

A trial of text messaging in Family Planning Clinics

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Abstract

The New Zealand Family Planning Association (Family Planning) is a national not-for-profit organization providing sexual and reproductive primary care health services as well as health promotion, professional training and advocacy on issues of sexual and reproductive health.

By 2006 Family Planning had become acutely aware of the increasing amount of staff time being used to make phone calls to clients, particularly about appointment reminders and laboratory results, and the associated escalation in telephone costs.

Much of the increased cost related to the trend for the clients, who are predominantly under 25 year of age, to have only a mobile phone as their phone contact.

This paper describes a project to identify and implement an alternative means of communication with these clients, with the outcome being the introduction of a text messaging programme(txt2remind) integrated with the Practice Management System (Medtech 32) into clinics by June 2008.

1. Introduction

The clinical services of Family Planning (contraception, pregnancy testing and options, STI screening and treatment, cervical smear screening etc) are delivered nationally from 23 fixed clinics and a number of outreach or school based clinics throughout New Zealand (NZ). 173 nurses, doctors and receptionists work in these clinics. Family Planning has a contract with the Ministry of Health and clients receive a similar level of subsidy as those for GP services.

In the 2006-2007 year there were 179,986 consultations nationally with 67% of visits from clients less than 25 years. The personal information collected from clients and recorded in the PMS (Medtech 32) includes landline phone numbers (day and after hours) and a mobile phone number. In 2006 in the Newmarket Clinic Medtech database there were 30,365 mobile numbers. The percentage of all numbers which were only mobile numbers was more than 50% for all cohorts under 30 years, with a peak of 82% for 16-19 year cohort.

2. The problem

The annual cost of outgoing telephone calls from all Family Planning telephones was projected to be approx \$30,000 a year more in 2007, than in 2003, with changing patterns of mobile phone use believed to be responsible for the increase. Outgoing calls to clients from clinic staff fell into 2 main categories.

The first category was calls to remind clients about appointments. Dependent on the clinic and/or consultation type all or selected clients were phoned by receptionists the day before their appointment. The time used by receptionists for this task had not been formally quantified but anecdotally in a large clinic was thought to be up to one hour per day.

The second main category of calls related to the results of laboratory tests. In June 2006 at Newmarket Clinic, 35% of all consultations resulted in the generation of a laboratory request form. Many of these lab request forms were for multiple test and the results may return at different times. Clients are told that Family Planning will not call them if results are normal, but that they can call the clinic. Again anecdotally, large amounts of staff time (including doctor and nurse time) were being used to notify clients of normal lab results.

An alternative means of communicating with clients was obviously necessary and given the age range and mobile phone ownership rates of Family Planning clients the introduction of text messaging (SMS) was the obvious solution. In mid 2006 a project was commenced with four objectives.

- 1 To make communication between staff and a significant number of clients easier
- 2 To save a significant amount of staff time used in making multiple phone calls
- 3 To decrease expenditure on calls to mobile phones
- 4 To ensure booked appointment time was used productively.

3. Background Research for this project

3.1. Published papers

There is a rapidly increasing body of work available on the use of mobile devices, including the use of mobile phones and text messaging, in general or in specific sectors for specific purposes.

Two useful general documents were “The text generation –Mobile phones and New Zealand Youth” [1] which surveyed mobile phone use by 12-19 year olds. 73% of these students used a mobile phone and 66% had it with them in class when completing the survey.

The “Vodafone Mobile Health Survey 2005” [2] was a survey of mobile health strategies in the USA and UK in Nov 2005 and assessment of the relevance to New Zealand.

Two papers specific to sexual and reproductive healthcare service delivery were one showing a decrease in the time to treatment for Chlamydia when clients received a text about results [3]. In the other 100% of those who had received their results by text from Glasgow NHS Sexual Health Clinic found texting to be a most acceptable method of contact and thought that for them receiving results by text was most confidential [4].

