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## **SURGERY CONNECT**

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### **Surgery Connect Appointment Reminders Your Questions Answered by Independent Controlled Trials:**

#### **Do SMS appointment reminders reduce DNA rates?**

According to the 2008 study by the Department of Primary Care and Social Medicine<sup>(1)</sup>, Imperial College London, the use of SMS reminders for ophthalmology outpatient appointments was associated with a reduction of 38% in the number of patients not attending their appointments, compared to no appointment reminder.

The study also indicated that use of SMS reminders may also be more cost-effective than traditional appointment reminders and require less staff time.

#### **Can SMS appointment reminders be cost effective?**

A broad spectrum study in Australia<sup>(2)</sup> involving over 20 thousand patients demonstrated that DNA rates were significantly reduced and revenues increased where a SMS reminder was sent.

#### **Is there a difference between receiving an automated telephone reminder compared to an SMS reminder?**

A 2007 study in China<sup>(3)</sup> involving almost 2000 patients found that both SMS and IVR reminders had a significant effect of DNA rates, but concluded that there was no difference if the patient received an SMS or IVR reminder. The survey pointed out there may be cost efficiency when using SMS over making calls to mobile.

#### **Can SMS reminders reach areas of the population which are historically difficult to target?**

A 2008 Australian study<sup>(4)</sup>, which reviewed whether an SMS reminder would improve DNA rates among marginalized young people in urban areas, found that they were more likely to attend, reschedule or cancel their appointment after receiving an SMS reminder than if they did not. The survey concluded that SMS appointment reminders reduced the failure-to-attend rate which is greater for 'at risk' young people.

#### **(1) Effectiveness of mobile-phone short message service (SMS) reminders for ophthalmology outpatient appointments: Observational study.**

Elizabeth Koshyl, Josip Car and Azeem Majeed  
Department of Primary Care and Social Medicine, Imperial College London, London, UK

##### **Background**

Non-attendance for hospital outpatient appointments is a significant problem in many countries. It causes suboptimal use of clinical and administrative staff and financial losses, as well as longer waiting times. The use of Short Message Service (SMS) appointment reminders potentially offers a cost-effective and time-efficient strategy to decrease non-attendance and so improve the efficiency of outpatient healthcare delivery.

##### **Methods**

An SMS text message was sent to patients with scheduled appointments between April and September 2006 in a hospital ophthalmology department in London, reminding them of their appointments. This group acted as the intervention group. Controls were patients with scheduled ophthalmology appointments who did not receive an SMS or any alternative reminder.

##### **Results**

During the period of the study, 11.2% (50/447) of patients who received an SMS appointment reminder were non-attenders, compared to 18.1% (1720/9512) who did not receive an SMS reminder. Non-attendance rates were 38% lower in patients who received an SMS reminder than in patients who did not receive a reminder (RR of non-attendance = 0.62; 95% CI = 0.48 – 0.80).

##### **Conclusion**

The use of SMS reminders for ophthalmology outpatient appointments was associated with a reduction of 38% in the likelihood of patients not attending their appointments, compared to no appointment reminder. The use of SMS reminders may also be more cost-effective than traditional appointment reminders and require less labour. These findings should be confirmed with a more rigorous study design before a wider roll-out.

The Article...

## (2) SMS text messaging improves outpatient attendance.

Sam Stott, Raechelle Rubinstein  
University of Sydney - Discipline of General Practice, Sydney Southwest Area Health Service

### Objective

To evaluate the operational and financial efficacy of sending short message service (SMS) text message reminders to the mobile telephones of patients with scheduled outpatient clinic appointments.

### Design

Cohort study with historical control.

### Setting

Royal Children's Hospital, Melbourne, Victoria.

### Patients

Patients who gave a mobile telephone contact number and were scheduled to attend an outpatient clinic at the Royal Children's Hospital, Melbourne in October, November and December 2004 (trial group) or in October, November and December 2003 (historical control group).

### Main Outcome Measures

Failure-to-attend (FTA) rate compared between the trial group, whose members were sent a reminder, and the historical control group, whose members were not sent a reminder. Financial benefits versus cost of sending reminders.

### Results

22,658 patients with a mobile telephone contact number scheduled to attend an outpatient clinic appointment in October, November and December 2004 were sent an SMS reminder; 20,448 (90.2%) of these patients attended their appointment. The control group included 22 452 patients with a mobile telephone contact number scheduled to attend an appointment, with 18,073 (80.5%) patients attending. The FTA rate was significantly lower in the trial group than in the historical control group (9.8% v 19.5%;  $P < 0.001$ ). The cost of sending the SMS reminders was small compared with the increase in patient revenue and associated benefits generated as a result of improved attendance.

### Conclusions

The observed reduction in FTA rate was in line with that found using traditional reminder methods and a prior pilot study using SMS. The FTA reduction coupled with the increase in patient revenue suggests that reminding patients using SMS is a very cost effective approach for improving patient attendance

The Article...

## (3) Comparison of an SMS text messaging and phone reminder to improve attendance at a health promotion center: A randomized controlled trial.

Zhou-wen Chen, Li-zheng Fang, Li-ying Chen, and Hong-lei Dai  
Department of General Practice, Sir Run Run Shaw Hospital, School of Medicine, Zhejiang University, Hangzhou, China

### Objective

To compare the efficacy of a short messaging service (SMS) text messaging and phone reminder to improve attendance rates at a health promotion center.

### Methods

A total of 1 859 participants who had scheduled appointments in the health promotion center of our hospital from April 2007 to May 2007 were enrolled in the study and randomly assigned into 3 groups: control (no reminder) group, SMS text messaging reminder group and telephone reminder group. Attendance rates and costs of interventions were collected.

### Results

A total of 1848 participants were eligible for analysis. Attendance rates of control, SMS and telephone groups were 80.5%, 87.5% and 88.3%, respectively. The attendance rates were significantly higher in SMS and telephone groups than that in the control group, with odds ratio 1.698, 95% confidence interval 1.224 to 2.316,  $P=0.001$  in the SMS group, and odds ratio 1.829, 95% confidence interval 1.333 to 2.509,  $P<0.001$  in the telephone group. However, there was no difference between the SMS group and the telephone group ( $P=0.670$ ). The cost effectiveness analysis showed that the cost per attendance for the SMS group (0.31 Yuan) was significantly lower than that for the telephone group (0.48 Yuan).

### Conclusion

SMS and telephone are effective reminders for improving attendance rate at a health promotion center. SMS reminder may be more cost-effective compared with the telephone reminder.

The Article...

(4) **Are SMS appointment reminders associated with a reduction in failures to attend individual appointments among young people?**

Sam Stott, Raechelle Rubinstein  
University of Sydney - Discipline of General Practice, Sydney Southwest Area Health Service

**Design**

Mixed methods study incorporating a non-interrupted time series trial with matched controls & focus groups

**Population**

Marginalised young people attending an urban youth health service in Sydney

**Intervention**

Mobile phone text message (SMS) appointment reminders for individual appointments

**Preliminary Findings**

At n = 300 appointments, the proportion of appointments which young people failed to attend was approximately halved if they had received an SMS reminder than if they had not (13.1% compared to 26.5%). Marginalised young people were more likely to attend, reschedule or cancel their appointment if they received an SMS reminder than if they did not. The effect of SMS appointment reminders on reducing the failure to attend rate is greater for 'at risk' young people.

The Article...

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