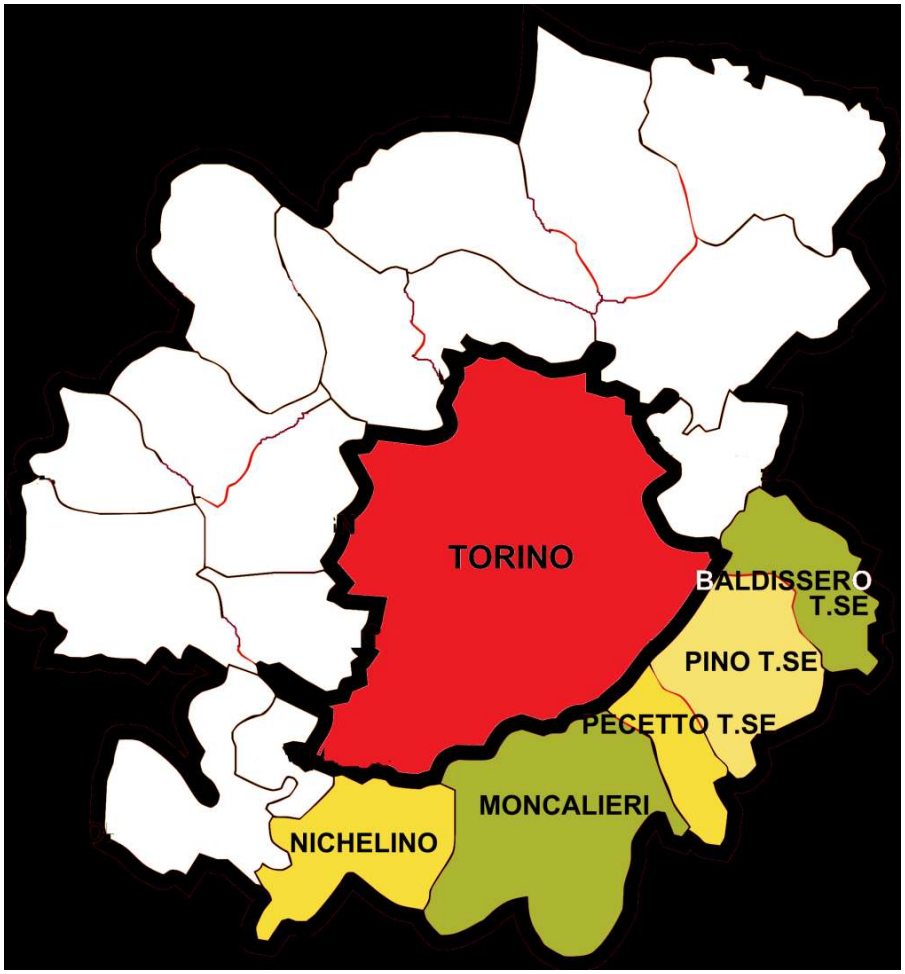
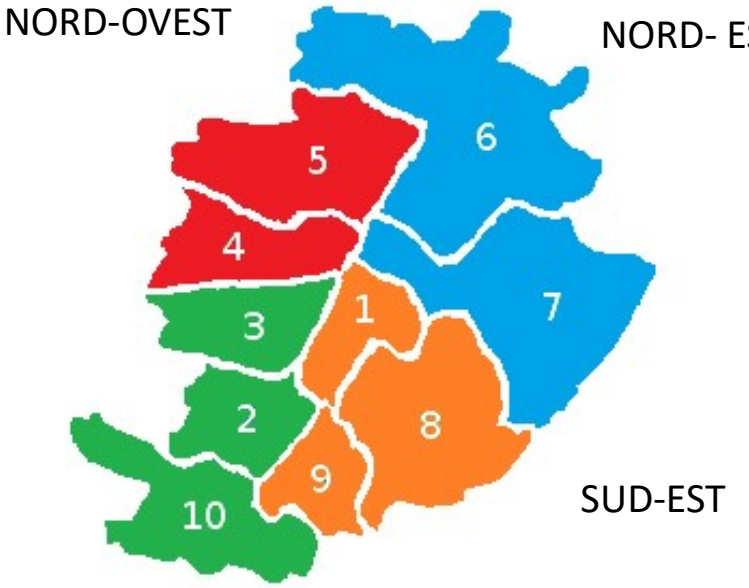
Approcci innovativi per l’invito allo screening della cervice uterina

