LE NUOVE TECNOLOGIE PER INCENTIVARE L'ADESIONE: OPPORTUNITÀ E LIMITI. (COME CAMBIA LA NOSTRA ORGANIZZAZIONE)

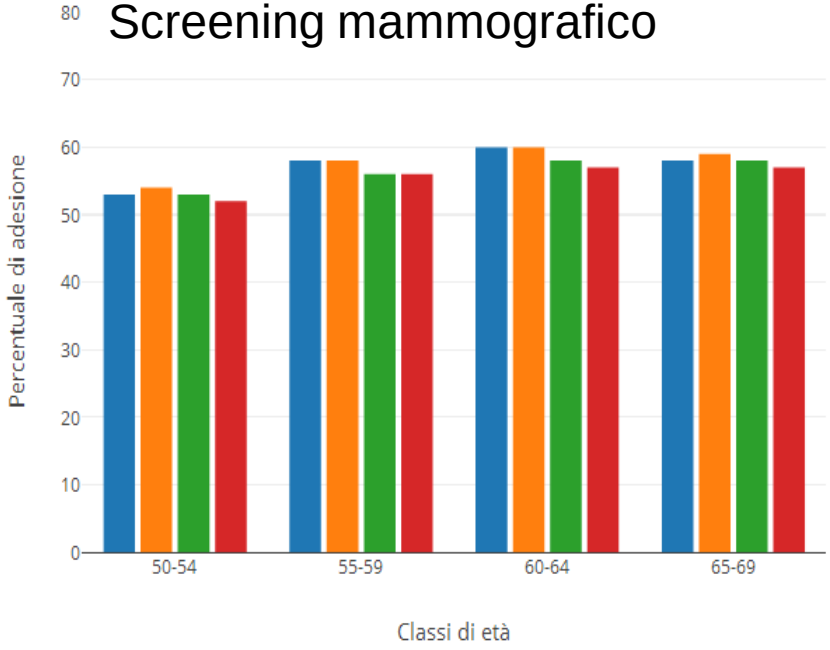
Livia Giordano – CPO Piemonte - Torino

- Participation is measured as the proportion of target population that is compliant with the current recommendations on cancer screening or surveillance

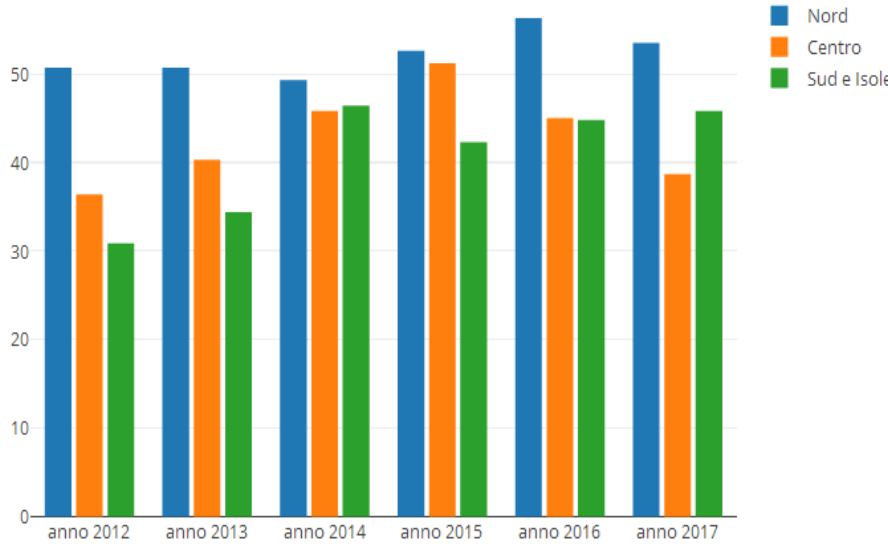
Partecipazione

- Capacità del programma di favorire la partecipazione dell'utenza nel pieno rispetto dell'autonomia decisionale delle persone

Screening mammografico



Screening cervicale - HPV

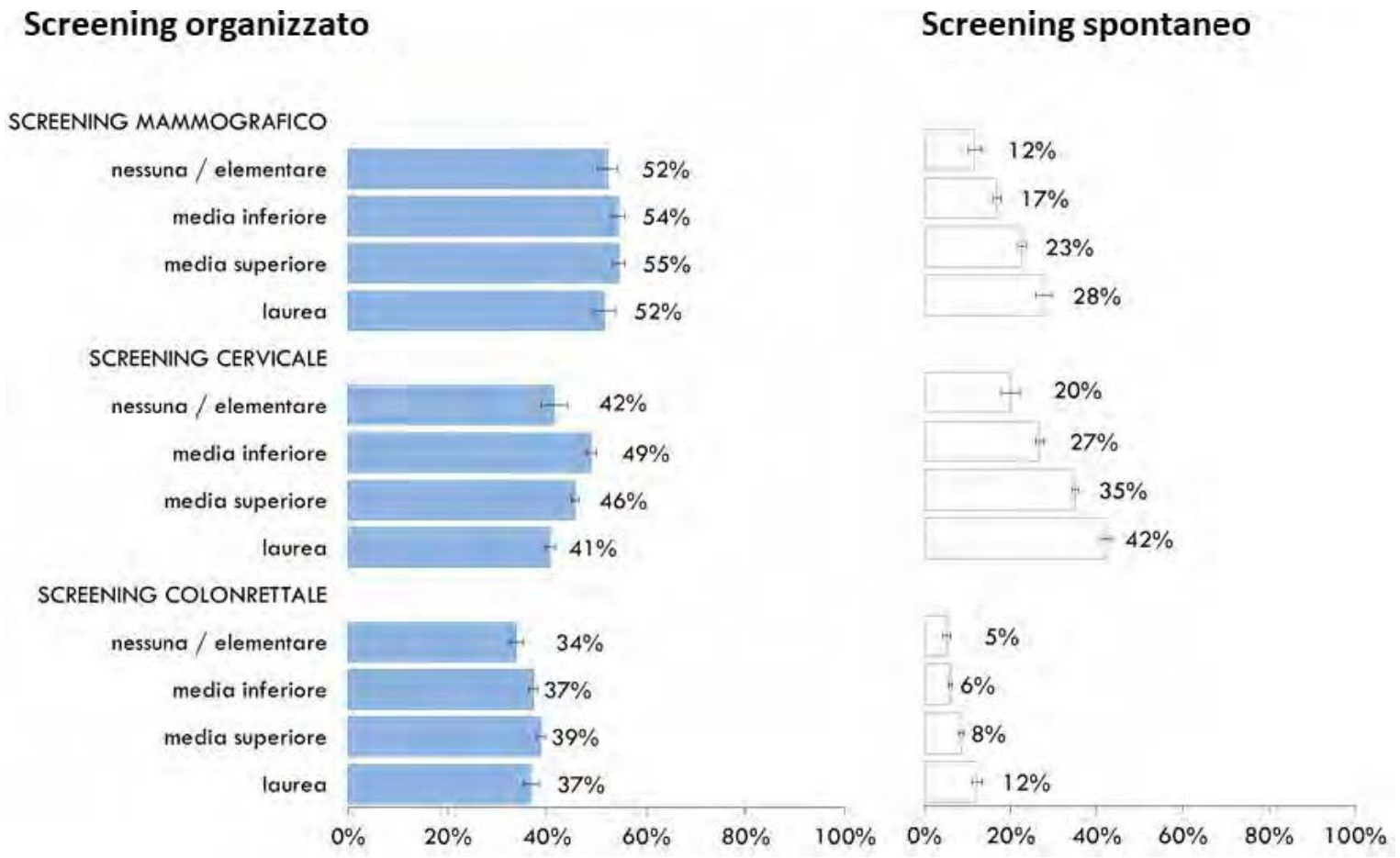


Screening colorettale

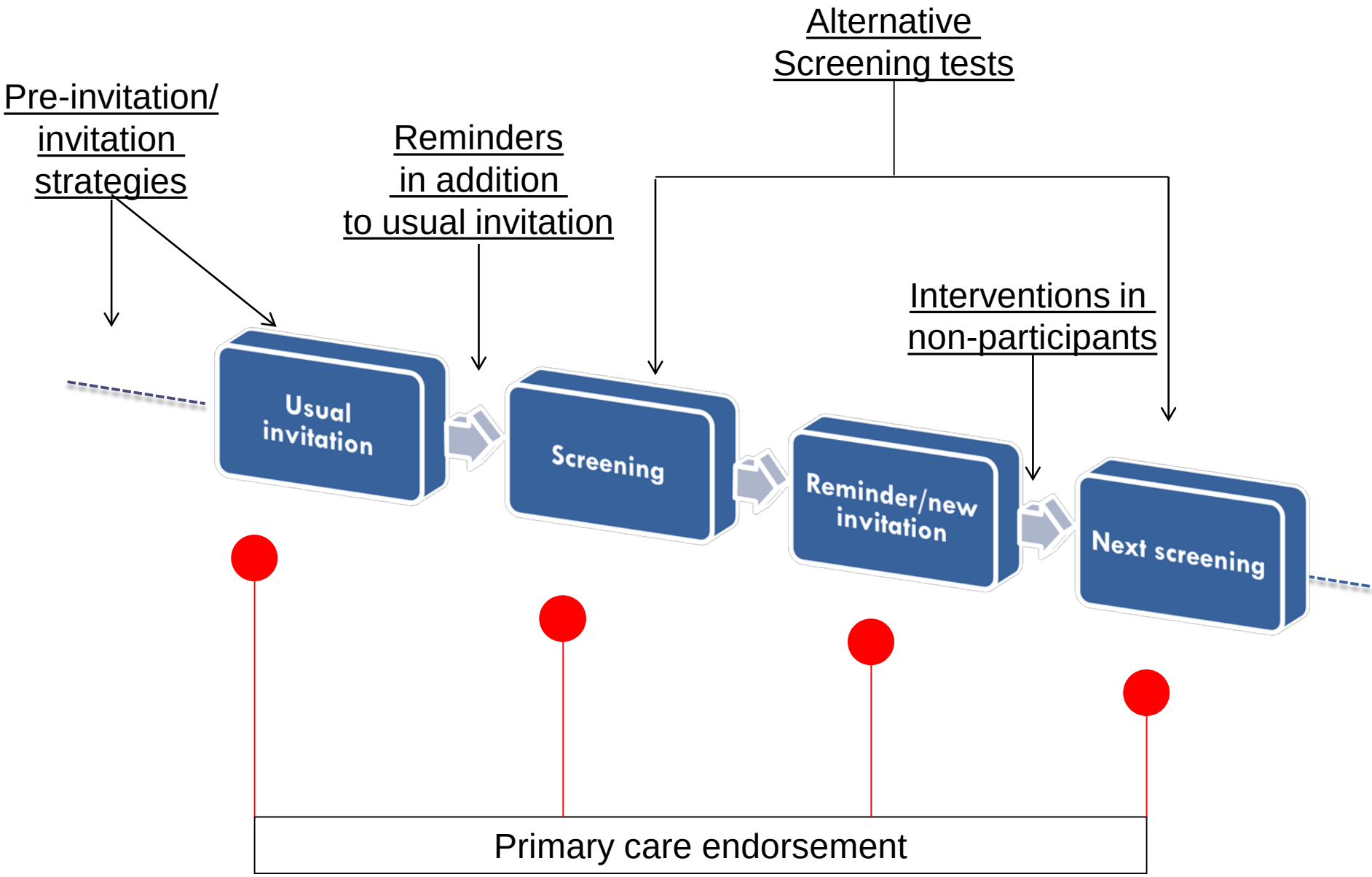
FIT	2009 2010	2011 2012	2013 2014	2015 2016	2017
Numero di persone invitate	6.315.311	7.768.502	9.213.413	10.957.047	6.249.128
Adesione corretta all'invito	47%	45%	45%	42%	41%

