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

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• Project Team
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  • Implementation Team
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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%

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

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
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
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

<table>
<thead>
<tr>
<th></th>
<th>Pap eligible (21-69 yrs) N = 331</th>
<th>Mammography eligible (50-74 yrs) N = 206</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (SD)</td>
<td>49.3 (11.9)</td>
<td>61.9 (7.6)</td>
</tr>
<tr>
<td>Screening status at education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Up to date</td>
<td>213 (64.4%)</td>
<td>107 (51.9%)</td>
</tr>
<tr>
<td>• Underscreened</td>
<td>35 (10.6%)</td>
<td>15 (7.3%)</td>
</tr>
<tr>
<td>• Never screened</td>
<td>83 (25.1%)</td>
<td>84 (40.1%)</td>
</tr>
</tbody>
</table>
## Post-education screening

<table>
<thead>
<tr>
<th></th>
<th>6 month follow-up</th>
<th>Follow-up to end of study period</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>CARES No. (%)</td>
<td>CONTROL No. (%)</td>
<td>OR (CI)</td>
<td>CARES No. (%)</td>
<td>CONTROL No. (%)</td>
</tr>
<tr>
<td><strong>Pap</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total UNS</td>
<td>18/118 (15%)</td>
<td>10/344 (3%)</td>
<td>6.0 (2.7-13.4)</td>
<td>31/118 (26%)</td>
<td>30/314 (10%)</td>
</tr>
<tr>
<td>Never-screened</td>
<td>13/83 (16%)</td>
<td>4/239 (2%)</td>
<td>10.9 (3.5-34.5)</td>
<td>21/83 (25%)</td>
<td>15/239 (6%)</td>
</tr>
<tr>
<td><strong>Mammography</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total UNS</td>
<td>27/99 (27%)</td>
<td>21/287 (7%)</td>
<td>4.8 (2.5-8.9)</td>
<td>36/99 (36%)</td>
<td>39/287 (14%)</td>
</tr>
<tr>
<td>Never-screened</td>
<td>23/84 (27%)</td>
<td>17/249 (7%)</td>
<td>5.2 (2.6-10.2)</td>
<td>31/84 (37%)</td>
<td>32/249 (13%)</td>
</tr>
</tbody>
</table>
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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