Screening PROGRAMMA 1



ASL CITTÁ DI TORINO



4 Distretti:
Nord – Ovest
Nord – Est
Sud-Ovest
Sud-Est

Abitanti (31/12/2017): 882.523

ASL TO 5 DI CHIERI

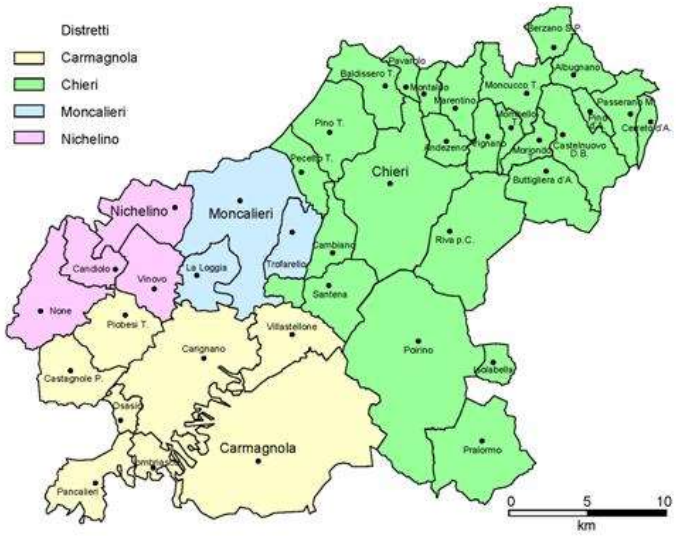


Fig. 1. I 40 comuni dell'ASL TO5 suddivisi per distretti

4 Distretti:
Carmagnola
Chieri
Moncalieri
Nichelino

Abitanti (31/12/2017):309.862

Asl TO5

1. Reminder: partenza ad aprile 2021.

Il sistema recall chiama gli utenti 3 giorni prima (data attuale+3 giorni) (telefonata con voce registrata.

Se i pazienti non rispondono per 3 volte al telefono viene inviato loro un sms.

In ogni caso, se i pazienti non possono recarsi all'appuntamento viene Loro chiesto di chiamare al CUP per disdire l'appuntamento.

2.Modalità invito:

Durante le prime fasi dell'epidemia:inviti senza appuntamento prefissato

Dal 9 maggio 22 attuato invito misto: appuntamento prefissato agli aderenti e appuntamento non prefissato per i non aderenti che successivamente vengono chiamati al telefono.

Uso degli SMS

review article

Text Messaging in Oncology: A Review of the Landscape

abstract

Text messaging via short messaging service (SMS) is a common route of communication in the United States and offers many advantages to improve health care delivery compared with other forms of mHealth. Text messaging is easy to use, is convenient, is more likely to be viewed than e-mail, and can be tailored to an individual recipient's needs. Despite evidence that patients with cancer desire more mobile-based communication, there are few examples of successful text messaging interventions in the literature. This narrative review examines the current landscape of SMS-based interventions across the continuum of cancer care, including addressing behavioral change, attendance to screening and follow-up appointments, adherence to treatment, and assessment of symptoms and quality of life. Finally, we explore some of the barriers to implementation of a successful text messaging intervention.

Clin Cancer Inform. © 2018 by American Society of Clinical Oncology

Methods: The first concept of terms looked at text messaging and relevant terms, and the second concept of terms focused on cancer. These concepts combined yielded **423 unique studies for review**.
Studies limited to mobile apps or Web-based interventions were excluded, as were studies published in languages other than English. The abstracts of these studies were reviewed for relevance, and 130 studies met criteria for manuscript review. Of these, 66 articles (the journal limit) were selected for inclusion in this narrative review.

TEXT MESSAGES TO IMPROVE RATES OF FOLLOW-UP AND CANCER SCREENING

Text messaging may be a preferred method for communication about screening tests.

