

## Critically Appraised Topic (CAT)

**PICOT Question:**

Will the use of SMS text messaging clinic appointment reminders decrease the no-show rate for pediatric outpatient appointments?

**Clinical bottom line based on literature appraisal below:**

The use of SMS text messaging reminders are a cost effective way to decrease no-show rates for clinic appointments.

**Search strategy implemented:**

PubMed-"text message reminders for clinic appointments" also used "clinic appointment reminders"  
 CINAHL-"text message reminders for clinic appointments"

**Search outcome:**

125 papers were found in PubMed search and found 10 of them were relevant to the PICO question. Two additional articles were found but they were available in Danish only, so they were excluded. There were also several studies excluded due to not specifically using text message reminders. None of the articles from CINAHL were relevant.

Synthesis of relevant studies:

Author, date, country, and industry of funding	Patient Group	Level of Evidence (Oxford) / Strength of Evidence (GRADE)	Research design	Significant results	Limitations
Sean R Downer, John G Meara and Annette C Da Costa, Oct 2005, Australia, funding unknown	Pediatric patients in 5 outpatient clinics at the Royal Children's Hospital	2b	Cohort study	SMS text reminders sent 3 business days before appointment. A decrease in the rate of no-shows of 9% was found in the trial group given SMS text reminders	Use of historical control group, not sure if all texts went to correct person
Sean R Downer, John G Meara Annette C Da Costa and Kannan Sethuraman, Aug 2006, Australia, funding unknown	Pediatric patients	2b	Cohort study	Decrease of 5% noted in the trial group that received text reminders over 3 month period. Increased revenue due to increased appointment attendance.	Some populations of patients have limited texting abilities and knowledge.

Upon completion of the CAT please forward to Jackie Bartlett, EBPC Program Manager, at [jbartlett@cmh.edu](mailto:jbartlett@cmh.edu)  
 EBP/@EBPC@/EBP Core/Toolkit/LiteratureSynthesis

Travis M Nelson, Joel H. Berg, Janice F. Bell, Penelope J Leggott and Ana Lucia Seminario, April 2011, United States, funding unknown	Pediatric dental patients at the University of Washington clinic	2b	Cohort study	This study found that text message reminders were less effective than voice message reminders. They concluded that SMS reminders are not the preferred reminder method.	Limitations included difficult recruitment of study participants, ineligible participants, several participants seen several times during the study, participant pool limited to pediatric dental patients
S O Brannan, C Dewar, L Taggerty and S Clark, 2011, Scotland, funding unknown	Ophthalmology patients of all ages	2b	Cohort study	Reminder text sent 2 weeks prior to appointment, if no response text sent again 1 week before appointment. There was about a 7% decrease in no show rates in this study. Patients were asked to confirm by text or phone if they were going to attend or not	Small study size, large number of patients >65 years of age with no mobile phone
J. Foley and M O'Neill, 2009, Scotland, funding by Edinburgh Dental Institutes	Pediatric dental patients at Edinburgh Dental Institute	2b	Cohort study	SMS text sent 24 hours before appointment. A 13% reduction of no-shows was found in this study.	Difference in patient numbers texted between different operators. Most patients seen by specialists.
Elizabeth Koshy Josip Car and Azeem Majeed; May 2008; England; funding unknown	Ophthalmology outpatients at Barts and the London Hospitals NHS Trusts	2b	Cohort study	SMS reminders resulted in absolute reduction in no-show by 6.9% and a 38% relative reduction; those with reminders were 38% less likely to not attend appointments and were 26% more likely to cancel appointment. SMS reminders are an effective and efficient method to increase appointment attendance	suboptimal design of study; unsure of the number of control group patients that had cell phones; unsure if participants were familiar with text messaging

