CARES: Improving breast and cervical screening among marginalized women through a multi-faceted community intervention

Sheila Dunn, MD, MSc

Department of Family and Community Medicine & Dalla Lana School of Public Health, University of Toronto

Women's College Research Institute

Co-authors: Aisha Lofters, Ophira Ginsburg, Christopher Meaney, Catherine Moravac, Farah Ahmad, Shelley Cleverly

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- Community Partners
- Peer Leaders
- Cares Participants

Background

- Cervical and breast cancer screening reduces mortality
- Screening rates are lower among newcomers and those of low SES
  - South Asian and Chinese populations have lowest rates[1,2]
- Toronto population 2.8 million
  - 50% foreign born
  - 30% speak language other than English/French at home
  - Screening participation Toronto 2012-2013[3]
    - Pap: 62%
    - Mammography: 60%

1. Lofters AK, et al. Cervical cancer screening among urban immigrants by region of origin: a population-based cohort study. Prev Med 2010;51:509-16
2. Vahabi M, Lofters A, Kumar M, Glazier RH. Breast cancer screening disparities among urban immigrants: a population-based study in Ontario, Canada. BMC Public Health. 2015 15:679. doi: 10.1186/s12889-015-2050-5
3. Cancer Care Ontario. 2015 Prevention System Quality Index: an inaugural report evaluating Ontario's efforts in cancer prevention. Toronto: Queen's Printer for Ontario; 2015.

Barriers to screening among newcomer populations

- Lack of knowledge
- Language barriers
- Cultural attitudes and beliefs
  - Fatalism, concept of screening
- Lack of familiarity with health system
- Competing priorities
- Fear, embarrassment

Interventions to increase screening among minority populations

Provider directed

- Audit and feedback, incentives, reminders

Community/client directed

- (Invitation letters, mass media, etc)
- One-on-one or group education
- Lay health workers
- Language specific supports
- Tailoring programs to specific ethno-cultural groups
- Facilitation/navigation to screening

➢Multifaceted interventions found to have the greatest impact

Sabatino SA, Lawrence B, Elder R, Mercer SL, Wilson KM, et al. Effectiveness of interventions to increase screening for breast, cervical and colorectal cancers. Am J Prev Med 2012;43:97-118.
Han HR, Kim J, Lee JE, Hedlin HK, Song H, Song Y, Kim MT. Interventions that increase us of Pap tests among ethnic minority women: a meta-analysis. Psychooncology. 2011;20:341-51.
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CARES: a multi-faceted community-based intervention

Objective:

To increase knowledge and screening for cervical and breast cancer among marginalized women in Toronto

Specific focus:

- newcomers
- marginally housed/low SES

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Cancer Awareness:
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Program model

- Community outreach to engage women in their own communities
  - Link with community agencies
- Peer leaders
  - Advise on community specific issues
  - Deliver educational sessions in language of community
  - Ongoing support for screening
- Community tailored educational materials and sessions
  - Multilingual materials
  - Transit tickets, childcare, refreshments
- Facilitated access to screening
  - Paps: on-site through CARES NP, health bus, CARES dedicated Pap screening clinic at sexual health clinic
  - Mammography: Block bookings at local OBSP sites, WCH and SMH
  - Peer leader accompaniment


EXIT
EXIT

Program data

May 15, 2012 – October 25, 2013

- 66 sites/partner organizations
- 148 educational sessions
- 2033 participants born in 88 countries
- Trained 42 peer leaders who spoke 20 languages

Research question:

What was the impact of CARES on screening?

Methods

- Case control study using Cancer Care Ontario administrative data
- Inclusion: women aged 21-69 years (Pap) and 50-74 year (mammo)
- CARES and controls matched 3:1 on pre-education screening status
  - Up to date (0-36 mos), underscreened (> 36 mos), never-screened
  - 10 year age group
  - Area of residence (dissemination area)

- Outcome: screening occurring after the education date
  - Within 6 mos
  - Throughout the whole follow-up period (8 – 25 months)

Results

- 372 CARES participants matched with CCO data
- Matched to 969 (Pap) and 603 (mammogram) controls