Dang CM, Estrada S, Bresee C, et al: Exploring potential use of internet, e-mail, and instant text messaging to promote breast health and mammogram use among immigrant Hispanic women in Los Angeles County. Am Surg 79:997-1000, 2013; Kratzke C, Vilchis H: Reaching minority and low-income women with breast cancer prevention mobile messages: Implications for health promotion and clinical office collaboration. Cancer Res 73, 2013 (suppl; abstr 1360)

The most robust data are available for breast cancer screening. Text messaging has been shown to improve attendance to screening mammogram both in remote locations and in higher-risk populations. In a small, randomized, Korean study, receipt of text messages for 1 week led to an enhanced knowledge of breast cancer and screening guidelines compared with no receipt of text messages; 6 months after the intervention, a higher proportion of patients in the text message arm underwent a planned mammogram (40% v 25%).

Robson N, Batty I, Longshaw T, et al: Short message service (SMS) messaging to a personal device is an acceptable and preferred mode of communication for invitation to surveillance mammography and 'normal' results. Eur J Surg Oncol 43:S10, 2017; Kerrison RS, Shukla H, Cunningham D, et al: Text-message reminders increase uptake of routine breast screening appointments: A randomised controlled trial in a hard-to-reach population. Br J Cancer 112:1005-1010, 2015; Vidal C, Garcia M, Benito L, et al: Use of text-message reminders to improve participation in a population-based breast cancer screening program. J Med Syst 38:118, 2014

Finally, a Spanish study demonstrated a slightly higher uptake of screening mammogram in women who received a text message reminder after their initial invitation to screen.

Lee HY, Le C, Ghebre R, et al: Mobile phone multimedia messaging intervention for breast cancer screening. Cancer Res 76, 2016 (suppl; abstr P3-08-03)

Text messaging interventions have been shown to improve screening in other cancer types, including cervical and colorectal cancers.

Uy C, Lopez J, Trinh-Shevrin C, et al: Text messaging interventions on cancer screening rates: A systematic review. J Med Internet Res 19:e296, 2017

Text messaging has been shown to increase:

- HPV vaccination rates in various pediatric populations

  Aragones A, Bruno DM, Ehrenberg M, et al: Parental education and text messaging reminders as effective community-based tools to increase HPV vaccination rates among Mexican American children. Prev Med Rep 2:554-558, 2015. Stockwell MS, Kharbanda EO, Martinez RA, et al: Effect of a text messaging intervention on influenza vaccination in an urban, low-income pediatric and adolescent population: A randomized controlled trial. JAMA 307:1702-1708, 2012
- knowledge and use of Pap screening in Asian-American women

  Lee HY, Koopmeiners JS, McHugh J, et al: mHealth pilot study: Text messaging intervention to promote HPV vaccination. Am J Health Behav 40:67-76, 2016
- both HPV vaccination and Pap test completion in high-risk women with HIV.

  Ganta V, Moonie S, Patel D, et al: Timely reminder interventions to improve annual Papanicolaou (Pap) smear rates among HIV-infected women in an outpatient center of southern Nevada: A short report. AIDS Care 29:1099-1101, 2017. Keeshin SW, Feinberg J: Text message reminder-recall to increase HPV immunization in young HIV-1-infected patients. J Int Assoc Provid AIDS Care 16:110-113, 2017.

In women with normal Pap smears, those who received reminder SMS messages had higher rates of undergoing a repeat Pap test than those who received a reminder letter, and a generic text message reminder decreased nonattendance rate at a British colposcopy clinic. *Abdul Rashid RM, Mohamed M, Hamid ZA, et al: Is the phone call the most effective method for recall in cervical cancer screening? Results from a randomised control trial. Asian Pac J Cancer Prev 14:5901-5904, 2013 37. Padavala J, Ejaz A, Saeed M, et al: The impact of text messaging service on default rates to colposcopy clinic. BJOG 122:148, 2015.*

The majority of these studies were limited to specific populations, including populations considered disadvantaged or hard to reach, and most studies took place outside of the United States.