Subsequent to the trial discussed in this paper, there are a number of further papers describing the use of text messaging with some success in lowering the rates of non attendance in hospital outpatient clinics. These papers described text messaging in an ophthalmology clinic in England where non attendance rates were 38% lower in patients who received an SMS reminder [5], an ENT outpatient clinic in Ireland where the mean rate of non attendance was decreased from 33.6% to 22% [6], a paediatric outpatient clinic in Australia where “failed to attend” rate dropped from 19.5% to 9.8% [7] and a health promotion centre in China where both texting and telephoning significantly increased attendance rates by 17-18% [8].

Text messaging has also been used with some success in managing chronic conditions such as diabetes in Scotland [9] and Spain [10] and in public health programmes such as smoking cessation [11] and youth counselling services [12] in New Zealand and sexual health information and referral service in USA [13].

3.2. Legal and Ethical issues

Text messages form part of a client’s medical record (even if contained in a log outside the PMS) and as such are subject to all the same legal and ethical requirements relating to the rest of the clients information e.g. Health Information Privacy Code [14], especially Rules 5, 6 and 11. It is possible to prevent text messages being sent to clients who do not wish to receive them by putting an alphabetical character at the end of the mobile number. Ticking “No Contact” within the practice management system also prevents messages being sent.

3.3. Existing Experience of Texting within Family Planning

3.3.1. Chlamydia screening project

In a Chlamydia screening research project with 4674 clients under 25 years in Wellington Family Planning clinics in 2004-05, 78% replied “yes” to the question “Can we text you?”, 5% replied “no” and 17% did not respond [15]

3.3.2. Human Papilloma Virus (HPV) Vaccine Clinical Trial

In the HPV Vaccine Clinical trial conducted in Family Planning Clinics in Auckland and Christchurch between 2003-2006, which involved approx 160 female clients between 16 -20 years at the start of the trial, the study nurses found that sending text messages to clients (using a mobile handset) was the most effective way of communicating with them. One nurse estimated that up to 90% of all communication with her group of study participants was by means of text messages, including with those now living outside NZ [16].

3.4. Questionnaire for Family Planning Clients

In November 2006 a questionnaire about text messaging was distributed to clients in Family Planning Clinics throughout NZ to quantify mobile phone ownership and attitudes to receiving text messages from Family Planning. There were 794 responses with 50% of respondents less than 20 years and 85% less than 30 years. This was broadly representative of the national client base.

96% of the sample had access to a mobile phone but 22.5% of that group shared access, most commonly with a friend. Of those who answered the question on number of mobile phones they could access, 32% had one and 64% had two mobile phones. 2 people stated they had 5 or more phones. The network used was evenly split between Telecom (39.7%) and Vodafone (38.5%) though these figures are skewed by the 21.6% who reported both, but without stating which networks. (Later during the text messaging trial phone records of calls to mobile phones showed more than 70% of the calls were to Vodafone numbers)

Of the total sample 88.8% were happy to receive text messages from Family Planning, 80.6% were happy to receive appointment reminders and 69% happy to receive a message about laboratory results. However, only 24% would be happy to receive a health promotion type message.

3.5. Phone Records from Telecom

Phone records of all outgoing calls were obtained from Telecom (the Family Planning Assn Telecommunications provider) for 2 clinics (Newmarket and Takapuna) from mid 2006 onwards to quantify the numbers of calls being made to mobile phones and costs. Unfortunately almost every batch of reports came in a slightly different format which made consistent analysis time consuming. Recent access to new software (BillView) in 2008 will allow better ongoing analysis of phone records.

