



# R U OK 2 TXT 4 RESEARCH?

## Feasibility of text message communication in primary care research

### BACKGROUND

Young people have led the recent rise in prevalence of text message usage, which is increasingly used in clinical settings.

### OBJECTIVE

To assess the feasibility and acceptability of text message communication as a research tool in clinical research.

### METHODS

One hundred and ten consecutive young patients aged 16–24 years were recruited in four general practices (one inner urban, one outer urban, one rural and one university practice) in Victoria and interviewed before the consultation. If the patients had a mobile phone, they were asked to provide their mobile phone number so that following the medical consultation they could receive a single question, via text message, about their satisfaction with the consultation.

### RESULTS

Ninety-one percent of patients participated: 87 of 96 (91%) had a mobile phone and 85 of 87 agreed to provide their phone number for the purpose of research. There was no influence of practice sociodemographic characteristics.

### DISCUSSION

Text messaging is a feasible and acceptable method of communication for research purposes with young people attending primary care.

**Young people have led the recent rise in prevalence of text message (short message service [SMS]) usage, opening new pathways of communication. In 2002, 72% of Australian and 75% of British households had a mobile phone.<sup>1,2</sup> Text messaging is increasingly used by health professionals to remind patients of appointments or to send concise test results with follow up advice.<sup>3</sup> Health service providers now use text messaging to support young people in managing their diabetes<sup>4</sup> or asthma.<sup>5</sup> Reports suggest text message communication between doctors and patients is effective,<sup>3</sup> although evidence for this is awaited from trials.<sup>6</sup> Patients with chronic illnesses might acquire a mobile phone specifically to facilitate management of their disease.<sup>5</sup>**

Text messaging offers specific advantages over direct telephoning. For example, individuals may immediately be aware of an incoming message but can choose a convenient time to read it and respond (similar to email, but more confidential).<sup>3</sup>

Text messaging is little exploited in clinical research. It is not known whether young people would accept its use in clinical research, with a particular concern being health care confidentiality.<sup>7</sup> Whether they would see text messaging

as an advantage or disadvantage in this respect is not documented. This study therefore aimed to explore this.

### Methods

The study was undertaken in four general practices in Victoria. The practices were purposively selected to sample different settings (one inner urban, one outer urban, one rural and one university practice). Consecutive patients aged 16–24 years were approached as part of a wider research project on young people's perspective health problems. Over a period of 4–5 days in each practice, participants were recruited in the waiting room, and invited to participate in the larger study (of which this text messaging study was one component).

Consenting patients were asked to provide their mobile phone number so that following the medical consultation they could receive a single question, via text message, about their satisfaction with the consultation. The research group examined both feasibility (proportion of patients who had a mobile phone) and acceptability (proportion of patients who provided their mobile phone number for the purpose of research), and also sociodemographic data and structural factors that could affect feasibility.

Differences between the sociodemographic profiles of each practice were examined using chi square and analysis of

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**Table 1. Sociodemographic characteristics of participants and feasibility and acceptability of text message use, by practice**

Sociodemographic characteristics	Practice					Total (n=96)	95% CI
	University (n=32)	Rural (n=24)	inner urban (n=20)	Outer urban (n=20)			
Mean age (SD, range)	21.4 (1.6, 18–24)	19.7 (2.3, 16–23)	20.7 (2.5, 17–24)	19.8 (2.9, 16–24)	20.5 (2.3, 16–24)		
Male	10 (31)	8 (33)	7 (35)	10 (50)	35 (35)		
Student	31 (97)	13 (54)	10 (50)	8 (40)	62 (65)		
Employed full time*	1 (3)	10 (42)	5 (25)	12 (60)	28 (29)		
Unemployed/home duties	0 (0)	3 (13)	7 (35)	1 (5)	11 (11)		
Concession card holder**	6 (19)	7 (29)	12 (60)	5 (25)	30 (31)		
Australian born	9 (28)	24 (100)	11 (55)	18 (90)	62 (65)		
<b>Feasibility</b>							
Useable mobile phone	29 (91)	22 (92)	17 (85)	19 (95)	87 (91)		83–96
<b>Acceptability</b>							
Agreed to provide number	29 (100)	21 (95)	17 (100)	18 (95)	85 (98)		92–100

\* Five individuals worked full time and were students as well \*\*Receiving welfare financial support

variance (age being the only continuous variable) to assess significance. Chi-square and analysis of variance was applied to examine the association between sociodemographic characteristics and the acceptability of text message use.

Ethical approval was provided by the Ethics in Human Research Committee at the Royal Children's Hospital, Melbourne.

## Results

One hundred and ten consecutive young patients were approached: 10 (9%; CI: 4–16%) declined to participate; four (4%; 95% CI: 1–9%) were excluded either because they were too unwell (three) or because they did not speak English (one), leaving 96 participants.

Patients' sociodemographic characteristics differed significantly between practices in the proportion of students, unemployed individuals, concession card holders and overseas born participants (Table 1).

Eighty-seven of 96 (91%; 95% CI: 83–96%) had mobile phones. Only two declined to give their number for the purposes of research.

There was no evidence of association between acceptability and age ( $p=0.63$ ), gender ( $p=0.99$ ), birth origin ( $p=0.20$ ), student status ( $p=0.43$ ), practice ( $p=0.93$ ) or receipt of welfare support ( $p=0.09$ ). Thirty-two of the 44 (73%) participants who were actually sent a message replied.

Some structural factors were identified: inadequate mobile telephone network coverage in the rural practice led to delays in sending messages; the cost of sending a text message

(approximately \$0.25) slightly exceeded the usual cost of printed material, although no participant expressed concern about paying for text message replies; researchers could not send text messages near medical equipment because of safety concerns.

## Discussion

The study found that text messaging can be used to communicate with young patients for primary care research. Selection bias from differential possession of mobile phones probably would be modest as the proportion of users was high in all practices. Results may not be extrapolated to patients outside this age range or to other settings, however, this form of communication will probably extend into other groups. Geographical coverage is also likely to expand – improving mobile telephone network coverage is a commercial priority for telephone companies. Disruption of medical equipment remains a concern, although a recent review suggests that incidents were unlikely to be caused by usage of mobile phones more than 1 metre away.<sup>8</sup>

There are several possible opportunities for the use of text messaging in research: quality assurance studies; clinical trials to monitor diet, daily responses to treatment, or adverse events; and longitudinal studies to track participants. As mobile phone technology becomes more sophisticated, so opportunities for complicated data capture arise, eg. participants sending a photo of their meals for more precise evaluation of diet, or completion of questionnaires from hand held computer phones.

## Implications for general practice

What we already know:

- Text messaging is increasingly popular.
- Health professionals use text messages to communicate with patients.

What this study shows:

- General practice patients aged 16–24 years have high rates of mobile phone ownership.
- Most accept text messaging as a valid means of gathering research data.

Conflict of interest: none declared.

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