Challenges to implementation of text message interventions

- **Ensuring privacy** is of paramount importance to an intervention that is compliant with these mandates. Mobile phone numbers themselves are Protected Health Information (PHI), and any software and datastores that handle this information must be implemented with appropriate safeguards.
- Regardless of one's interpretation of PHI, **privacy and security should be addressed early in the process**, and engagement of the information technology department at one's institution early in the development is critical.
- **Text messaging interventions may be unidirectional,** in which messages are sent to the participants but a response is not recorded, or bidirectional, in which users participate in an exchange back and forth with a person or software-based agent. For bidirectional interventions, patients need to acknowledge that texts should not replace urgent phone calls or emergency medical service; any robust bidirectional intervention may require a coordinator or other gatekeeper to ensure patient safety, and this may require more resources.
- With text messaging interventions, **mobile phone numbers must be kept up to date**. Many families may share a mobile phone, so there is no guarantee that mobile phones are password protected or are in the possession of their owner.
- Many patients may pay month-to-month, so text messages might not be delivered if a bill is not paid.
- Finally, and importantly, **text messaging lacks the personal touch and empathy** that can be granted by an in-person encounter…limited information.

Conclusion

- ✓ Bidirectional text messaging is well suited to automatic and adaptive personalization, because the content and timing of texted responses are tailored to the individual patient and context.

- ✓ Text messaging can be a simple and economical way to enhance communication with patients. It has been shown to be both effective and cost-effective, and it may be favored by patients compared with other means of communication.

- ✓ Use of text messaging in conjunction with other innovational tools, such as smart prescription bottles, may improve the delivery of cancer care. Challenges to successful implementation include security and privacy concerns

Original Article

Offering an app to book cervical screening appointments: A service evaluation

Mairead Ryan[1], Laura Marlow[1], Alice Forster[1], Josephine Ruwende[2] and Jo Waller[1]

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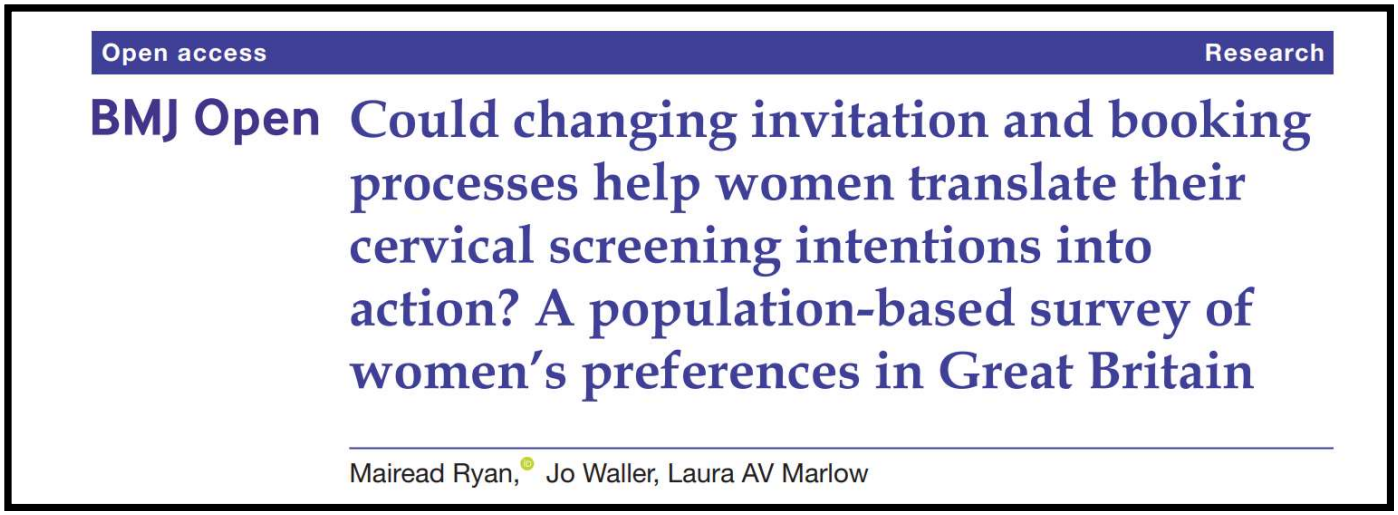
Methods: Women who were at least six months overdue for cervical screening in three general practice surgeries in a deprived East London borough were identified from practice records. Staff sent batches of text messages informing women that they were overdue for screening, and inviting them to download an app to book their appointment.