FS	2013	2014	2015	2016	2017	Standard accettabile GISCoR
Numero di persone invitate	52.368	49.587	49.641	59.190	60.110	-
Adesione corretta all'invito	23%	22%	24%	24%	24%	>45%

Survey PASSI



The organised population-based cancer screening pathway



Original Article

Rapid review of evaluation of interventions to improve participation in cancer screening services

J Med Screen
2017, Vol. 24(3) 127–145

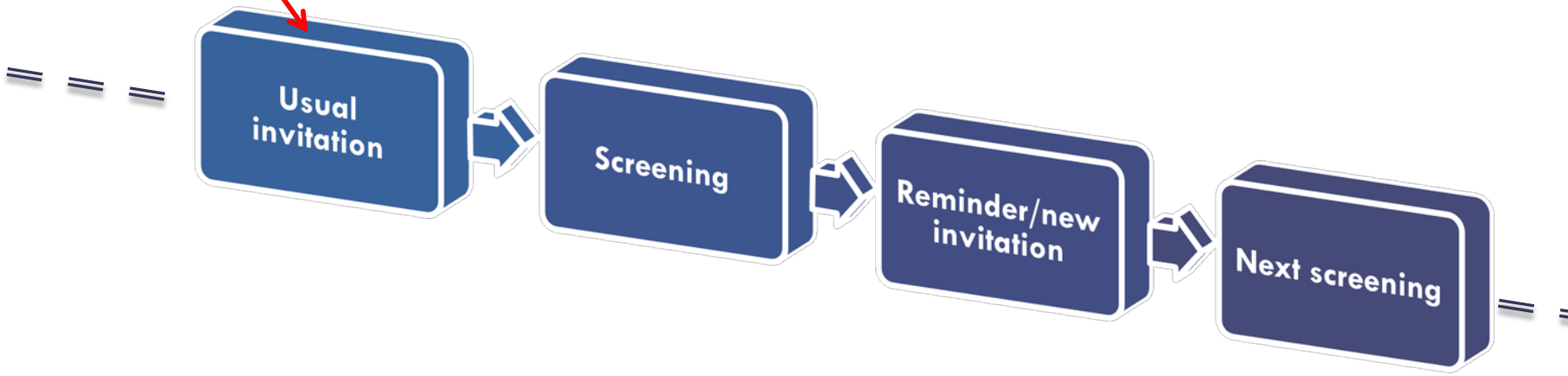
DOI: 10.1177/0969141316664757
journals.sagepub.com/home/msc
SAGE

Stephen W Duffy, Jonathan P Myles, Roberta Maroni and Abeera Mohammad

The organised population-based cancer screening pathway

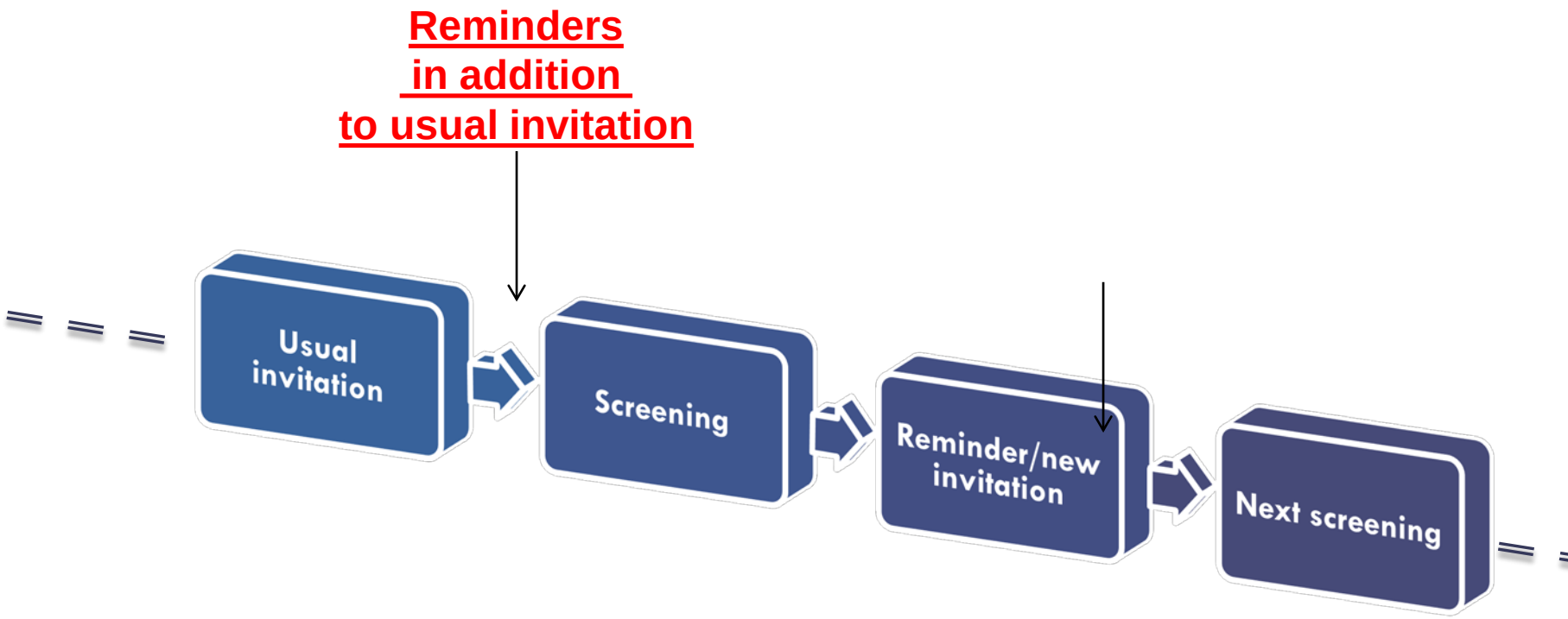
Pre-invitation/invitation strategies:

1. Varying inviation materials or strategies
2. Direct contact interventions



Screening	Intervention	Comparator	Outcomes
Breast/Breast and cervical	Fixed appointment times	Open invitation	76% vs 73% 42% vs 21%
Colorectal	Advance notification letter	Usual invitation	48% vs 40%
Colorectal	Advance notification letter with GP consultation (offer)	Usual invitation	38% vs 34%
Colorectal	Flyer + pack+advertising	Usual invitation	50% vs 44%
Colorectal	Usual invitation + health check	Usual invitation	44% vs 43%
Colorectal	Usual invitation + flyer adversiting	Usual invitation +flyer	46% vs 43%
Colorectal	Usual invitation + Mailing Kit	Usual invitation + collecting kit at PC	52% vs 28%
Cervical	Mass campaign		84% vs 71%
Breast	Mass campaign		No effect in uptake comparing pre and post intervention
Colorectal	Usual information + leaflet	Usual information	No effect on uptake
Colorectal	Usual information + narrative leaflet	Usual information	No effect on uptake
Skin	Usual letter + brochure	Usual letter	No effect on uptake
Breast	Usual invitation + self-reported health questionnaire	Usual invitation	No effect on uptake
Breast	Usual invitation + counselling	Usual invitation	No effect on uptake
Colorectal	Usual invitation + survey questionnaire	Usual invitation	No effect on uptake (reduced participation in deproved areas)

The organised population-based cancer screening pathway

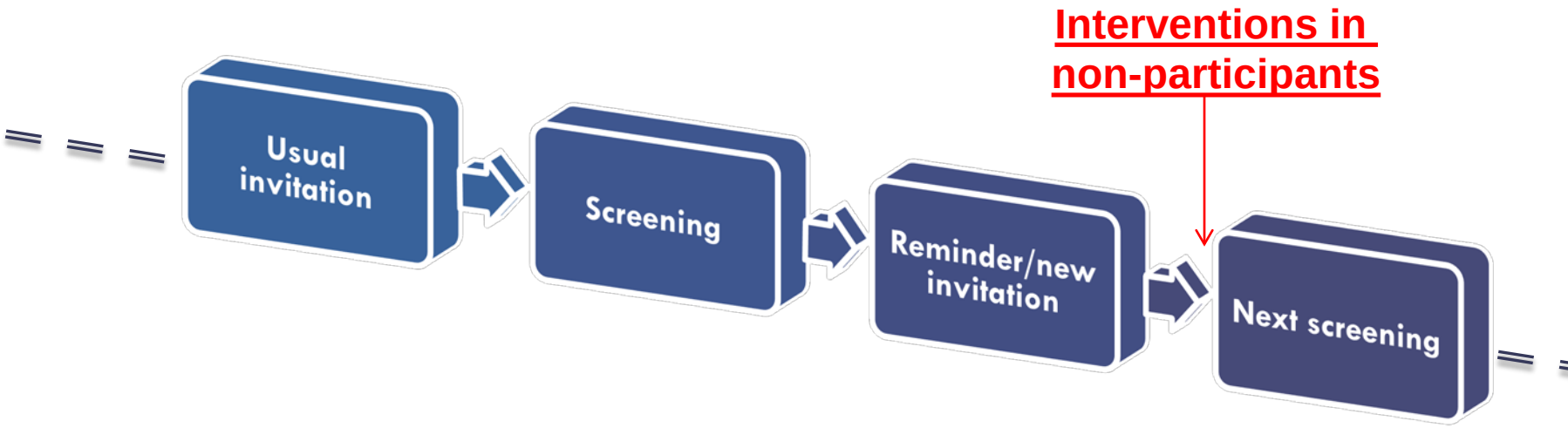


Text reminders	Breast: 64% vs 59% Breast: 78% vs 72% Breast: 75% vs 65%
Telephone reminders	CRC: 45,9% vs 33.8% Breast: 76% vs 57% Breast: 52% vs 50% Cervical: 41% vs 10%
Postal reminders	Breast: 75% vs 72% Cervical: no effect Stomach: 36% vs 10%
Telephone + postal reminder	CRC: 82% vs 37%

Absolute magnitude:3-10%

Most studies in urban areas including underserved and low socioeconomic status populations