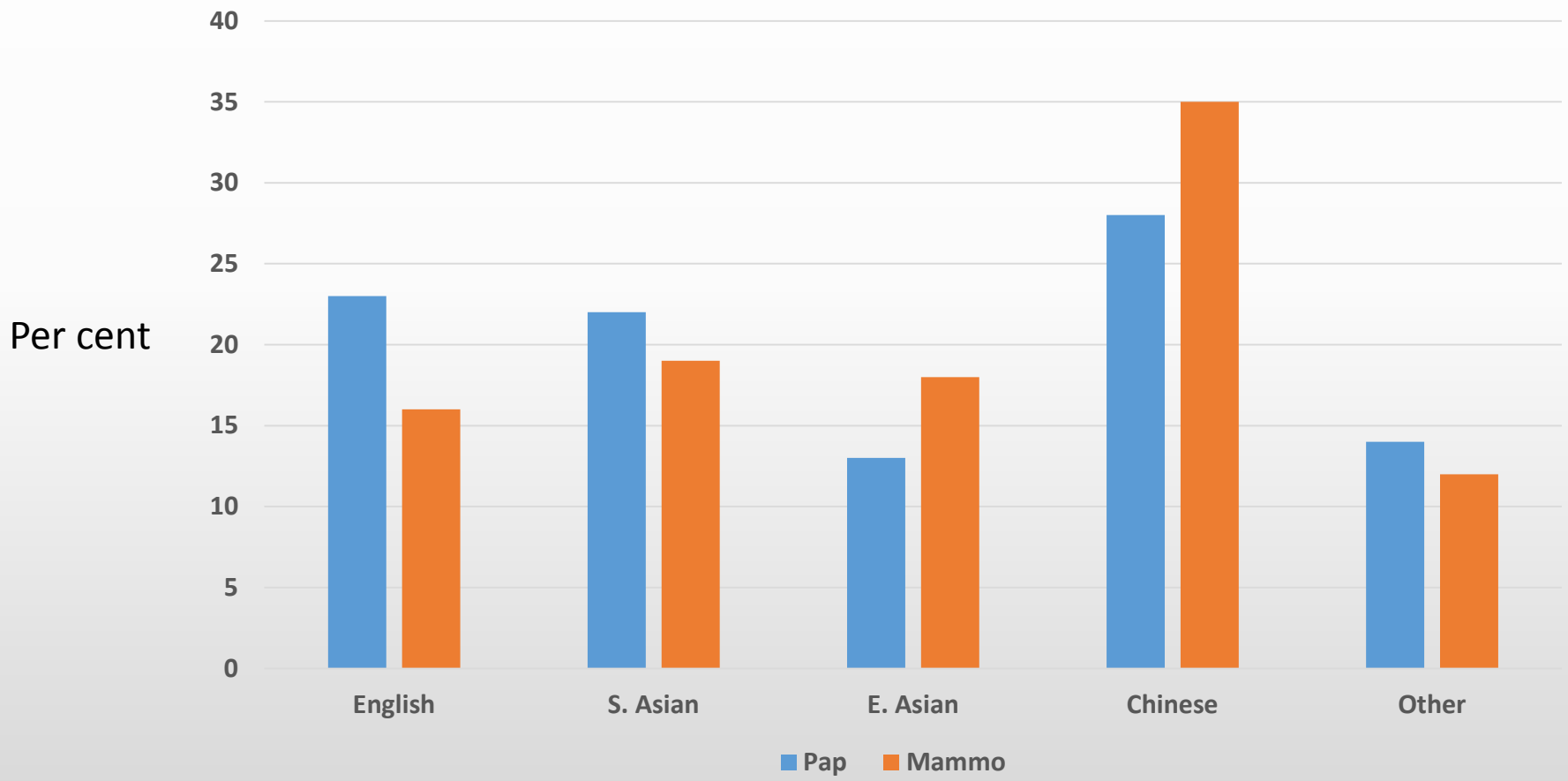
- ➢ 57% living in lowest income quintile neighbourhoods
- ➢ 45% living in highest deprivation index neighbourhoods
- ➢ 80% living in highest ethnic concentration neighbourhoods

Results

Characteristics of the CARES Group

	Pap eligible (21-69 yrs) N = 331	Mammography eligible (50-74 yrs) N = 206
Mean age (SD)	49.3 (11.9)	61.9 (7.6)
Screening status at education		
• Up to date	213 (64.4%)	107 (51.9%)
• Underscreened	35 (10.6%)	15 (7.3%)
• Never screened	83 (25.1%)	84 (40.1%)

CARES Language groups



Post-education screening

	6 month follow-up			Follow-up to end of study period		
	CARES No. (%)	CONTROL No. (%)	OR (CI)	CARES No. (%)	CONTROL No. (%)	OR (CI)
Pap						
Total UNS	18/118 (15%)	10/344 (3%)	6.0 (2.7-13.4)	31/118 (26%)	30/314 (10%)	3.7 (2.1-6.5)
Never-screened	13/83 (16%)	4/239 (2%)	10.9 (3.5-34.5)	21/83 (25%)	15/239 (6%)	5.1 (2.2-10.4)
Mammography						
Total UNS	27/99 (27%)	21/287 (7%)	4.8 (2.5-8.9)	36/99 (36%)	39/287 (14%)	3.6 (2.1-6.2)
Never-screened	23/84 (27%)	17/249 (7%)	5.2 (2.6-10.2)	31/84 (37%)	32/249 (13%)	4.0 (2.2-7.1)

Discussion

- CARES intervention addressed multiple barriers
  - Knowledge - group education
  - Language – peer leaders
  - Cultural attitudes – peer leaders, group support
  - Navigation to screening and language support – peer leaders, team
  - Structural supports for screening – dedicated times for group visits, health bus

➢ Multifaceted interventions are more successful but we don’t know the contribution of various components to the effect

Discussion

- CARES was effective in a very diverse population
  - Insufficient sample to examine relative impact on different newcomer groups
  - Model broadly adaptable
- Effect persisted but attenuated over time
  - Would reinforcement and continued navigation support sustain the effect?
- Effect may be greater for women with no previous screening
  - When provided with information and support a significant proportion of never-screened women will initiate screening
  - Can they be retained in screening?

Strengths and Limitations

Strengths

- Administrative data enabled accurate measurement of screening
  - Most other studies used self-report
- Cost barrier eliminated

Limitations

- Unmeasured confounders
  - Women attending CARES may be inherently more motivated to be screened
  - Unable to exclude women with hysterectomy or history of cancer
- Data for only a small proportion of attendees

Conclusion

- A multi-faceted community-based program that addressed multiple barriers to cancer screening succeeded in increasing Pap and mammography screening among a diverse group of under/never-screened women
- This program model may be broadly applicable to minority populations
- Further research is needed to determine differential impact on specific populations and whether the effect on screening behaviour is sustained over time.

Questions?

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