Results: Across the three practices, 2632 eligible women were identified. Valid mobile phone numbers were available for 1465 women. One woman had opted out of receiving text messages, so messages were sent to 1464 women. Of these, 158 (11%) booked a screening appointment within five months. The majority of these women booked without using the app (72%; 113/ 158); just over a quarter booked via the app (28%; 45/158).

Conclusions: Just over 10% of cervical screening non-attenders booked an appointment in response to a text message with a link to a downloadable app; however, only one in four of these women booked using the app. This suggests that the text message reminder was likely to have been the key 'active ingredient' for most women, rather than the app itself. Future research could explore the optimal message for a text reminder in this context and evaluate the inclusion of a link to existing online booking systems.

Online booking system



Open access Research

BMJ Open

Could changing invitation and booking processes help women translate their cervical screening intentions into action? A population-based survey of women's preferences in Great Britain

Mairead Ryan, Jo Waller, Laura AV Marlow

Design A cross-sectional survey was employed.
Setting Great Britain.
Participants Women aged 25–64, living in Great Britain who intended to be screened but were overdue ('intenders', n=255) and women who were up-to-date with screening ('maintainers', n=359).

Online booking system - barriers

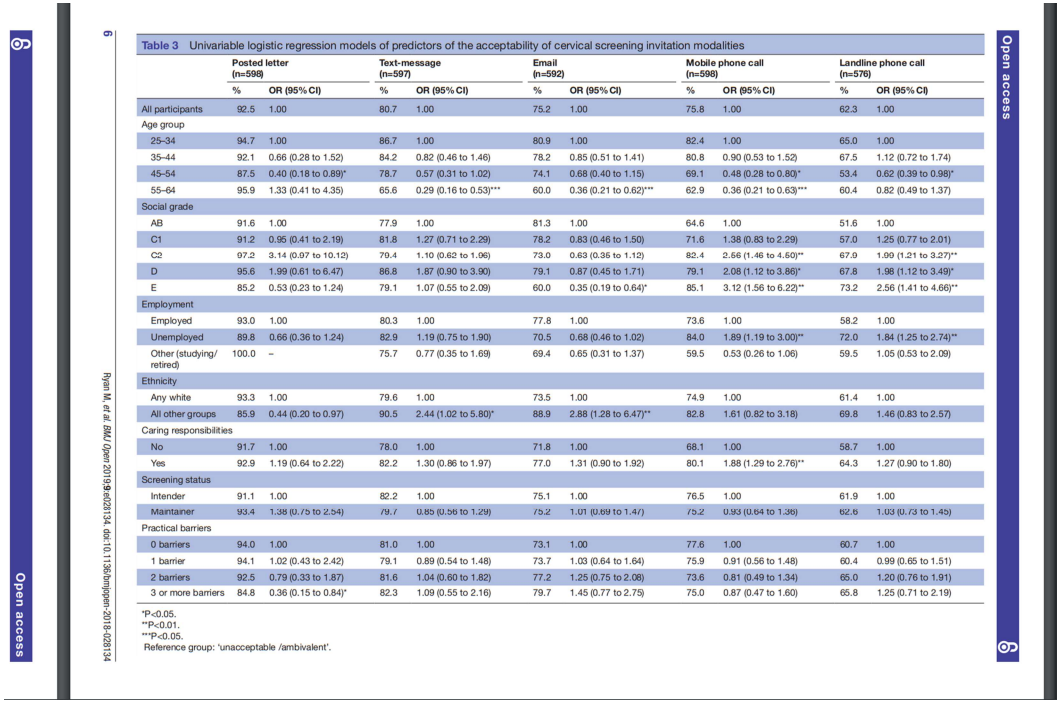
Table 2 Practical barriers to appointment booking and booking characteristics considered to be important (n=614)