The organised population-based cancer screening pathway

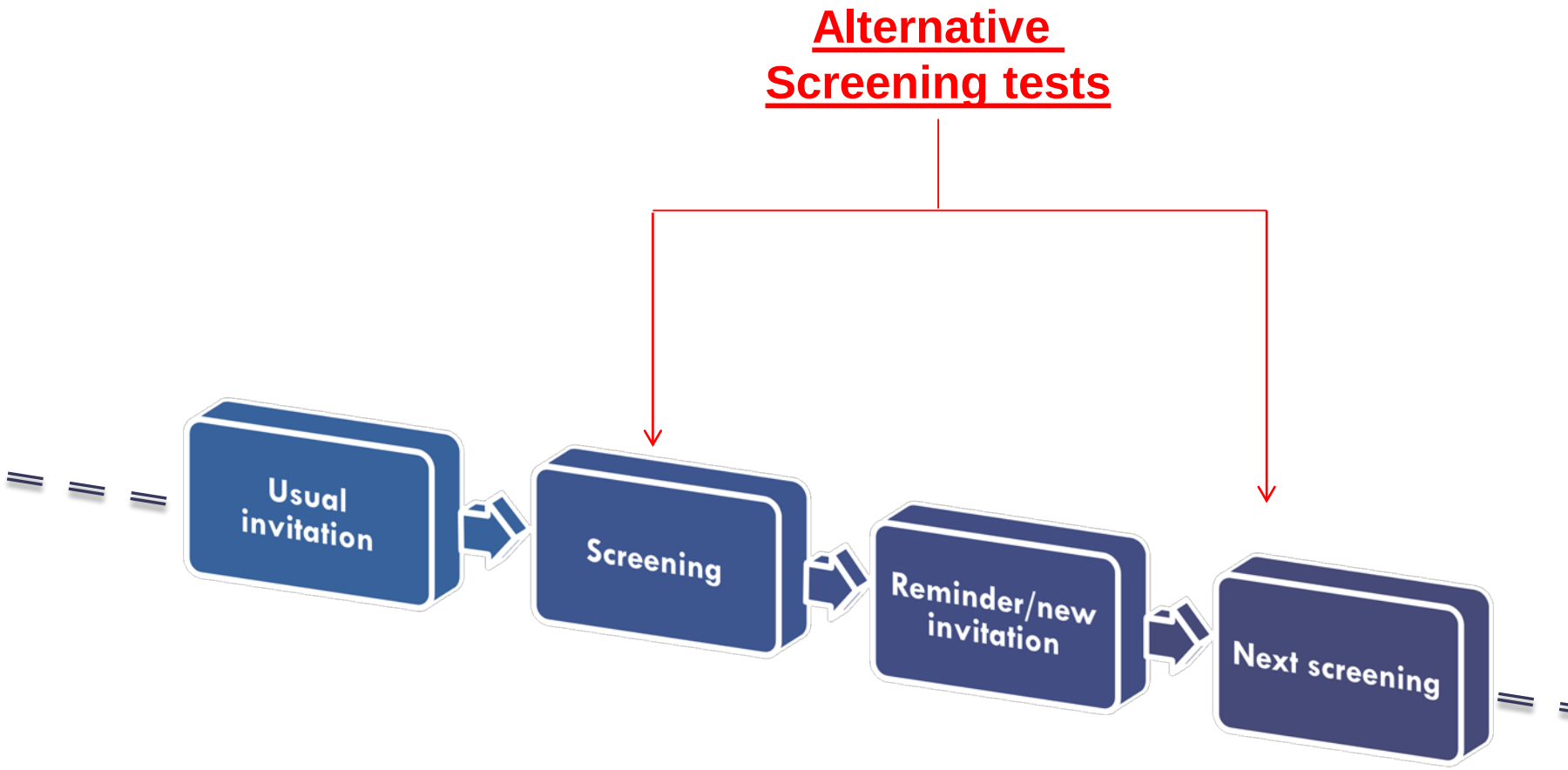


Reminder letter + FOBT Kit sent with the letter	CRC: 20% vs 10%
Second time appointment in reminder letter	Breast: 23% vs 12%
Telephone reminders	Breast: 30% vs 26% Breast: 22% vs 18% Breast: modest effect Cervical: 30% vs 19 Cervical: 6.3% vs 5.8% Cervical: no effect
Postal reminders	CRC: higher increase in more deprived group CRC: 86% vs 54% Breast: 21% vs 10% Breast: increase of 30% Breast: 79% vs 61% Cervical: increae ½%
Telephone + postal reminder	Breast: 9% vs 4%

10% increase with reminder letters

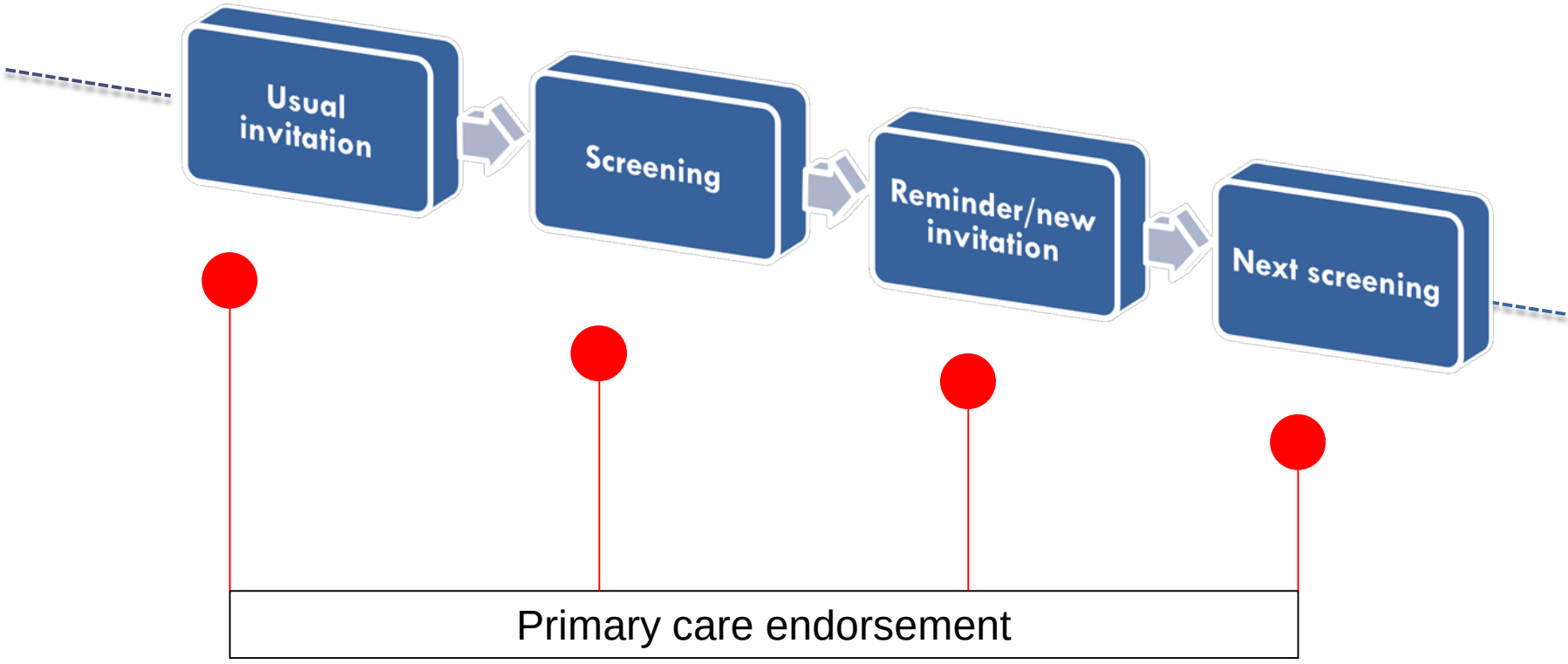
Smaller effect with telephone reminders – second time appointment ++++

The organised population-based cancer screening pathway



Fit vs colonoscopy	CRC: 40.7% vs 24.6%
Fit vs guaiac FOBT	CRC: 45% vs 31%
Capsule colonoscopy vs conventional colonoscopy	CRC: 4.2% vs 1.6%
HPV self sampling vs conventional HPV	Cervical : 10% vs 5% Cervical: 22.5% vs 11.7% Cervical: 24.5% vs 18% Cervical: 14.7% vs 4.2% Cervical: 76% vs 65%

The organised population-based cancer screening pathway



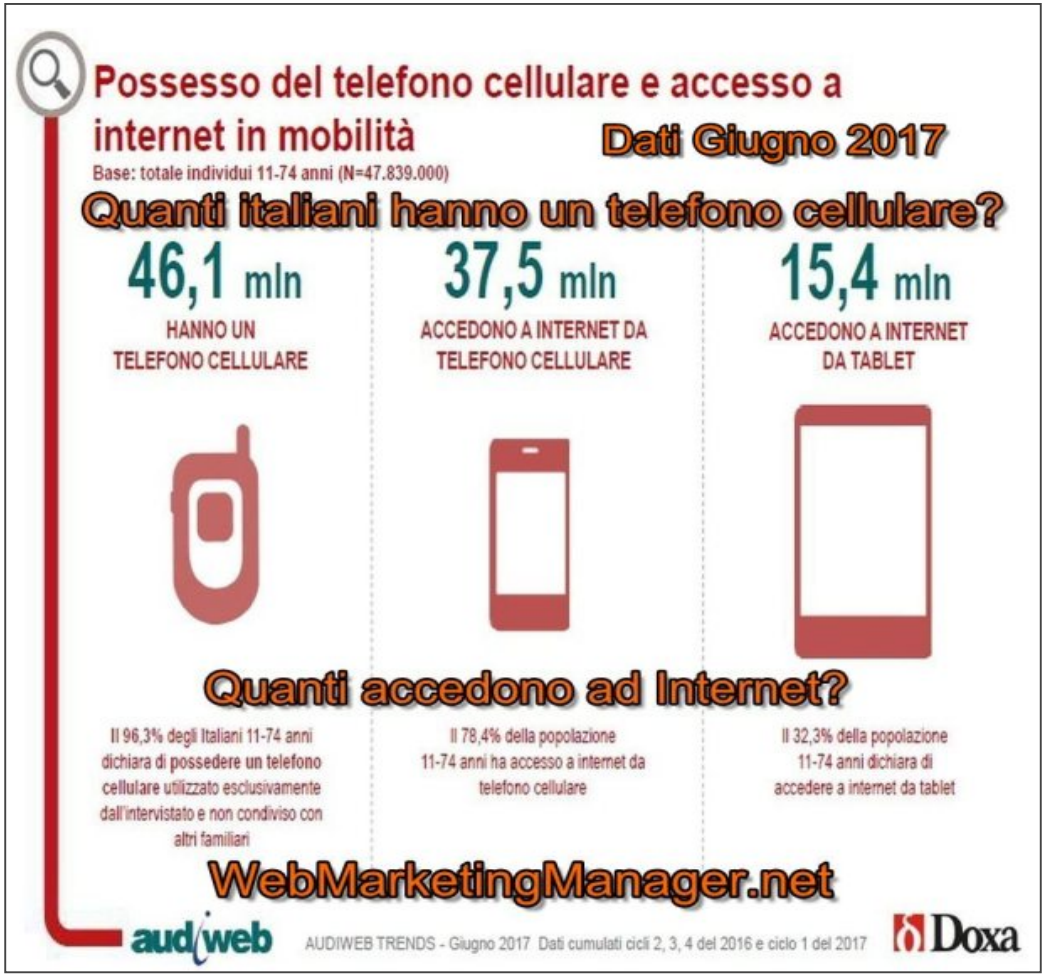
Screening	Intervention	Comparator	Outcomes
Colorectal	Letter + GP endorsement	Usual letter	58% vs 57%
Colorectal	Letter + GP endorsement + more explicit leaflet	Usual invitation	61% vs 49%
Colorectal	Letter + GP endorsement Letter + invitation by GP	Usual invitation	33% usual invitation 39% letter + GP endorsement 42% invitation by GP
Colorectal	Letter + GP endorsement Letter + invitation by GP	Usual invitation	32% usual invitation 38% letter + GP endorsement 41% invitation by GP
Breast	Multiple interventions (GP endorsement)	Usual invitation	50.7% vs 32.5%
Breast	GP endorsement + incentives	Usual invitation	56% vs 52%
Breast	Letter +GP endorsement	Letter by health authority	68% vs 53% in <=45 years 58% vs 47% in =45 years
Cervical	Letter +GP endorsement	Usual information	7.9% higher with GP endorsement
Cervical	Usual information + narrative leaflet	Usual information	No effect on uptake
Colorectal	Letter + leaflet+GP endorsement	Letter + leaflet	No effect
Colorectal	Letter +GP endorsement	Usual invitation	No effect

2-3% average increase – in some studies: 10-20%

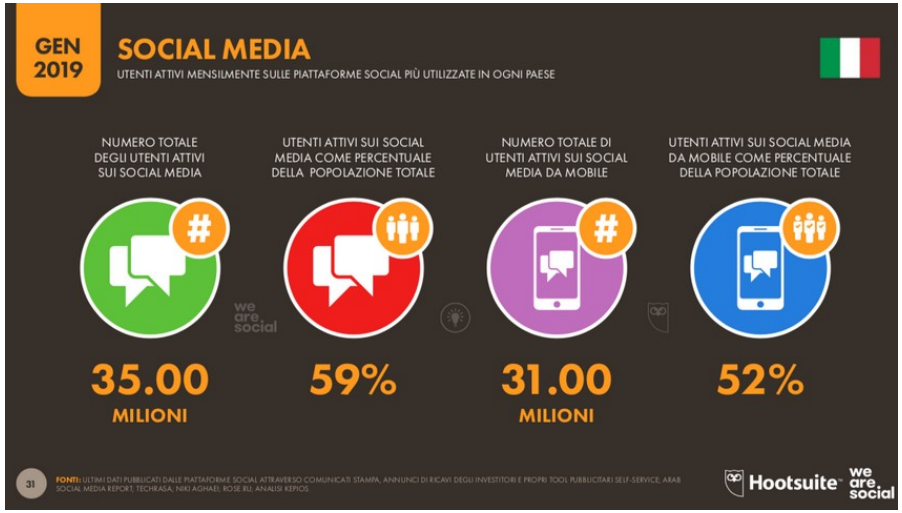
OBIETTIVO:
Sintetizzare le evidenze scientifiche prodotte dalla ricerca italiana ed internazionale sull'efficacia dei metodi utilizzati per aumentare la partecipazione ai programmi di screening.

