BACKGROUND
Successful recruitment to primary care studies is critical if high quality research is to be undertaken and if the research findings are to be representative of the population being researched.1 However, a recent survey of UK primary care trials found that problems with recruitment was the norm; for example, over half of the trials reported in one study ran past their recruitment timetable or had to seek additional funding to complete their data collection.2 Non-completion of studies is costly both in economic terms as well as in participants’ time. It is discouraging to the participation of primary care professionals in research if it is perceived that completion of a trial is both difficult and a potential waste of their resources. Non-completion can also increase the reluctance of funders to support primary care research.3–5

In an effort to facilitate primary care research, the National Institute for Health Research (NIHR) Primary Care Research Network (PCRN) was set up in 2006. One of its key aims is to provide local researchers with the means to achieve better recruitment into primary care studies.6 Since the PCRN’s inception, it has become clear that there is not a ‘one size fits all’ recruitment strategy. There are marked differences between the approaches adopted by academia and industry to trial recruitment: in industry, practices may be treated as a ‘research substrate’ rather than as ‘active partners’ (the NIHR approach) and are generally offered financial incentives for each individual patient recruited.7 Other differences include a greater emphasis on marketing and communication strategies by industry and recognition of the need to create a ‘strong identity’ for the study, reinforced by project material that has a ‘strong visual impact’.8

As the demand on general practice time grows, there is the real risk that invitations to take part in research will be buried among the myriad communications received by general practices. In industry, marketing techniques, such as viral marketing, have been developed to maximise ‘product identification’ and to spread the message as widely as possible in the most memorable way to attract public attention, which is ultimately reflected in increased sales.6

Viral marketing depends on a high ‘pass-along’ rate to deliver a message transmitted in an ‘exponentially growing way’.9,10 Many criteria must be met for viral marketing to be successful but for the purpose of this study we aimed to use three basic criteria for the recruitment of general practices to a research project; in other words, ‘giving the right message to the right messengers in the right environment’.9

This paper describes the recruitment strategies employed by a research team to recruit practices and patients to a randomised controlled trial of a patient decision aid (PANDAs), that supports shared decision making by clinicians and people with type 2 diabetes mellitus. It describes how the research team approached and maximised the recruitment of practices using a combination of modified marketing techniques and traditional recruitment methods (Box 1 and 2).

METHODS
An initial recruitment strategy employing viral marketing techniques was used for the first phase of practice recruitment in Sheffield. By contrast, recruitment in Doncaster and Rotherham, 6–9 months later, employed traditional recruitment strategies.

Phase one — ‘A strong identity’
Phase one of the recruitment strategy was to develop a strong identity to make the study instantly recognisable and memorable. This was done through the design of all the project documentation including the PANDAs postcard, which used bright colours with a picture of parachuting panda bears (Figure 1). On the back of the postcard, the message: ‘PANDAs are coming’ was written with no further details or information. The team sent the postcard to the managers of all the practices in Sheffield including all those who had a special interest in diabetes. The postcard created a strong identity for the trial.

Phase two — ‘The right message to the right messengers’
Following the postcard a follow-up invitation letter with a PANDAs flyer was sent to the practices. This simply asked the recipients to ‘look out for PANDAs, PANDAs are coming’. No further information was given at this stage.

At the same time, members of the research team were beginning to spread news of the trial (‘the PANDAs message’) through the local primary care networks; for example, by presentations at the local practice nurse forum, the local Diabetes UK group, practice-based commissioning groups, and at a group of quality assured, incentivised general practices across South Yorkshire. No written materials were distributed in this phase although following individual discussions and oral presentations, interest in participation by individual practices was noted.

Phase three — ‘The right message to the right messengers in the right environment’
Phase three of the study was the recruitment of both practices and patients to the trial, which took place initially in Sheffield. We hoped that in the first phases the local opinion leaders had been engaged and the right environment was being created by ensuring the right messengers had received the right message. All the practices that had previously been sent the postcard and the flyer were sent an invitation pack to participate in the study. This included a letter describing the study,
The number of consented practices was the initial invitation to participate. Although special interest in diabetes responded to above (Table 1). All of the practices with a special interest in diabetes expressed an interest in the PANDAs study following the use of the marketing protocol, compared to the general practices in Sheffield, which was higher in Sheffield, the difference was much smaller because Doncaster and Rotherham entered the study at a later stage when sufficient practices had been recruited to the study.

DISCUSSION
Common barriers to general practice trial recruitment include time constraints, lack of funding, lack of interest in research, and a perception that patients need to be protected. However, we believe that a combination of modern marketing strategies and more traditional recruitment strategies through existing research networks offers a way of improving primary care trial recruitment. Although no cause and effect relationship between the strategy and the numbers recruited can be claimed, it is plausible that the strategy improved recruitment in the following ways.