	All (n=614) N (%)	'Maintainers' (n=359) N (%)	'Intenders' (n=255) N (%)	OR for being an 'intender' (95% CI)
Practical barriers to booking screening (% agree/strongly agree)				
It is (*not*) easy for me to find time to read a letter like this	25 (4.1)	15 (4.2)	10 (3.9)	0.94 (0.41 to 2.12)
I might forget to book an appointment after reading this letter	187 (30.5)	76 (21.2)	111 (43.5)	2.87 (2.01 to 4.09)**
It is difficult for me to call my GP practice during their opening hours	192 (31.3)	108 (30.1)	84 (32.9)	1.14 (0.81 to 1.61)
I (*do not*) have access to a telephone/mobile with phone credit/minutes to call my GP practice	13 (2.1)	8 (2.2)	5 (2.0)	0.88 (0.28 to 2.71)
I would (*not*) find it easy to find the phone number for my GP practice to contact them	19 (3.1)	11 (3.1)	8 (3.1)	1.01 (0.41 to 2.59)
I find it difficult to get through to a receptionist when I phone my GP practice	306 (49.8)	177 (49.3)	129 (50.6)	1.05 (0.76 to 1.45)
Booking attributes (% saying quite/very important)				
Ease of booking	519 (84.5)	305 (85.0)	214 (83.9)	0.92 (0.59 to 1.44)
Choice of appointments	486 (79.2)	280 (78.0)	206 (80.8)	1.19 (0.83 to 1.77)
Being able to change an appointment after booking	474 (77.2)	274 (76.3)	200 (78.4)	1.13 (0.77 to 1.66)
How long it takes to book appointment	424 (69.1)	235 (65.5)	189 (74.1)	1.51 (1.06 to 2.15)*
Waiting time for next available appointment	428 (69.7)	245 (68.2)	183 (71.8)	1.18 (0.83 to 1.68)
Privacy when booking appointment	410 (66.8)	230 (64.1)	180 (70.6)	1.35 (0.95 to 1.90)
Being able to talk with a healthcare professional when booking	345 (56.2)	195 (54.3)	150 (58.8)	1.20 (0.87 to 1.66)
Being able to book an appointment when the GP practice is shut	284 (46.3)	173 (48.2)	111 (43.5)	0.83 (0.60 to 1.15)†
Cost of making booking (ie, phone credit)	166 (27.0)	94 (26.2)	72 (28.2)	1.11 (0.77 to 1.59)

*p<0.05.
**p<0.001.
†30% missing data for this variable.
GP, general practitioner.

Online booking system - Invitation preferences

- Invitation preferences Posted letters emerged as the most acceptable invitation mode followed by text-messages.
- Text-message, email and mobile call invitations were less acceptable to women aged 55–64;
- Mobile and landline call invites were more acceptable to women from lower socioeconomic backgrounds
- Reasons for considering invitation modes as unacceptable are provided :fears about missing a phone call/email or text and privacy concerns. Many participants also reported they had no landline phone.



Open access

Table 3 Univariable logistic regression models of predictors of the acceptability of cervical screening invitation modalities