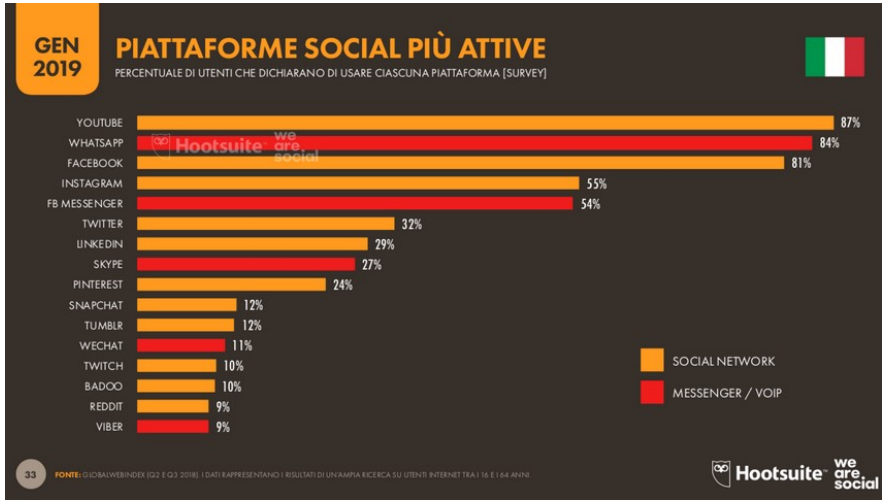
INTERNAUTI ITALIANI

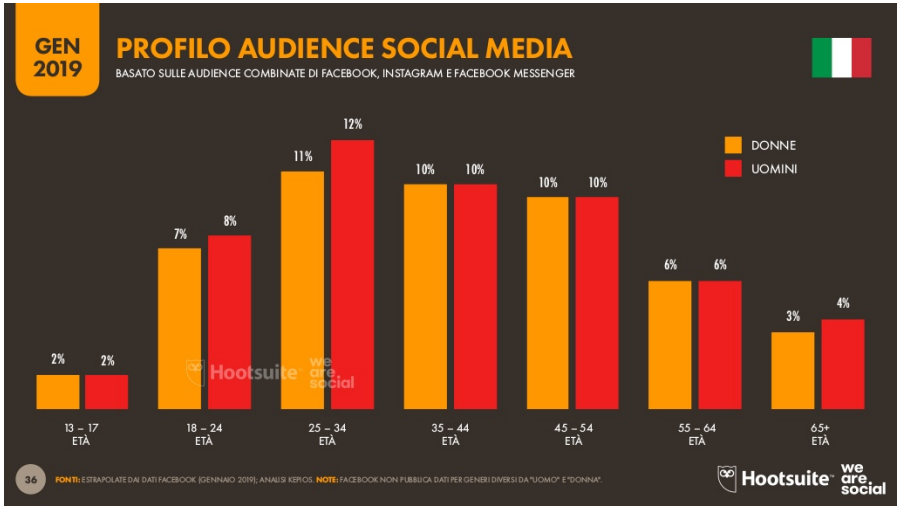
La diffusione dei cellulari in Italia



Agli italiani piace trascorrere del tempo online, e l'uso dei social network è sempre più massiccio: l'**uso di internet è aumentato nel 2019 del 27%** rispetto all'anno precedenteo, con un totale di 54,80 milioni di persone che usano la rete web per gli scopi più disparati. Su una popolazione di 59,25 milioni di persone, significa che **il 92% degli italiani ha accesso alla rete** internet, mentre sale a 35 milioni il numero di italiani attivi sui social network, di cui ben 31 milioni ne fa uso da un device mobile.

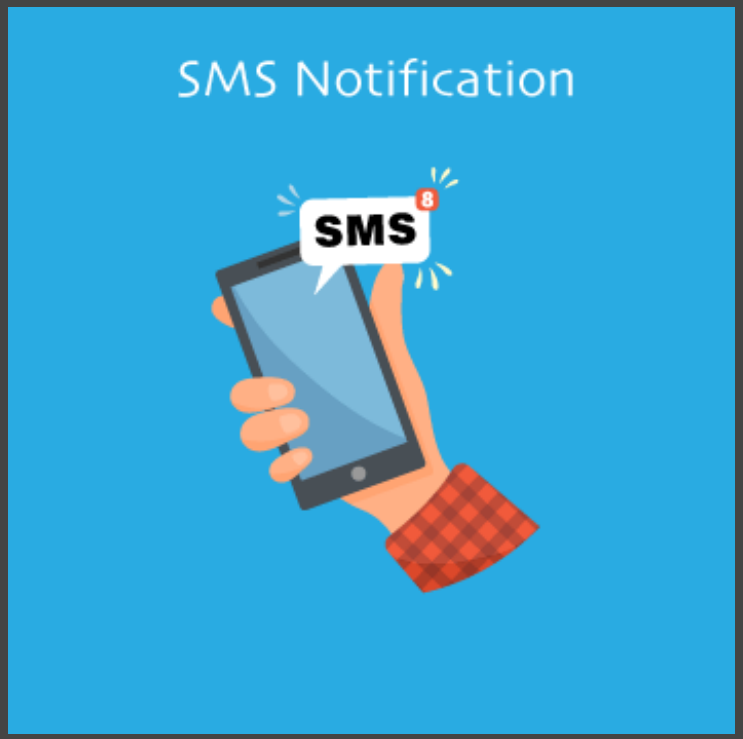






Fonte: www.digitalic.it

- Sms
- App
- Social network



SMS REMINDERS / ELECTRONIC REMINDERS

SHORT MESSAGE SERVICE: BREVE MESSAGGIO SCRITTO INVIATO ATTRAVERSO IL TELEFONO CELLULARE; MESSAGGINO

The purpose of this narrative review is to examine the current landscape of SMS-based text messaging interventions in the realm of oncology and to discuss some of the challenges of implementation in the current health care system.

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

Sarah S. Mougalian
Cary P. Gross
E. Kevin Hall

Author affiliations and support information (if applicable) appear at the end of this article.

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The widespread presence of mobile phones has made instant communication nearly effortless. According to the Pew Research Center, 95% of Americans owned a cell phone in 2016, and 77% owned a smartphone, which corresponds to 261.9 million smartphones sold in 2016, an increase of almost 15% from 2015.[1] Nearly all smartphone owners use text messaging at least weekly, and the end result is that more than 6 billion texts are sent in the United States every day. Americans use text messaging twice as much as they call, on average; compared with emails, text messages have an extremely high open rate of 98%.[2]

Given the pervasiveness of mobile phone ownership, messaging through short message service (SMS) may be the most optimal format through which to communicate with many patients. SMS text messages can deliver a wide variety of information directly to patients, including reminders, alerts, education, and motivational messages, and data from patients can be similarly collected. From a patient perspective, SMS is convenient and does not require great technical knowledge to use. There is no required Internet connection, because messages are sent via cellular network; no need to access a voicemail; and no extra mobile app to be downloaded and learned. Many mobile phone plans now include unlimited texting, so the costs incurred are minimal. With its 98% open rate, SMS text messages are much more likely to be viewed than other means of mass communication, such as e-mail.[2]

From the health system perspective, text messages can be customized easily and tailored to a particular recipient's clinical profile and needs or to any time and any place, and text messages are less intrusive than phone calls. Furthermore, with increased access to mobile phones and text messaging, outreach for preventive care and screening could be delivered more easily to hard-to-reach populations and used in developing countries.[3,4]

Despite evidence that patients with cancer desire more communication via mobile technology, there are few examples of successful text messaging interventions in the literature.[3,5,6] The purpose of this narrative review is to examine the current landscape of SMS-based text messaging interventions in the realm of oncology and to discuss some of the challenges of implementation in the current health care system. We first address literature that demonstrates the power of text messaging to affect behavior and then move to cancer-specific interventions that tackle cancer screening, oral therapy adherence, and symptom assessment. Finally, we discuss the challenges related to design, logistics, and security in the implementation of a successful text messaging intervention.

METHODS

One of the researchers (S.S.M.) met with a clinical librarian (A.B.) to create a search strategy. A literature search was conducted on October 27,

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

- A Cochrane review reported “low to moderate quality evidence” that SMS messaging improves attendance compared with no reminders or postal reminders at a lower cost than telephone reminders.
  - *Gurol-Urganci I, de Jongh T, Vodopivec-Jamsek V, et al: Mobile phone messaging reminders for attendance at healthcare appointments. Cochrane Database Syst Rev (12):CD007458, 2013*

- Text message reminders to attend appointments are preferred by patients compared with other forms of communication.
  - *Cohen CE, Coyne KM, Mandalia S, et al: Time to use text reminders in genitourinary medicine clinics. Int J STD AIDS 19:12-13, 2008*

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

- Randomized studies have shown increased rates of fecal occult blood testing (FOBT) when text messaging is added to usual care; text messaging may be feasible and desired even in older Americans and may lead to enhanced adherence to FOBT in subsequent years.

- Reminder messages improved screening for colorectal cancer by 42% in clinical population of nearly 2,900 Alaskan Native and American Indian people.

Muller CJ, Robinson RF, Smith JJ, et al: Text message reminders increased colorectal cancer screening in a randomized trial with Alaska Native and American Indian people. Cancer 123:1382-1389, 2017

- In the largest randomized study to date in the United Kingdom, a text reminder to return FOBT kits did not result in higher uptake of screening, but the intervention consisted of only a single text message and was sent 8 weeks after initial invitation to screen.

Hirst Y, Skrobanski H, Kerrison RS, et al: Text-message reminders in colorectal cancer screening (TRICCS): A randomised controlled trial. Br J Cancer 116:1408-1414, 2017

BJC

British Journal of Cancer (2017) 116, 1408–1414 | doi: 10.1038/bjc.2017.117 BJC OPEN

Keywords: colorectal; cancer screening; randomised controlled trial; reminder; uptake; text-message

Text-message Reminders in Colorectal Cancer Screening (TRICCS): a randomised controlled trial

Yasemin Hirst[1], Hanna Skrobanski[1], Robert S Kerrison[1], Lindsay C Kobayashi[1,2], Nicholas Counsell[3], Natasha Djedovic[4], Josephine Ruwende[5], Mark Stewart[4] and Christian von Wagner*[,1]

Objective: to investigate the effectiveness of a text-message reminder to improve uptake of the English Bowel Cancer Screening programme in London.

