

Colorectal Screening Patient Reminders

Lake Superior Community Clinic CareMessage Text Reminders • Summer 2022

Sage Systems Change is the Minnesota implementation of a CDC funding mechanism, created to implement systems change in health clinics to increase breast, cervical, and colorectal cancer (CRC) screening using Evidenced Based Interventions (EBIs). EBIs are activities or interventions that have been shown in scientific studies to increase screening.

Sage partnered with Lake Superior Community Health Clinic (LSCHC) to support adoption of EBIs in clinic practice to improve screening uptake. LSCHC elected to examine the effectiveness of EBI **patient (or client) reminders**. As a group, we examined implemented changes and goals of using patient reminders at LSCHC, with a focus on text messaging, the CareMessage software text product, and CRC screening improvement. Although this evaluation focuses on CRC screening, many of the lessons learned can be applied to breast and cervical screening.

Questions for Evaluation.

- Will the changes to text messages or patient reminders lead to increases in CRC screening at LSCHC?
- Does text messaging work better for clinic work flows and staff now?

Clinic Background and Current Status

In March 2022, Sage staff discussed implemented changes, challenges, successes, and future goals with using text messaging to improve patient reminders at LSCHC. We learned the following:

Patient Reminders Prior to Systems Change.

- Covered breast, cervical, and colorectal cancer screenings (and other clinic departments)
- Used for appointment reminders
- Used letters, calls, and texts sent to patients and reminders given by providers at visits
- Barriers:
 - Letters and phone calls were time consuming
 - Letters were expensive
 - Text system unreliable and difficult to work with
 - Reminders not tracked

Patient Reminders After Implemented EBI Changes.

- Upgraded text message system to CareMessage
- Hired staff in May 2021 (P. Leikvoll) to support reminders work
- Replaced many letters and phone calls with text messages
- If FIT kit is not returned, follow up with a call
- Used for appointment reminders, usually 1st text sent 3 - 7 days ahead, 2nd text sent day of appointment
- Barriers:
 - Patients need to be called to get permission to send them text messages

Clinic-Identified Goals for Continued Improvements.

- Mail out FIT kits and run text messages to remind patients to return kits
- Prompt scheduling of appointments when eligible or overdue

- Find the right balance of number of text messages, especially since patients are receiving messages for other services and departments in the clinic
- Work with CareMessage to get better access to metrics / data to understand how the product is working for patients

Review of Patient Reminders, Text Messaging, and Improving CRC Screening

Sage staff reviewed CDC EBI recommendations, literature, and resources to support LSCHC's implementation of text message patient reminders. The below literature is specific to CRC screening, but similar lessons can be applied to breast and cervical cancer screening messaging.

CDC EBI recommendations. Patient reminders for increased CRC screening were found to have strong evidence as effective in 2008 and 2012 CDC literature reviews, and so were designated as an EBI. These reviews found 7 studies on patient reminders.^{1,2} The studies supporting use of patient reminders as EBIs are informative, but have gaps:

CDC Literature Review Positive Findings

- Studies showed that reminders worked:
 - In rural and urban settings
 - Regardless of gender
 - When printed (e.g., a card sent in the mail) or as phone calls
- Reminders were more effective for take-home colorectal screening tests, increasing screening by 11.5 percentage points, than for colonoscopy, sigmoidoscopy, or barium enema which only increased by 0.5 percentage points with reminders

Gaps

- Effectiveness of reminders was not studied by race, ethnicity, or community population
- Most studies looked at increasing at-home CRC screening
- **No information on text reminders**
- Review last conducted in 2012, yet significant changes have occurred in communications in the last decade, including increased use of texting and other technology

Additional Literature Review. Because the CDC literature was missing information on text reminders, we identified studies published 2011 - 2021 that looked at text messaging to increase CRC screening.

Effectiveness of Text Message Interventions to Increase CRC Screening

- Patient reminders were not as effective as mailed FIT kits or patient navigation, unless the reminders were a part of a multi-component intervention (e.g., phone calls and texts), in which case they were very effective³
- Letter or email reminders were more effective than text reminders, however, this might be related to a distaste for automated, blanket phone or text reminders, especially among older patient populations^{4,5}

¹ <https://pubmed.ncbi.nlm.nih.gov/18541187/>

² <https://www.thecommunityguide.org/sites/default/files/publications/Cancer-AJPM-evrev-ClientProviderOriented2012.pdf>

³ Dougherty et al. 2018. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2706176>

⁴ Coronado et al. 2019. <https://www.jabfm.org/content/32/3/318.full>

⁵ Gruner et al. 2021. <https://www.mdpi.com/2072-6694/13/7/1520/htm>

- “Live” versus automated reminders may be more effective ⁴
- Single text messages were not effective ^{6,7}
- Interventions using multiple text messages are effective, and effectiveness increases with increasing message intensity. ^{8,9} In one study, patients received texts every two weeks for up to three months to return FITs. ¹⁰
- Text message reminders were effective among:
 - Latino, African American, and American Indian / Alaska Native populations ^{8,9,10}
 - Uninsured and Medicaid recipient populations ⁸