	Posted letter (n=598)		Text-message (n=597)		Email (n=592)		Mobile phone call (n=598)		Landline phone call (n=576)	
	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
All participants	92.5	1.00	80.7	1.00	75.2	1.00	75.8	1.00	62.3	1.00
Age group										
25–34	94.7	1.00	86.7	1.00	80.9	1.00	82.4	1.00	65.0	1.00
35–44	92.1	0.66 (0.28 to 1.52)	84.2	0.82 (0.46 to 1.46)	78.2	0.85 (0.51 to 1.41)	80.8	0.90 (0.53 to 1.52)	67.5	1.12 (0.72 to 1.74)
45–54	87.5	0.40 (0.18 to 0.89)*	78.7	0.57 (0.31 to 1.02)	74.1	0.68 (0.40 to 1.15)	69.1	0.48 (0.28 to 0.80)*	53.4	0.62 (0.39 to 0.98)*
55–64	95.9	1.33 (0.41 to 4.35)	65.6	0.29 (0.16 to 0.53)***	60.0	0.36 (0.21 to 0.62)***	62.9	0.36 (0.21 to 0.63)***	60.4	0.82 (0.49 to 1.37)
Social grade										
AB	91.6	1.00	77.9	1.00	81.3	1.00	64.6	1.00	51.6	1.00
C1	91.2	0.95 (0.41 to 2.19)	81.8	1.27 (0.71 to 2.29)	78.2	0.83 (0.46 to 1.50)	71.6	1.38 (0.83 to 2.29)	57.0	1.25 (0.77 to 2.01)
C2	97.2	3.14 (0.97 to 10.12)	79.4	1.10 (0.62 to 1.96)	73.0	0.63 (0.36 to 1.12)	82.4	2.66 (1.46 to 4.60)**	67.9	1.99 (1.21 to 3.27)**
D	95.6	1.99 (0.61 to 6.47)	86.8	1.87 (0.90 to 3.90)	79.1	0.87 (0.45 to 1.71)	79.1	2.08 (1.12 to 3.86)*	67.8	1.98 (1.12 to 3.49)*
E	85.2	0.53 (0.23 to 1.24)	79.1	1.07 (0.55 to 2.09)	60.0	0.35 (0.19 to 0.64)*	85.1	3.12 (1.56 to 6.22)**	73.2	2.56 (1.41 to 4.66)**
Employment										
Employed	93.0	1.00	80.3	1.00	77.8	1.00	73.6	1.00	58.2	1.00
Unemployed	89.8	0.66 (0.36 to 1.24)	82.9	1.19 (0.75 to 1.90)	70.5	0.68 (0.46 to 1.02)	84.0	1.89 (1.19 to 3.00)**	72.0	1.84 (1.25 to 2.74)**
Other (studying/ retired)	100.0	–	75.7	0.77 (0.35 to 1.69)	69.4	0.65 (0.31 to 1.37)	59.5	0.53 (0.26 to 1.06)	59.5	1.05 (0.53 to 2.09)
Ethnicity										
Any white	93.3	1.00	79.6	1.00	73.5	1.00	74.9	1.00	61.4	1.00
All other groups	85.9	0.44 (0.20 to 0.97)	90.5	2.44 (1.02 to 5.80)*	88.9	2.88 (1.28 to 6.47)**	82.8	1.61 (0.82 to 3.18)	69.8	1.46 (0.83 to 2.57)
Caring responsibilities										
No	91.7	1.00	78.0	1.00	71.8	1.00	68.1	1.00	58.7	1.00
Yes	92.9	1.19 (0.64 to 2.22)	82.2	1.30 (0.86 to 1.97)	77.0	1.31 (0.90 to 1.92)	80.1	1.88 (1.29 to 2.76)**	64.3	1.27 (0.90 to 1.80)
Screening status										
Intender	91.1	1.00	82.2	1.00	75.1	1.00	76.5	1.00	61.9	1.00
Maintainer	93.4	1.38 (0.75 to 2.54)	79.7	0.85 (0.56 to 1.29)	75.2	1.01 (0.69 to 1.47)	75.2	0.93 (0.64 to 1.36)	62.6	1.03 (0.73 to 1.45)
Practical barriers										
0 barriers	94.0	1.00	81.0	1.00	73.1	1.00	77.6	1.00	60.7	1.00
1 barrier	94.1	1.02 (0.43 to 2.42)	79.1	0.89 (0.54 to 1.48)	73.7	1.03 (0.64 to 1.64)	75.9	0.91 (0.56 to 1.48)	60.4	0.99 (0.65 to 1.51)
2 barriers	92.5	0.79 (0.33 to 1.87)	81.6	1.04 (0.60 to 1.82)	77.2	1.25 (0.75 to 2.08)	73.6	0.81 (0.49 to 1.34)	65.0	1.20 (0.76 to 1.91)
3 or more barriers	84.8	0.36 (0.15 to 0.84)*	82.3	1.09 (0.55 to 2.16)	79.7	1.45 (0.77 to 2.75)	75.0	0.87 (0.47 to 1.60)	65.8	1.25 (0.71 to 2.19)

*P<0.05.
**P<0.01.
***P<0.05.
Reference group: 'unacceptable /ambivalent'.