Randomised controlled trial across 141 general practices in London. 8269 screening-eligible adults (aged 60–74 years) were randomised in a 1:1 ratio to receive either a text-message reminder (n¼4134) or no text-message reminder (n¼4135) if they had not returned their faecal occult blood test kit within 8 weeks of initial invitation. The primary outcome was the proportion of adults returning a test kit at the end of an 18-week screening episode (intention-to-treat analysis). A subgroup analysis was conducted for individuals receiving an invitation for the first time.

Uptake was 39.9% in the control group and 40.5% in the intervention group. Uptake did not differ significantly between groups for the whole study population of older adults (adjusted odds ratio (OR) 1.03, 95% confidence interval (CI) 0.94–1.12; P¼0.56) but did vary between the groups for first-time invitees (uptake was 34.9% in the control and 40.5% in the intervention; adjusted OR 1.29, 95% CI 1.04–1.58; P¼0.02).

Table 3. Impact of the intervention by invitation status

	Control ($n = 4135$)[a]	Intervention ($n = 4134$)		
	% (*N*)	% (*N*)	OR (95% CI)	*P*-value
Invitation status				
First-time invitee	34.9 (282)	40.5 (297)	1.29 (1.04–1.58)	0.02
Repeat invitee	41.1 (1366)	40.5 (1377)	0.98 (89–1.08)	0.66

Abbreviations: CI = confidence interval; OR = odds ratio.
[a]Reference group (adjusted for age, gender, Index of Multiple Deprivation, and Clinical Commissioning Group).

Text Messaging Interventions on Cancer Screening Rates: A Systematic Review

Catherine Uy[1*], MD; Jennifer Lopez[1*], B.S.; Chau Trinh-Shevrin[1,2], DrPH; Simona C Kwon[1,2], DrPH, MPH; Scott E Sherman[1,2,3], MD, MPH; Peter S Liang[1,3], MD, MPH

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Abstract

Background: Despite high-quality evidence demonstrating that screening reduces mortality from breast, cervical, colorectal, and lung cancers, a substantial portion of the population remains inadequately screened. There is a critical need to identify interventions that increase the uptake and adoption of evidence-based screening guidelines for preventable cancers at the community practice level. Text messaging (short message service, SMS) has been effective in promoting behavioral change in various clinical settings, but the overall impact and reach of text messaging interventions on cancer screening are unknown.

Objective: The objective of this systematic review was to assess the effect of text messaging interventions on screening for breast, cervical, colorectal, and lung cancers.

Methods: We searched multiple databases for studies published between the years 2000 and 2017, including PubMed, EMBASE, and the Cochrane Library, to identify controlled trials that measured the effect of text messaging on screening for breast, cervical, colorectal, or lung cancers. Study quality was evaluated using the Cochrane risk of bias tool.

Results: Our search yielded 2238 citations, of which 31 underwent full review and 9 met inclusion criteria. Five studies examined screening for breast cancer, one for cervical cancer, and three for colorectal cancer. No studies were found for lung cancer screening. Absolute screening rates for individuals who received text message interventions were 0.6% to 15.0% higher than for controls. Unadjusted relative screening rates for text message recipients were 4% to 63% higher compared with controls.

Conclusions: Text messaging interventions appear to moderately increase screening rates for breast and cervical cancer and may have a small effect on colorectal cancer screening. Benefit was observed in various countries, including resource-poor and non-English-speaking populations. Given the paucity of data, additional research is needed to better quantify the effectiveness of this promising intervention.

(J Med Internet Res 2017;19(8):e296) doi: 10.2196/jmir.7893

The objective of this systematic review was to assess the effect of text messaging interventions on screening for breast, cervical, colorectal, and lung cancers.

Table 3. Absolute screening rates in text messaging versus control groups.

Author	Screening test	N (text/control)	Screening rate in text group, %	Screening rate in control group, %	Absolute increase in screening with text intervention, % (*P* value[a])
Arcas [15]	Mammogram	703 (470/233)	81.3 (353/434)	76.8 (159/207)	+4.5 (*P*=.18)
Icheku [16]	Mammogram	2004 (552/1452)	68.1 (376/552)	60.47 (878/1452)	+7.6 (*P*=.002)
Kerrison [17]	Mammogram	2240 (1122/1118)	64.35 (722/1122)	59.12 (661/1118)	+5.3 (*P*=.01)
Lee [22]	Mammogram	120 (60/60)	40 (24/60)	25 (15/60)	+15.0 (*P*=.08)
Vidal [18]	Mammogram	12,786 (3719/9067)	74.91 (2786/3719)	65.00 (5894/9067)	+9.9 (*P*<.001)
Abdul Rashid [19]	Pap test	500 (250/250)	32.9 (54/164)	23.9 (47/197)	+9.1 (*P*=.05)
Hagoel [20]					
Hirst [21]					
Muller [23]					

[a]Two-tailed *P* v
(shown in table

4.5% - 15.0%

Differences could be explained by 2 reasons:

1. Differences in complexity among screenings
2. Gender issues

			(95% CI)		
Kerrison [17]	Mammogram	2240 (1122/1118)	1.26 (1.05-1.48)	1.25 (1.05-1.48)	Age, socioeconomic status
Vidal [18]	Mammogram	12,786 (3719/9067)	1.63 (1.49-1.78)	1.56 (1.43-1.70)	Age
Abdul Rashid [19]	Pap test	500 (250/250)	1.20 (0.76-1.87)	-	-
Hagoel [20]	FOBT	48,091 (38,489/9602)	-	I[c]: 1.17 (1.06-1.29) I+SC[d]: 1.24 (1.12-1.36) NI[e]: 1.09 (0.99-1.21) NI+SC: 1.14 (1.04-1.26)	Type of text message, age, gender, socioeconomic status
Hirst [21]	FOBT	8269 (4134/4135)	1.04 (0.95-1.13)	-	-
Muller [23]	FOBT, flexible sigmoidoscopy, colonoscopy	2386 (1193/1193)	1.30 (1.04-1.62)	-	-

[a]OR: odds ratio.
[b]HR: hazards ratio.
[c]I: interrogative.
[d]SC: social context
[e]NI: noninterrogative.

Text messaging interventions appear to moderately increase screening rates for breast and cervical cancer and may have a small effect on colorectal cancer screening.

Benefit was observed in various countries, including resource-poor and non-English-speaking populations.

Given the paucity of data, additional research is needed to better quantify the effectiveness of this promising intervention

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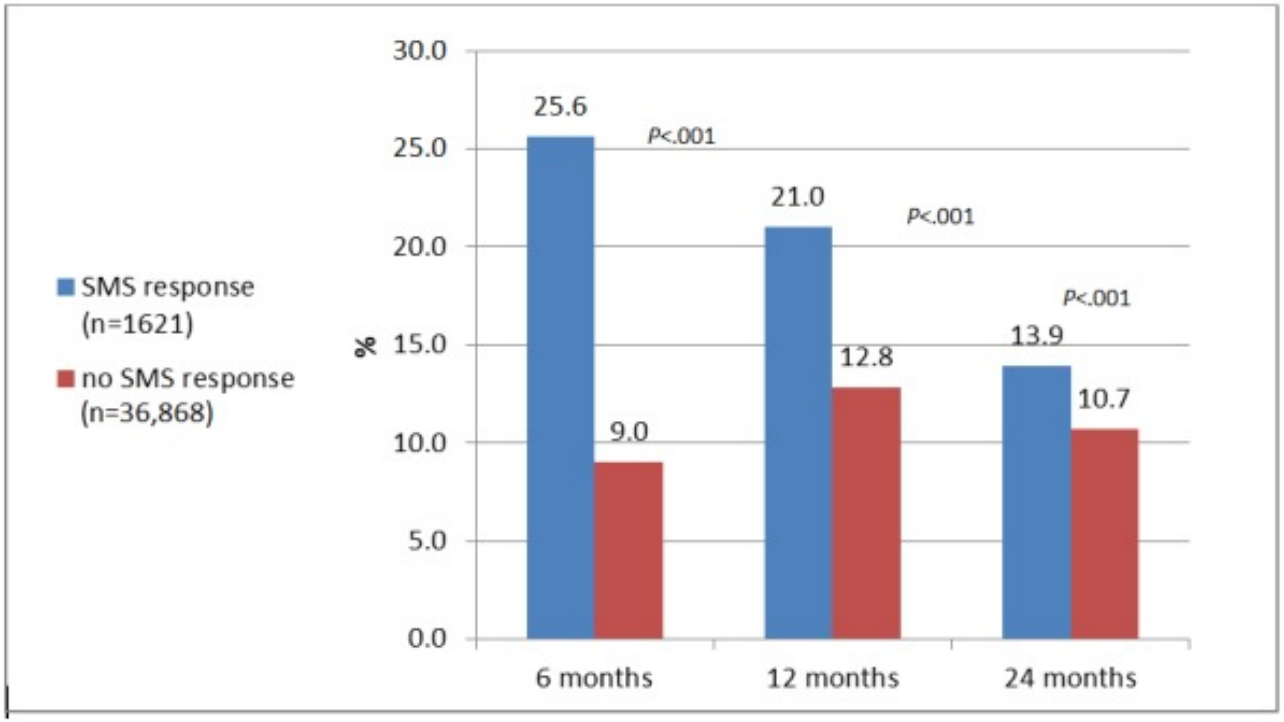
Better Ask Than Tell: Responses to mHealth Interrogative Reminders and Associations With Colorectal Cancer Screening Subsequent Uptake in a Prospective Cohort Intervention

Lea Hagoel, PhD, Nili Stein, MPH, [...], and Efrat Neter, PhD

Objective
This study aims to examine responses to text message (SMS) reminders and associate responses with senders' characteristics, message type (interrogative/declarative), and subsequent screening uptake.

Methods: Prospective cohort intervention. Text message (SMS) reminders to undergo CRC screening, randomized into interrogative and declarative phrasing, were sent to nonadherent 40,000 women and men (age 50-74 years) at CRC average risk. We analyzed recipient responses by message phrasing, recipient characteristics, and for content, the latter predicting subsequent CRC screening per program database.

The brief SMS text messages (122-135 characters) varied in grammatical form (interrogative/noninterrogative): “...do you intend to mail-order an FOBT kit and be tested?” or “...it is important to mail-order a kit and be tested,”), and social comparison of performing FOBT (“as others your age do”)



The Fecal Occult Blood Test uptake (at months) by response to short message service (SMS) text message.

Interrogative text message (SMS) reminders reached previously uninvolved sectors in the CRC target population—men, sporadic-screenees, and the "never-tested" before. Medical recommendations, phrased interrogatively, may be more effective than statements. This work provides evidence for this also in the mHealth arena; asking patients may promote behavior change in face-to-face encounters in the clinic and other patient communications.

APP: la parola app è una forma abbreviata di *"applicazione"*. Di per sé, il termine può essere utilizzato per indicare qualsiasi programma, indipendentemente dal supporto su cui è utilizzato. Nell'uso quotidiano, però, ci si riferisce con questa parola soprattutto alle app mobile, quindi a quelle per cellulari e tablet.

Questi piccoli software condividono alcune caratteristiche particolari: sono in genere **essenziali, leggeri** ("pesano" pochi MB) **e strutturati per garantire un'esperienza di utilizzo il più semplice e intuitiva possibile**.
Smartphone e tablet hanno infatti una potenza ed una capacità di memoria limitata, rispetto ad un computer fisso o portatile. Inoltre, l'utente di un dispositivo mobile è portato a preferire programmi facili da utilizzare-

Il tipo di utilizzo per cui sono pensate, quindi, fa sì che le migliori app siano sempre molto facili e divertenti da utilizzare.