Content of Text Messages to Increase CRC Screening

- Focus groups (or similar) to understand text content included study participants from American Indian / Native Alaskan, African American, and Latino populations ^{9,11,13}
- Impersonal or blanket messages were disliked ^{11,12}
- Personalized messages were well received ¹²
- Mass communications can lead to mistakes which are very disliked ¹³
- “I / we” framing instead of vague clinic third person framing was preferred ¹²
- Health messages or culturally appropriate messaging did not improve receipt of messages if it interfered with the main, direct message (could also be related to long messages being disliked) ⁹
- Short direct messages were preferred, ^{9,11} for example:

[FQHC] is mailing you a free colon health test to do at home. Complete the test today—it could save your life! Questions? Call [number].

- Reminders from trusted organizations increase personalization and trust ¹³
- Do not assume patients understand prevention concepts ¹³
- Increasing ease with text messages – such as embedded phone numbers – is appreciated ¹³

Gaps or Limitations

- Most studies were focused on at-home CRC screening tests
- There are still relatively few studies on texting to increase CRC screening
- All studies on text message content were focus groups or similar, and no studies tested differing messages against each other in screening outcomes

Quick Summary. Patient reminders, and specifically text reminders, are successful at increasing CRC screening with many populations. Text reminders can increase screening but are not known to be the most successful patient reminders or EBIs. However, there is an important gap in understanding how effectiveness of text reminders might be increased with smarter text content. As of now, we understand that text messages are most effective as a part of a multi-component intervention, when personalized, and when used frequently.

⁶ Hirst et al. 2017. <https://www.nature.com/articles/bjc2017117>

⁷ Sequist et al. 2011. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/227026>

⁸ Huf et al 2021. <https://link.springer.com/article/10.1007/s11606-020-06415-8>

⁹ Muller et al 2017. <https://acsjournals.onlinelibrary.wiley.com/doi/pdfdirect/10.1002/cncr.30499>

¹⁰ Goldman et al 2015. <https://link.springer.com/article/10.1007/s11606-015-3234-5>

¹¹ Thompson et al 2020. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7254880/>

¹² Weaver et al 2015. <https://mhealth.jmir.org/2015/4/e100/>

¹³ Brandzel et al 2016. <https://link.springer.com/article/10.1007/s40615-016-0304-2>

Resources and Examples of CRC text messaging for patient reminders. The National Colorectal Cancer Roundtable, at nccrt.org, provides many examples of messaging including texts, although some are better suited to general awareness and engagement rather than patient reminders. Check out:

- <https://nccrt.org/resource/2022-messaging-guidebook-for-black-african-american-people-messages-to-motivate-for-colorectal-cancer-screening-june-21-2022/>
- http://nccrt.org/wp-content/uploads/NCCRT_2019MessagingGuidebook_Version5_Final.pdf
- <https://nccrt.org/new-80-by-2018-communications-guidebook-and-hispanicslatinos-and-colorectal-cancer-companion-guide/>

Text Samples

LSCHC staff shared the following sample texts:

Hello, our records indicate you may be due for a colorectal cancer screening. If you would like to complete this screening, please give us a call at ____ or _____. Thank you

Hello, our records indicate you may be due for a breast cancer screening. If you have already completed this, or need assistance with scheduling a screening, please give us a call at _____ or _____. Thank you

Highlights:

- Short and to the point
- Provides contact information in text
- Reminders sent more than once

Some considerations:

- Is there a way to make messages more personal? Can you autofill a name or use the name of a clinic staff person?
- Would you be comfortable wording the call to action in slightly stronger wording?

Suggested examples:

Hello! This is Peyton with Lake Superior Community Health Clinic. It's time for your next colorectal cancer screening! Have questions? Want to schedule? Call xxx-xxx-xxxx

Hello [name]! Regular cancer screening saves lives! Our records show that it's time for your next breast cancer screening. Call to schedule xxx-xxx-xxxx

Outcomes and Next Steps

LSCHC has made much progress in implementing a new text message system, that can be used alone, or in combination with phone calls and mail to remind patients of appointments. They are successfully using the system to remind patients of scheduled breast, cervical, and colorectal cancer screenings. By

upgrading to a new text messaging platform with better functionality and customer support, they have saved considerable time and labor. They continue to work with the text message provider CareMessage, to have better access to data and learn more about how text messages are performing. Much work has focused on learning the new system, integrating the system into other clinic text messaging efforts, and developing baseline text message content.

Some ideas for future expansions:

- Be creative in evaluating text message or patient reminder success. Using your own EHR, compare appointment completion rates in periods in which you used patient reminders and periods in which you did not.
- Many studies used focus group feedback on messages but have not trialed messages to see which messages get better responses. Try two different messages for two groups at the same time and see which message works better.
- Ask partnering organizations for feedback on message content or ask partnering organizations to collaborate on texts with your clinic. This might improve the feel of authenticity and personalization that seems important to text message responding.

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