Ryan M, et al. BMJ Open 2019;9:e028134. doi:10.1136/bmjopen-2018-028134
Open access

Online booking system - Online booking preferences

Table 5 Univariable logistic regression models of predictors of online booking preferences

	Booking on a website using a desktop/laptop (n=589)		Booking on a website using a smartphone† (n=513)		Downloading an app to your smartphone† (n=517)	
	% likely to book by…	OR (95% CI)	% likely to book by…	OR (95% CI)	% likely to book by…	OR (95% CI)
All participants	60.3		58.8		49.1	
Age group						
25–34	71.0	1.00	74.5	1.00	67.6	1.00
35–44	61.9	0.66 (0.43 to 1.03)	64.8	0.63 (0.40 to 0.99)*	53.7	0.56 (0.36 to 0.85)**
45–54	55.2	0.50 (0.32 to 0.80)**	47.0	0.30 (0.19 to 0.49)***	36.3	0.27 (0.17 to 0.44)***
55–64	43.8	0.32 (0.19 to 0.53)***	34.0	0.18 (0.10 to 0.30)***	22.9	0.14 (0.08 to 0.25)***
Social grade						
AB	72.3	1.00	70.0	1.00	53.1	1.00
C1	61.1	0.60 (0.36 to 1.00)	63.9	0.76 (0.46 to 1.26)	53.4	1.01 (0.63 to 1.63)
C2	59.3	0.56 (0.34 to 0.93)*	54.3	0.51 (0.31 to 0.84)**	48.9	0.85 (0.53 to 1.37)
D	58.2	0.53 (0.30 to 0.94)*	54.9	0.52 (0.30 to 0.91)*	47.3	0.79 (0.46 to 1.36)
E	44.0	0.30 (0.17 to 0.54)***	44.7	0.35 (0.20 to 0.61)***	36.6	0.53 (0.31 to 0.93)*
Employment						
Employed	64.5	1.00	63.7	1.00	53.5	1.00
Unemployed	52.6	0.61 (0.43 to 0.88)**	51.7	0.61 (0.43 to 0.88)**	44.8	0.71 (0.49 to 1.01)
Other (studying/ retired)	52.8	0.62 (0.31 to 1.22)	41.2	0.40 (0.20 to 0.82)*	22.2	0.25 (0.11 to 0.56)**
Ethnicity						
Any white	59.7	1.00	57.7	1.00	48.4	1.00
All other groups	65.1	1.26 (0.73 to 2.17)	68.3	1.58 (0.90 to 2.75)	54.7	1.29 (0.77 to 2.17)
Caring responsibilities						
No	60.6	1.00	54.2	1.00	42.5	1.00
Yes	60.1	0.98 (0.70 to 1.38)	61.4	1.34 (0.96 to 1.89)	52.8	1.51 (1.08 to 2.12)*
Screening status						
Intender	59.6	1.00	59.2	1.00	52.8	1.00
Maintainer	60.8	1.05 (0.75 to 1.47)	58.6	0.98 (0.70 to 1.36)	46.4	0.77 (0.56 to 1.07)
Practical barriers						
0 barriers	50.8	1.00	48.9	1.00	39	1.00
1 barrier	60.0	1.45 (0.96 to 2.20)	55.4	1.30 (0.86 to 1.96)	45.2	1.29 (0.85 to 1.95)
2 barriers	67.4	2.00 (1.27 to 3.14)**	68.1	2.23 (1.41 to 3.52)**	58.3	2.19 (1.40 to 3.42)**
3 or more barriers	69.6	2.22 (1.27 to 3.89)**	73.1	2.84 (1.59 to 5.07)***	64.6	2.85 (1.65 to 4.93)***

*P<0.05.
**P<0.01.
***P<0.001.
†Participants with no smartphone removed from analyses (n=81).
Reference group: 'not likely to use/ambivalent'.
GP, general practitioner.

Booking on a website using a desktop (60%) or a smartphone (59%) was the preferred online booking method . Older women (55–64 years) were less likely to say they would book online than younger women (25–34 years). Women in lower social grades were less likely than women in the highest grade to state they would book on a website, either using a desktop or smartphone. Participants who were studying or retired were less likely than those employed to say they would book online (either on a website using a smartphone: 41% vs 64%, or through an app: 22% vs 54%). Women who reported two or more barriers were more likely to report that they would use all online booking methods compared with women who reported no barriers.

Conclusions

- Women who are overdue for screening face practical barriers to booking appointments. Future interventions may assess the efficacy of changing the architecture of the invitation and booking system. This may help women overcome logistical barriers to participation and increase coverage for cervical screening