[Technology and prevention in the era of mobile health: applications for cancer screening programs]

L’obiettivo dello studio è fornire una panoramica delle caratteristiche, delle funzioni e delle potenzialità delle applicazioni finalizzate alla prevenzione secondaria delle patologie oncologiche, in relazione alla possibilità di un loro impiego nelle strategie di Sanità Pubblica.

32 APP identificate.

Le patologie oggetto dello screening supportato dalle App sono: **cancro della mammella (13/32), cervice uterina (4/32), colon-retto (1/32)**

melanomi (3/32); carcinoma prostata (3/32); epatocarcinoma (1/32); aspecifiche (4/32)

Funzionalità delle applicazioni inerenti la prevenzione secondaria delle patologie oncologiche	
Funzione	**N° App**
(a) calendarizzazione degli screening e promemoria per gli esami	7
(b) informazioni sui tumori e sulle possibilità di prevenirli e di effettuare diagnosi precoce	22
(c) strumenti per calcolare il rischio di insorgenza di patologie oncologiche	10
(d) servizi di di ricerca di fondi per la ricerca	4
(*e*) gestione di appuntamenti e visite	3
(*f*) consulto on-line dopo l'invio di foto o materiale	3
(*g*) forum di condivisione di contatti tra pazienti con la stessa patologia	1
(*h*) strumenti di archiviazione dei dati degli esami effettuati a fini preventivi o per immagini acquisite con il proprio cellulare	2

DOVE

Le Nazioni in cui le applicazioni sono state sviluppate sono numerose: Stati Uniti, Regno Unito, Paesi Bassi, Svizzera, Emirati Arabi Uniti, Taiwan, India, Canada, Italia.

LINGUA

La maggioranza delle applicazioni è disponibile in lingua inglese (30/32). Delle due applicazioni sviluppate in Italia, una è disponibile
solo in italiano, l'altra è disponibile anche in inglese. Delle due applicazioni non disponibili in inglese, una è quindi in italiano, l'altra in tedesco.

PER CHI

La maggior parte delle applicazioni (24/32) è stata progettata ad uso e consumo dei cittadini, altre sono ideate per l'interazione tra medici e pazienti (4/32) e soltanto 4 su 32 per i soli professionisti in campo sanitario.

COSTO

La maggior parte sono gratuite; solo cinque sono a pagamento, di queste tre non superano i 3 euro ed una, che ha il costo più elevato (10 dollari), è stata ideata per raccogliere fondi per la ricerca.

CERTIFICAZIONE

Tra tutte le applicazioni analizzate, solo "Melanoma SkinVision" dimostra di avere una certificazione *super partes della buona qualità del prodotto e dei contenuti (marchio CE), mentre in* tutte le altre non sono reperibili informazioni in merito. Otto applicazioni sono state sviluppate in seno a o per conto di Fondazioni, Università o Ospedali e per esse si presuppone l'affidabilità dei contenuti.

CERTIFICAZIONE

USA: 

Food And Drug Administration ha deciso di regolamentare i vari software diagnostici o a supporto di strumenti e ha emanato la guida “Mobile Medical Applications”. La FDA definisce app mediche ed esercita il controllo e rilascia la certificazione per quelle che permettono di trasformare il proprio telefono in uno strumento in grado di misurare, diagnosticare o trattare un problema medico.

Riguardo le applicazioni usate nella diagnosi, trattamento e prevenzione di una malattia e che non rientrano invece nella categoria di dispositivi medici, la FDA non richiede un'approvazione prima della commercializzazione per quelle a basso rischio per la popolazione, ma si riserva di intervenire successivamente nel caso in cui insorgessero problemi di sicurezza.

Al 2014 erano circa 100.000 le App certificate dall’Agenzia Federale Americana.

EUROPA: 

L’unica certificazione *super partes riscontrata è il* marchio CE, certificazione non *ad hoc per app o tecnologie, ma indispensabile per definire un* prodotto dispositivo medico. Il marchio CE è una certificazione data ai dispositivi medici che rispondono ai cosiddetti “requisiti essenziali” esposti nell'allegato I del D. Lgs.46/97.
In Europa è stata istituita inoltre una Commissione che si occupa di catalogare le app su assistenza sanitaria, salute pubblica, disabilità, benessere in un registro on-line, pubblicato a cadenza annuale e nominato, nella sua ultima versione, “The myhealthappsdirectory 2015-2016”.

La necessità di certificazione per la commercializzazione dell’applicazione sia negli USA che in Europa può essere facilmente aggirata qualora il produttore dell’app dichiari che essa non è stata creata non a scopo medico, ma solo ludico-ricreativo.

APP

vantaggi

- Aumento della consapevolezza e dell'empowerment
- Facili da usare
- Rapidità di accesso
- Costo contenuto e possibili risparmi
- Ubiquitarie

rischi

- NON sviluppate in collaborazione con i professionisti sanitari
- App non organizzate ed integrate tra di loro ed inserite in piani strategici
- Digital devide
- Mancanza di certificazioni super partes
- Riservatezza dei dati

Effetto sulla partecipazione?

Kelly Brittain, PhD, RN
Kendra Kamp, BSN, RN
Christos Cassandras, PhD
Zachary Salaysay, BSN, RN
José Gómez-Márquez, PhD

A Mobile App to Increase Informed Decisions About Colorectal Cancer Screening Among African American and Caucasian Women

A Pilot Study

Objective: to explore the usability, acceptability, and satisfaction with a mobile app designed to increase colorectal cancer screening informed decisions among 50- to 64-year-old women.

The "MyLife Cloud" mobile app was designed to increase CRC screening (FOBT or colonoscopy) adherence among women who have never been screened or who are not adherent to the recommended CRC screening guidelines for FOBT and/or colonoscopy.

- In total, **80.6%** of women strongly agree/agreed that **the mobile app made them think about colorectal cancer screening.**

- **83.8%** strongly agree/agreed that **the mobile app provided enough information to make a decision about colorectal cancer screening.**

- **86.1%** strongly agree/agreed that **the mobile app could help them talk to their provider about colorectal cancer screening.**

- Participants (63.2%) identified family/spouse as who they would talk to about their colorectal cancer screening decision.

- **Participants found the mobile app easy to use and useful in making colorectal cancer screening decisions**.

Despite some limitations, this study is one of the first to use a conceptual model and validated instruments to develop an interactive mobile app to increase informed decisions about CRC screening.
Our results indicate that future health-related mobile apps for women 40 years and older should be interactive and assess social support, as previous research indicates that positive social support is important in making an informed decision about CRC screening.

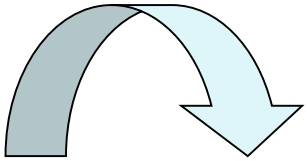
Original Paper

Creating an mHealth App for Colorectal Cancer Screening: User-Centered Design Approach

Lauren Griffin[1], PhD; Donghee Lee[1], MA; Alyssa Jaisle[1], PhD; Peter Carek[2], MD, MS; Thomas George[3], MD, FACP; Eric Laber[4], PhD; Benjamin Lok[5], PhD; François Modave[6], PhD; Electra Paskett[7], PhD; Janice Krieger[1], PhD

Objective

This study aimed to present a case study on the design and development process for an ***mHealth*** **app that uses virtual human technology (VHT) to encourage colorectal cancer (CRC) screening among patients aged 50 years and above.**



User-Centered Design

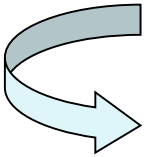
UCD is a multidisciplinary, iterative design process that involves actively seeking out and incorporating the feedback of users to ensure that tools are developed with a full understanding of their needs and requirements

Results

The principles of UCD were woven throughout the project development, with researchers collecting feedback from patients and providers at all stages and using that feedback to improve the credibility, usability, effectiveness, and accessibility of the mHealth app. The app was designed in an iterative process, which encouraged feedback and improvement of the app and allowed teams from different fields to revisit topics and troubleshoot problems.

Conclusions

Implementing a UCD process contributed to the development of an app, which not only reflected cross-disciplinary expertise but also the needs, wants, and concerns of patients.



Ensuring that mHealth apps meet the needs of their target audience is an essential step toward widespread adoption. It is also a common shortcoming, with many mHealth apps being discarded by users shortly after initial usage owing to design failures that preclude their usefulness. Incorporating UCD principles into the design process of mHealth apps is one way to avoid this problem.

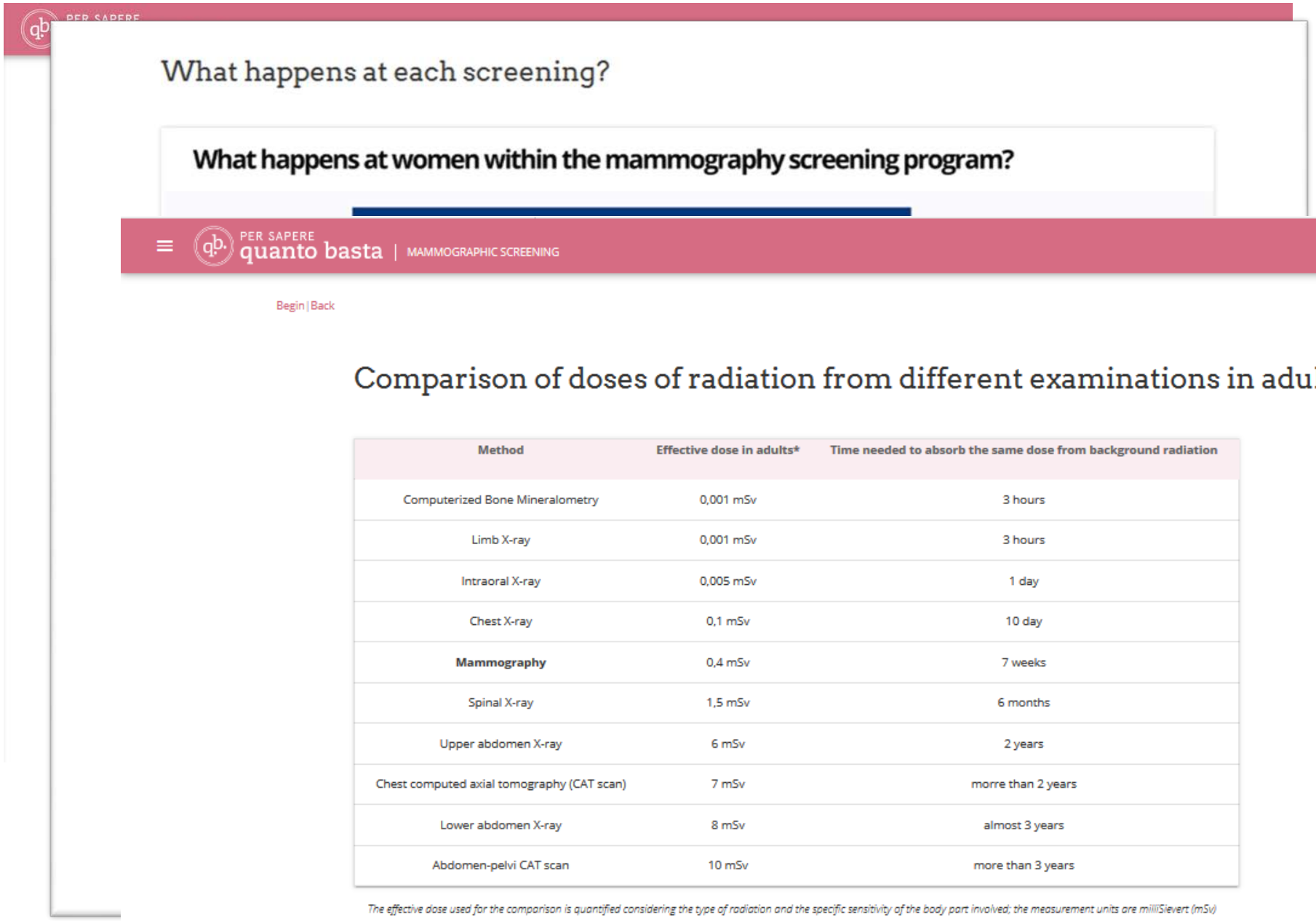
DONNA INFORMATA PROJECT

Website: www.donnainformata-mammografia.it

Istituto di Ricerche Farmacologiche Mario Negri IRCCS, Milan

The project is funded by AIRC (IG2015-17274)

Phase 2: Development of web decision-aid



PER SAPERE

What happens at each screening?