AM Hogan, O McCormack, O Traynor and DC Winter; July 2008; Ireland; funding unknown	General surgery clinic patients (colorectal, hepatobiliary, breast and endocrine)	2b	Cohort study	16.8% of patients did not attend appointments and a telephone questionnaire was performed; most common reasons for not attending were symptoms resolves, hospital clerical errors, forgot SMS text messages could help decrease no-shows due to clerical errors, forgetting and possibly those that had symptom resolution	This study didn't actually incorporate the use of SMS text messages as reminders, they only questioned non-attenders about why they didn't attend their appointment
K Fairhurst and A Sheikh; 2008; Scotland; Lothian and Borders Primary Care Research Network	Used in non-specialty clinics; Randomized controlled study that targeted patients that had missed 2 or more appointments in the preceding year	2b	Cohort study	Non-attendance rate was 17% in control group and 5.3% in SMS text reminder group; this study failed to prove that SMS text reminders would help previous non-attenders keep their appointments; however SMS text reminders show promise if intervention revised and study conducted again	Single site used; small sample size; the 415 appointments in this study were made by 172 patients and 103 of these patients had multiple appointments during this study; SMS texts sent at different times of day depending on appointment time; perception of non-attendance by clinic staff
CE Cohen, KM Coyne, S Mandalia, AM Waters and AK Sullivan; 2008; England; funding unknown	Genitourinary clinic patients	2b	Cohort study	Questionnaires asked patients preferences for appointment reminders; 88% wanted appointment reminders and 67% wanted SMS text reminders; infers that reminders would decrease no-show rates for clinic appointments	This study didn't actually implement reminders for appointments; only consisted of questionnaire for preference of reminder types
Thiago Martini da Costa, Paulo Lisias Salomao, Amilton Souza Martha, Ivan Torres Pisa and Daniel Sigulem; 2010; Brazil; funding unknown	Any clinics using Clinic Manager and Clinic Web system	2b	Cohort study	Auto SMS text reminders sent 24 hours before appointment when scheduled in clinic manager and clinic web system; 25.57% no-show rate without SMS text reminders and 19.42% when SMS text reminders used; SMS text reminders time saving, effective means of reminding patients of appointments	No limitations noted in this study

Upon completion of the CAT please forward to Jackie Bartlett, EBPC Program Manager, at [jbartlett@cmh.edu](mailto:jbartlett@cmh.edu)  
EBP/@EBPC@/EBP Core/Toolkit/LiteratureSynthesis

**Commentary:**

There is still more research that can be done looking at the true effectiveness of SMS text message reminders. Most studies found there was a significant reduction in no show rates after using these reminders. SMS text reminders allow for many texts to be sent at the same time for a nominal fee. Text messages are also less time consuming to send than letters or non-automated phone calls.

**Authored by:**

Kristy Reynolds, RN, BSN, CPON, OCN

**Date created:**

November 14, 2011

**References: [APA](#) and [MLA](#) examples can be found at OWL (Online Writing Lab) at Purdue.**

Brannan, S. O., Dewar, C., Taggerty, L., & Clark, S. (2011). The effect of short messaging service text on non-attendance in a general ophthalmology clinic. *Scottish Medical Journal*, 56, 148-150.

Downer, S. R., Meara, J. G., & Costa, A. C. D. (2005). Use of sms text messaging to improve outpatient attendance. *The Medical Journal of Australia*, 183(7), 366-368.

Downer, S. R., Meara, J. G., Costa, A. C. D., & Sethuraman, K. (2006, August). SMS text messaging improves outpatient attendance. *Australian Health Review*, 30(3), 389-396.

Foley, J., & O'Neill, M. (2009, October 1). Use of mobile telephone short message service (SMS) as a reminder: The effect on patient attendance. *European Archives of Paediatric Dentistry*, pp. 15-18.

Nelson, T. M., Berg, J. H., Bell, J. F., Leggott, P. J., & Seminario, A. L. (2011, April). Assessing the effectiveness of text messages as appointment reminders in a pediatric dental setting. *The Journal of the American Dental Association*, 142(4), 397-405.

Costa, T. M. D., Salmao, P. L., Martha, A. S., Pisa, I. T., & Sigulem, D. (2010, September 3). The impact of short message service text messages sent as appointment reminders to patients' cell phones at outpatient clinics in sao paulo, Brazil. *International Journal of Medical Informatics*, 79, 65-70.

Cohen, C. E., Coyne, K. M., Mandalia, S., Waters, A.-M., & Sullivan, A. K. (2008). Time to use text reminders in genitourinary medicine clinics. *International Journal of STD & AIDS*, 19(12-13).

Fairhurst, K., & Sheikh, A. (2008). Texting appointment reminders to repeated non-attenders in primary care: Randomised controlled study. *Quality Safety Health Care*, 17, 373-376.

Hogan, A. M., McCormack, O., Traynor, O., & Winter, D. C. (2008, July 25). Potential impact of text message reminders on non-attendance at outpatient clinics. *Ireland Journal of Medical Science*, 177, 355-358.

Koshy, E., Car, J., & Majeed, A. (2008, May 1). Effectiveness of mobile-phone short message service (SMS) reminders for ophthalmology outpatient appointments: Observational study. *Biomedical Central Ophthalmology*, 8(9).

Upon completion of the CAT please forward to Jackie Bartlett, EBPC Program Manager, at [jbartlett@cmh.edu](mailto:jbartlett@cmh.edu)  
EBP/@EBPC@/EBP Core/Toolkit/LiteratureSynthesis

Reviewed/Revised: 10/08; 2/09