4. Text messaging programme

4.1. Memotxt

In 2004 the “memotxt” programme developed by Gordon Tam, a GP in Hamilton, had been investigated and this was revisited in 2006. This programme was installed on the server and one workstation in Newmarket Clinic in late October 2006 for a trial period which lasted until April 2007. During this time 1852 appointment reminder texts were sent, however this represented only 31% of all appointments during this time period. It appeared that the process of sending the appointment reminders required more staff input than was available and /or a lack of enthusiasm after the first month. The second stage of this trial, clinicians communicating with client about lab results, did not eventuate. A brief evaluation showed the majority of clients who had received a reminder text found it useful and were happy to continue to receive them so the first objective had been achieved. However, neither of the other two main objective measures identified (reduction in number/cost of calls to mobiles and decrease in failed appointments) were met in this trial.

4.2. Txt2remind

In early 2007 another texting programme became available on the market in NZ which could be used with Medtech 32. This programme “txt2remind” [17] appeared to have a number of advantages. The user interface was cleaner and more user friendly, the appointment reminder process was completely automated and replies from clients came into an easy to read In Box. The messages can be sent with no wording or numbers which identify the sender, which is a vitally important consideration for Family Planning clients for whom confidentiality is a priority. The programme does not yet write the message back to the client’s record in Medtech, but that feature will be available in the next version of the software. This programme was then trialed at two Auckland clinics, Newmarket and Takapuna, using only the automated appointment reminders. At Newmarket there was the ability to compare with the previous programme and at Takapuna there was a fresh site with a young client population and a large number of calls to mobiles (average 1050 calls at a cost of \$466 per month over the previous 6 months). Over the next 21/2 months (mid June –August 2007) from Newmarket there were 2301 texts sent and 58 replies received and in Takapuna 2131 messages sent and 49 replies received, a rate more than double that of that experienced with the previous programme

5. Text messaging trial results

5.1. Objective 1 Improved Communication

There was continued very positive, mostly unsolicited, feedback from clients during the time of the “txt2remind” trial. e.g. “Reminder texts are fab ! Love them”; “Thank you for the text message –they are brilliant. I schedule my depo injection 3 months in advance , therefore the reminder texts will be fantastic for the odd occasion I have forgotten my appointment.”; “Very useful service. Could you please continue doing it”.

5.2. Objective 2 Saving staff time

In Takapuna Clinic there was a striking decrease (32%) in the average length of calls to mobiles in the trial period (16.94 hours/month) compared with the previous 8 months (24.87 hours). This represents one day of receptionist time per month.

5.3. Objective 3 Decreasing number and cost of calls to mobile phones

In the trial period the number of calls to mobiles at Takapuna decreased by approx a third from 1056 per month to 696 per month with a corresponding decrease in monthly cost. However the combined monthly average cost of texts plus calls to mobiles did not decrease as the number of texts sent outweighed the decrease in calls to mobiles. This trend has continued after the trial period

5.4. Objective 4 Increasing appointment productivity

The text messaging failed to produce a large decrease in failed appointments during the trial period. There was a small decrease from 7.8% to 5.9 % failure for nurse appointments in Newmarket and no change at Takapuna. However at that clinic failure rates were already running at less than 4% and it may be unrealistic to expect any less. This is in contrast to the up to 38% reduction in appointment failure rates reported with text reminders in hospital outpatient clinics however these had all started at much higher levels. A procedure was also put in place to easily identify those clients without mobile phones who would not receive the automated text reminders so they could continue to receive a phone reminder.

Some minor problems were experienced with the programme, mostly relating to issues around the server log in and programme settings within the clinics and some issues around server overload at the vendor end initially.

6. Outcome

In September 2007 the decision was made to purchase the txt2remind programme for the 17 larger computerized Family Planning clinics throughout NZ. Installation started in November 2007 and was completed in June 2008 though one clinic has not yet commenced using the programme. Clinical staff are now using the programme to notify clients of lab results. In Newmarket Clinic, in the period June to August 2008, a total of 252 text messages about laboratory results were sent to clients directly from nurses or doctors. This was 8.6% of the total number of texts sent in that time period.

7. Acknowledgments

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