. We have expanded the reach of this programme to the public and other ethnic minority communities via our website (<http://minorityhealth.nur.cuhk.edu.hk/>), with its hyperlink shared on 22 community partners' websites and social media [Evidence-2]. The breast health related information was browsed for over 16,000 times between October 2018 and September 2019.

For HIV/AIDS, Prof. Chair at CUHK adopted the same multimedia educational approach in a

series of community health promotion events to raise non-Chinese Asians' awareness of HIV/AIDS prevention, detection and treatment. In 2015, 58 health talks and community roadshows were conducted for 1,772 non-Chinese. A website "To fight against HIV among non-Chinese Asians" (<http://againsthiv.nur.cuhk.edu.hk/en/>) was launched and recorded 149,007 visitors as of 21 August 2019. The results showed an increase in the intention of not sharing needles and using condom (by 60% and 17.2% respectively) [Evidence-9]. The government reported a decrease in the number of HIV cases among non-Chinese populations in Hong Kong from 700 cases in 2015 to below 600 in 2018 [Evidence-10]

(5) **Sources to corroborate the impact** (indicative maximum of 10 references)

- [1] So, W. K. W., Chan, C. W. H., Leung, D. Y. P., Chan, H. Y. L., Chair, S. Y., & Ng, A. (2017). Development of multimedia interventions to promote cervical cancer prevention among South Asian women in Hong Kong. Knowledge Transfer Project Fund Project Report (Re No.: KPF15INF09)
- [2] A list of 22 collaborating partners supported the IMPACT and added a hyperlink to "Say 'No' to Chronic Diseases" website (<http://minorityhealth.nur.cuhk.edu.hk/>) in their websites and social media. <http://minorityhealth.nur.cuhk.edu.hk/useful-links-2/>
- [3] Letters of support from ten South Asian community centres and organisations to nominate their staff/members to receive CHW training regarding the CHW-led intervention project and their appreciations; Appreciations from SA women and CHWs <http://www.nur.cuhk.edu.hk/research/research-theme-groups/cancer-and-palliative-care/cancer-prevention-and-early-detection/cancer-prevention-programs/>
- [4] Wong, C. L., Choi, K. C., Law, B. M. H., Chan, D. N. S., & So, W. K. W. (2019) Effects of a community health worker-led multimedia intervention on the uptake of cervical cancer screening among South Asian women: a pilot randomized controlled trial. *International Journal of Environmental Research and Public Health*, 16(17), 3072. <https://doi.org/10.3390/ijerph16173072>
- [5] Chan, D.N.S., & So, W.K.W. (2020). The impact of community-based multimedia intervention on the new and repeated cervical cancer screening participation among South Asian women. *Public Health*, 178, 1-4. <https://doi.org/10.106/j.puhe.2019.08.015>
- [6] Invitation letters from the Principal of Asian College for Advance Studies affiliated to Purbhanchal University, and Principal of Nobel College affiliated to Pokhara University; and letters of appreciation and support from the two Colleges
- [7] Letters of support from the Vice-president of Nepal, Ministry of Health and Mayor of Baglung Nepal.
- [8] So, W.K. W., Chan, C. W. H., Leung, D. Y. P., Chan, H. Y. L., Chair, S.Y., Ng, A. (2017) Development of multimedia interventions to promote breast cancer prevention among South Asia women in Hong Kong. *Health Care and Promotion Scheme* Final Report (Project No.: 28140304)
- [9] Chair, S. Y. (2015). To fight against HIV among non-Chinese Asians. AIDS Trust Fund Final Report.
- [10] Chan, K. (18 June 2019). Press conference on local HIV/AIDS situation in first quarter of 2019. Centre for Health Promotion, Department of Health. Retrieved from <https://www.aids.gov.hk/english/press/press.html>.