What happens at women within the mammography screening program?

PER SAPERE quanto basta | MAMMOGRAPHIC SCREENING

Begin | Back

Comparison of doses of radiation from different examinations in adults

Method	Effective dose in adults*	Time needed to absorb the same dose from background radiation
Computerized Bone Mineralometry	0,001 mSv	3 hours
Limb X-ray	0,001 mSv	3 hours
Intraoral X-ray	0,005 mSv	1 day
Chest X-ray	0,1 mSv	10 day
Mammography	0,4 mSv	7 weeks
Spinal X-ray	1,5 mSv	6 months
Upper abdomen X-ray	6 mSv	2 years
Chest computed axial tomography (CAT scan)	7 mSv	morre than 2 years
Lower abdomen X-ray	8 mSv	almost 3 years
Abdomen-pelvi CAT scan	10 mSv	more than 3 years

The effective dose used for the comparison is quantified considering the type of radiation and the specific sensitivity of the body part involved; the measurement units are milliSievert (mSv)

SOCIAL NETWORK: in Internet, ambiente virtuale in cui gli utenti possono connettersi, comunicare tra loro e condividere informazioni personali, testi, immagini, video ecc.

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Am Soc Clin Oncol Educ Book. 2017 ; 37: 128–137. doi:10.14694/EDBK_173841.

Social Media and Mobile Technology for Cancer Prevention and Treatment

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Department of Medicine, Stanford Prevention Research Center, Stanford University, Stanford, CA; Department of Clinical and Digital Health Sciences, College of Allied Health Sciences, Augusta University, Augusta, GA; Department of Nutrition and Metabolism, The University of Texas Medical Branch, Galveston, TX

Categories of Existing Social Media and Popular Examples

Category	Examples
Major general-purpose social media outlets	Facebook; Twitter
Social media with a chronic illness focus	Smartpatients; CaringBridge; PatientsLikeMe
Photo-emphasizing social media	Instagram; Snapchat
Video-emphasizing social media	YouTube; Periscope
Blogs and message board–style networks	Tumblr; Reddit; Medium
Social video game or simulation networks	Xbox Live; Apple GameCenter; Second Life

Social media can provide varying degrees of **anonymity,** which may be attractive for stigmatized behaviors or medical conditions

Although social media has become an important channel for disseminating findings from medical studies, the problem of **fake news**, including fake health news, is real, with growing recognition of the need for countermeasures

KEY POINTS

Social support is important for behavior change broadly and ample evidence indicates that existing social media groups can provide informational and emotional support to cancer survivors and caregivers. Online communities have been linked to increased empowerment and retention; engagement with the communities has been linked to behavior change success for weight loss, smoking cessation, and other cancer-related behaviors although some effects are small.

Health Communication. Communication campaigns using social media such as Twitter and Facebook are increasingly popular. Both large-scale national and international campaigns as well as smaller campaigns by local organizations and clinics have demonstrated engagement with their target audiences using social media..

Self-regulation techniques, such as goal setting and feedback, are the foundation of many interventions that seek to change health behaviors, both for cancer prevention and adherence with cancer treatment regimens.

Motivation Enhancement
Social media shows promise for delivery of general and social rewards.

Engagement
Inadequate engagement can be a major limitation to cancer-related social media interventions

- Advantages of social media and mHealth technologies include low or no cost, high scalability, self-tracking and tailored feedback functionalities, use of images and video for enhanced health literacy, broad reach, and data sharing for large-scale analytics.

- Although development efforts have been rapid and numerous, frameworks and investigations of efficacy for achieving and sustaining behavioral change and positive health outcomes are sorely needed, and regulation concerning data security issues is notably lacking.

- Targeted development is also needed for culturally diverse groups and for non-English speakers.

- Further investment in research to build the evidence base and identify best practices will help delineate and actualize the potential of social media and mHealth technologies for cancer prevention and treatment.

PROS AND CONS OF NEW TECHNOLOGIES IN INCREASING CANCER SCREENING PARTICIPATION

ADVANTAGES	DISADVANTAGES
Low cost (SMS, App, Web-sites, etc…)	Possible inaccurate and out-of-date mobile numbers
Engagement of the entire population (without discrimination)	Low proportions of people with registered mobile phone numbers in primary care /GP)
Instant and direct transmission of the messages	Misinformation and overloaded information
Unlikely to be misplaced as items sent through the post (SMS, WhatsApp, etc…)	Linguistic.-technological gap
Connect patients and providers	Lack of control over the scientific validity of content
Easy-to-use and entertaining	Data protection (risk of losing data privacy)
People empowerment (increasing health informed decision-making process)	Risk of isolated applications, not defined and integrated in strategic prevention programmes
	Digital divide

Siamo pronti?????

The Public Health System (PHS) should be future-focused and prepared for the new digital technologies that are changing the way health care services are delivered.

Perspective

Digital health and the challenge of health systems transformation

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Abstract: Information and communication technologies have transformed all sectors of society. The health sector is no exception to this trend. In light of "digital health", we see multiplying numbers of web platforms and mobile health applications, often brought by new unconventional players who produce and offer services in non-linear and non-hierarchal ways, this by multiplying access points to services for people. Some speak of a "uberization" of healthcare. New realities and challenges have emerged from this paradigm, which question the abilities of health systems to cope with new business and economic models, governance of data and regulation. Countries must provide adequate responses so that digital health, based increasingly on disruptive technologies, can benefit for all.

Keywords: Healthcare; e-health; digital health; uberization; business and economic models; data governance

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New technologies are entering the ecosystem of health services, driven by unconventional actors that transcend geographical, cultural and regulatory boundaries.

With these new players, we are inevitably witnessing a phenomenon of "disintermediation", accelerated by the proliferation of Internet platforms and connected objects.

Disintermediation refers to deleting historical intermediaries in a supply chain by replacing them with others, often through digital intermediaries, which could lead to process and workflow redesign

❑ Lag between technological, institutional and regulatory times

Currently, regulations governing health systems are poorly adapted to rapid technological changes.

❑ Data governance

With the collection of an infinite number of data related to the behavior and health of individuals by new industrial players, one of the important challenges is to ensure transparent data governance. Because of the sensitivity of the data they have to manage and manipulate, these actors hold great power over information and become essential.

❑ Economic and financial considerations

… what should be supported by health systems and what shouldn't in order to ensure equitable access to healthcare services for the entire population (e-health democracy)?

Many applications are also used with a perspective of health promotion and prevention, while the current reimbursement models are mainly based on disease management (volume *vs.* value or quality)…

Moreover, regarding the reimbursement of healthcare services, digital applications could replace some existing models of care…

Perspectives

- Active involvement of patients in their own care and monitoring. They would then become more proactive and autonomous in their choices, search and sharing of healthcare information.
- This new context requires the development of more services centered on people, this by considering their subjectivity, environment (physical, social, cultural or spiritual), mode and quality of life as well as their constraints and preferences.

The digital transformation is less a question of technology than of strategy, vision and the development of new skills to work, collaborate, but also to experiment .

E-health could be the keystone of a successful reform of healthcare systems for improved efficiency and effectiveness for the benefit of the people. **However, one condition for optimizing the potential of ICTs may also be to abandon many practices and models of service, often marked by disciplinary, corporate and organizational silos as well as laws and regulations that are no longer in tune with the reality.**

Health systems should, because of their social responsibility, be actors (and not spectators) of the ongoing digital revolution. If this technological shift is missed, the emergence of parallel health systems, borne by new actors, is inevitable.

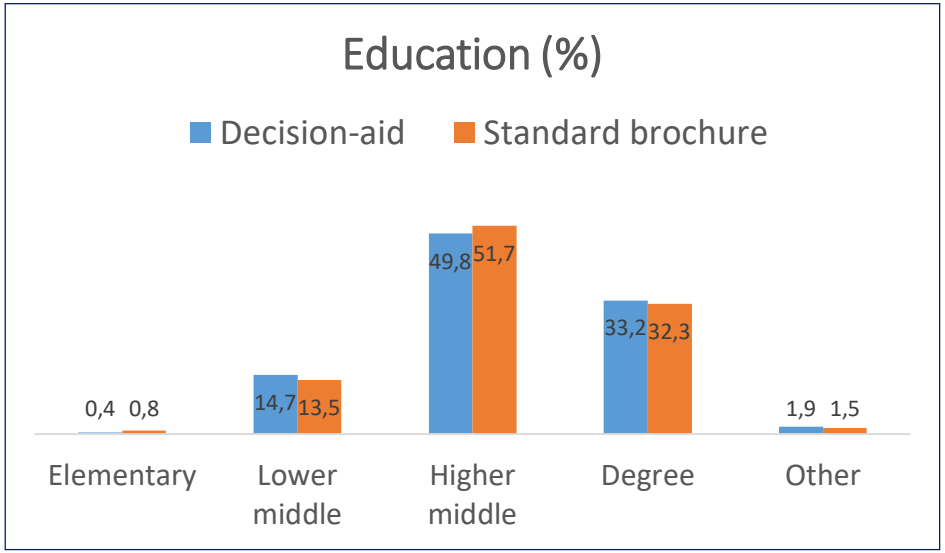
Per Grazia …

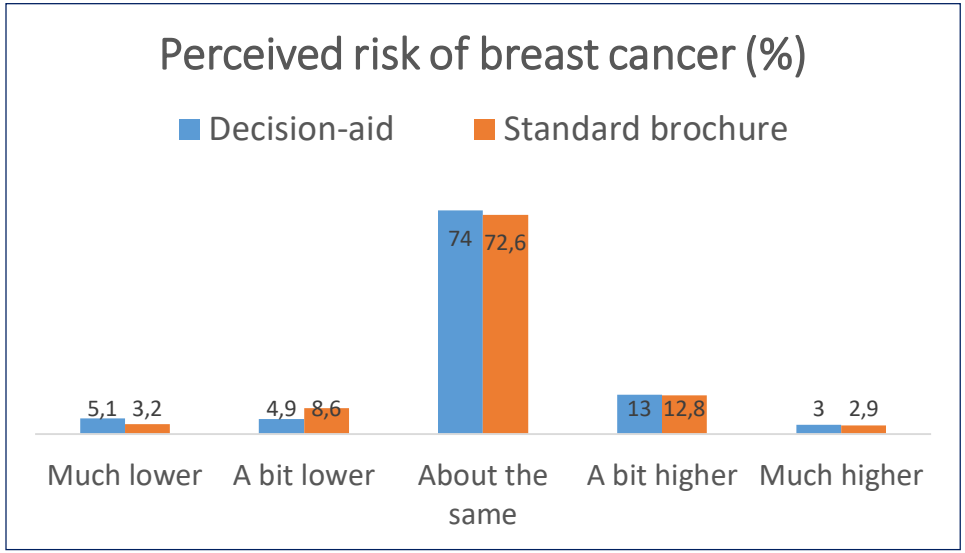
Nelle sere della luna
se oltrepassi la collina
se cammini sopra il fiume
troverai la chiara stella
accarezza il suo bagliore
porta fiori per regalo
canta piano la canzone
per incanto s'alzerà...