The message
In any marketing or recruitment strategy the message is critical. However, the message will only be passed on if the messengers believe it is interesting and memorable enough. In the PANDAs study with an information sheet and details of the study and financial incentives, a reply slip, and a ready-paid reply envelope. A second invitation pack was sent after 2–3 weeks to practices who did not respond, followed up by a telephone call to the practice. Practices were also given the option of expressing interest for future contact, which some chose to do initially and subsequently became part of the study.

As a comparator, general practices in Doncaster and Rotherham were recruited between 6 and 9 months later using traditional academic recruitment techniques [Phase 3].

RESULTS
Almost three times as many practices in Sheffield expressed an interest in the PANDAs study following the use of the marketing protocol, compared to the practices in Doncaster and Rotherham, who were recruited following the more traditional recruitment process described above (Table 1). All of the practices with a special interest in diabetes responded to the initial invitation to participate. Although the number of consented practices was also higher in Sheffield, the difference was much smaller because Doncaster and Rotherham entered the study at a later stage when sufficient practices had been recruited to the study.

| Number of GP practices approached | Number of GP practices expressing an interest | Number of GP practices consented |
|----------------------------------|---------------------------------------------|---------------------------------|
| Sheffield 105                    | 72 (69%)                                    | 36 (34%)                        |
| Doncaster 45                     | 11 (24%)                                    | 11 (24%)                        |
| Rotherham 41                     | 10 (24%)                                    | 7 (17%)                         |
| Total 191                        | 93 (49%)                                    | 54 (28%)                        |

Box 1. Core features of viral marketing techniques
- Successful marketing depends on addressing a number of key issues: what is going to be produced, how it will be delivered, and how it will be passed on to customers.
- Industry emphasises the critical need to create a strong identity reinforced by materials that have a strong visual impact.
- Viral marketing is defined as electronic word-of-mouth whereby some form of marketing message related to a company, brand, or product is transmitted in an exponentially growing way — often through the use of social media applications. It depends on a high pass-along rate to deliver the message.
- Three conditions need to be fulfilled to create a viral marketing epidemic: giving the right message to the right messengers in the right environment.

Box 2. Implications for PCRN and NSPCR
- Recruitment to primary care trials can be maximised using a variety of strategies.
- One potentially successful additional strategy is the use of modern marketing techniques such as viral marketing.
- Personal contacts and established research networks remain key to recruitment and retention of practices in studies.
- A culture of partnership working is essential for the success of any recruitment and retention strategy.

Table 1. Practice recruitment

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this involved creating a strong identity, developing project materials which would be instantly recognisable and memorable, and ensuring that the messengers had the opportunity to encounter the message and become part of the strategy. The aim was to produce material that would evoke a positive emotional response to encourage interest in the study. The postcard, with its depiction of small, wide-eyed pandas, requiring adult protection, was designed to promote just such an emotional response.

The messengers
It is essential to find the right people to spread the message. Kaplan and Haenlein8 for example, identify three groups of messengers that are required to transform a message into a viral phenomenon; market mavens, social hubs, and salespeople. Market mavens are individuals who are usually the first to receive the message and are central to passing on information. The market mavens in this study were the practice managers.

The social hubs are people who have a large number of social connections, and can facilitate the transmission of the message to others. In PANDAs, the social hubs were the GPs and practice nurses — not only those who had a special interest in diabetes but also other practices with more general interests. Practitioners with a special interest have strong connections in the local health community as opinion leaders.

The salespeople were the research team who laid the groundwork through informal contacts, discussions and presentations to individuals, and organisations prior to recruitment [‘sales’].

The environment
The environment for recruitment was general practice and the messengers only pass on the message if they think it is not something that everyone already knows about. Timing is also essential and the message must be sent at the right time and to the right place. General practice has peaks and troughs of activity, for example, during the autumn and winter months; not only must the message be memorable and unique but the timing is crucial if it is
not to be lost among seasonal demands. A little luck is nearly always needed since the environment is also volatile; for example, some practices did not enrol immediately because the invitation coincided with the outbreak of the flu pandemic in 2010. By combining modern marketing techniques with more traditional recruitment methods, we were able to focus on those practices which were, more rather than less, likely to participate. After sending out the postcards and invitation letters the focus was on those who replied immediately. Practices became aware of the ‘brand’ we were ‘selling’ because a strong, memorable identity had been created by the postcard sent to the Sheffield practices. The success of this was reflected in the number of practices expressing an interest following the mailing of the project details bearing the PANDAs logo.

Conclusions
Despite all the barriers, it is possible to maximise recruitment to primary care trials using a variety of strategies, and one particularly successful additional strategy is the use of modern marketing techniques. However, personal contacts and established research networks remain key, to not only recruitment but also to the retention of practices in studies. All practices need regular updates, contact phone numbers, and recurrent invitations to raise any problems they have with the research team.

Finally, a culture of partnership working is essential for the success of any recruitment and retention strategy. Any impression of practices being a research substrate for ‘ivory tower’ researchers will be as effective in trial recruitment as a lead balloon is likely to fly.

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