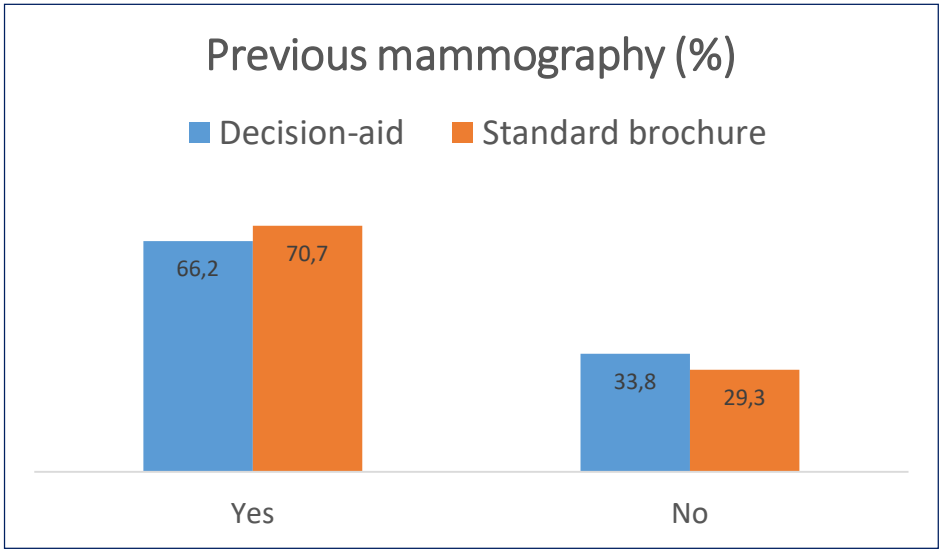
da La chiara stella (Ambrogio Sparagna)

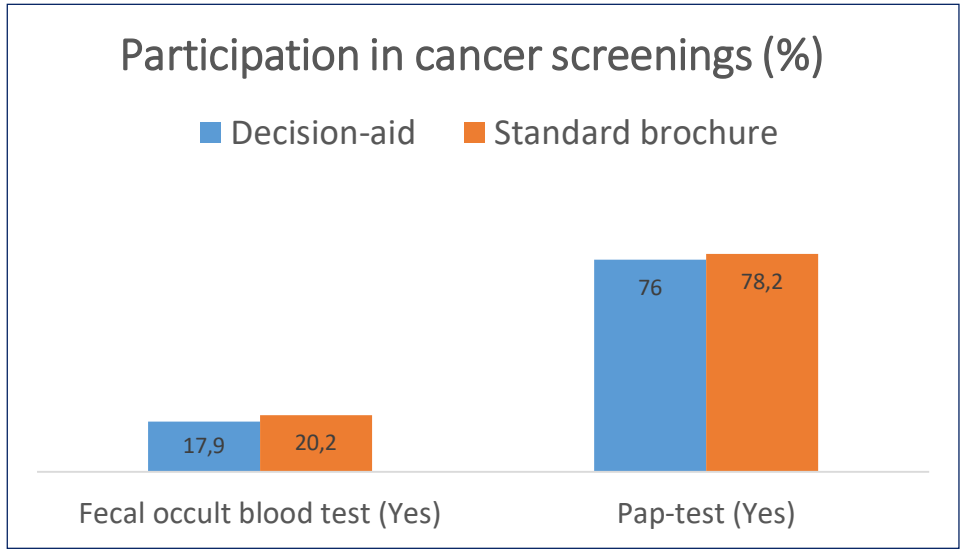
Results: Women characteristics

Mean Age (SD) = 49.5 (3.0)







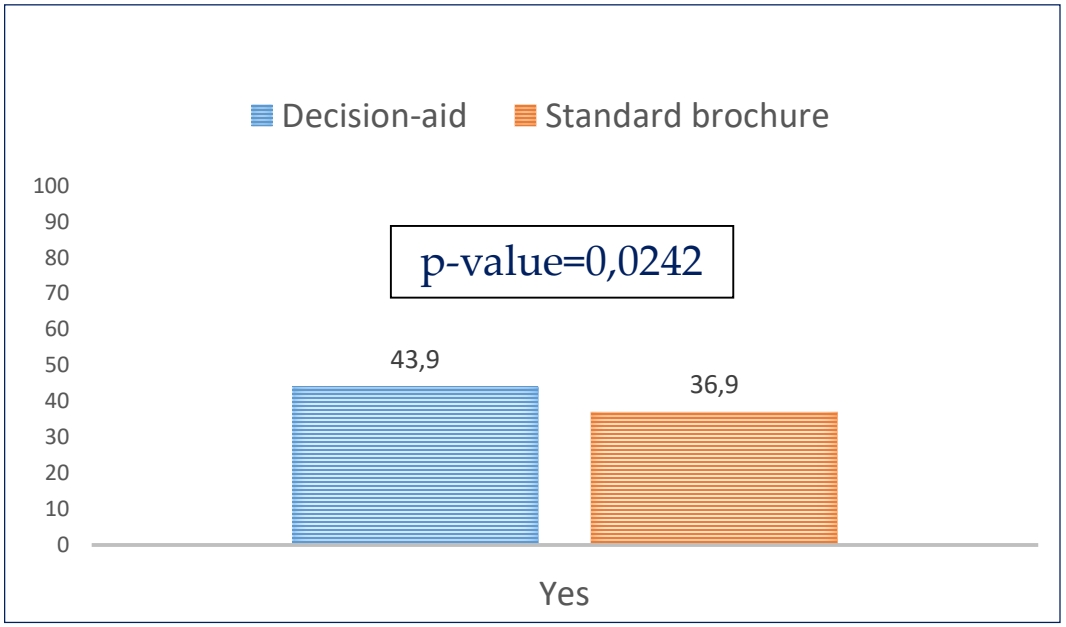


Results: Primary endpoint

Informed choice

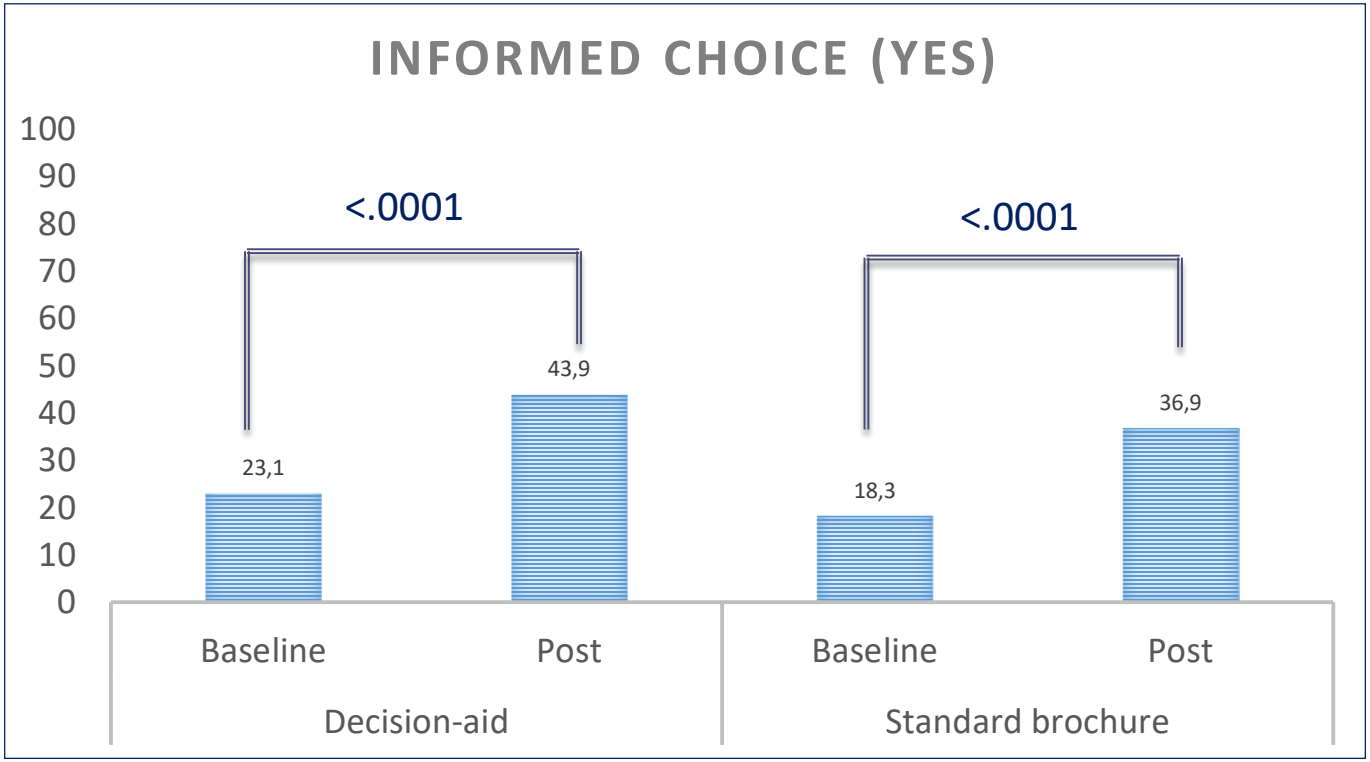
- Knowledge: 10 qualitative and 3 numerical
- Attitudes: 6 items with 5 response options
- Intention: 1 item with 5 response options

Adeguate knowledge (8/13) + consistent attitudes and intention



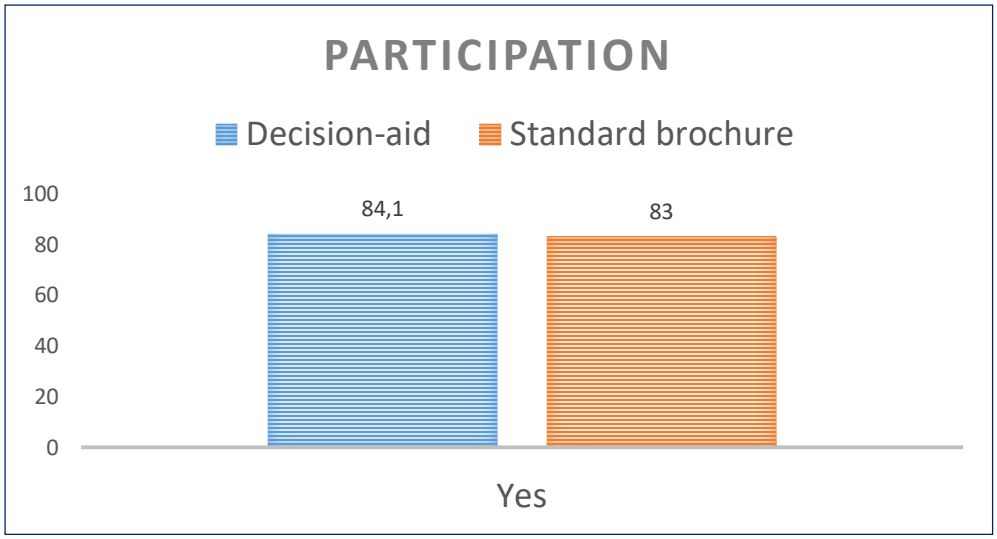
The informed choice is reached by more women in decision-aid

Results: Primary endpoint



- <u>Adeguate knowledge</u> : DA=50% (baseline 27%); SB=41% (baseline 22%)
- <u>Attitudes</u>: DA=91% (baseline 91%); SB=92% (baseline 90%)
- <u>Intention</u>: DA=99% (baseline 98%); SB=98% (baseline 97%)

Results: Secondary endpoints



Participation in mammography screening is high and no evidence differences between the two groups.

Receiving more information has not discouraged women's participation in mammography screening.

However, participation in mammography screening is higher respect the Italian data about the women at first invite.