

# MMR vaccination advice over the Internet

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## Abstract

We wanted to investigate what advice UK homeopaths, chiropractors and general practitioners give on measles, mumps and rubella vaccination programme (MMR) vaccination via the Internet. Online referral directories listing e-mail addresses of UK homeopaths, chiropractors and general practitioners and private websites were visited. All addresses thus located received a letter of a (fictitious) patient asking for advice about the MMR vaccination. After sending a follow-up letter explaining the nature and aim of this project and offering the option of withdrawal, 26% of all respondents withdrew their answers. Homeopaths yielded a final response rate (53%,  $n = 77$ ) compared to chiropractors (32%,  $n = 16$ ). GPs unanimously refused to give advice over the Internet. No homeopath and only one chiropractor advised in favour of the MMR vaccination. Two homeopaths and three chiropractors indirectly advised in favour of MMR. More chiropractors than homeopaths displayed a positive attitude towards the MMR vaccination. Some complementary and alternative medicine (CAM) providers have a negative attitude towards immunisation and means of changing this should be considered.

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## 1. Introduction

Complementary and alternative medicine (CAM) raises much public and professional interest and the predictions are that CAM will become even more popular in the future. In the United States the CAM usage in the general population has risen from 33% in 1990 to 42% in 1997 [1]. In the UK this number is smaller (20% in 1999) but also increasing [2]. The reason people turn to CAM are diverse, one is dissatisfaction with areas of the mainstream medicine, including immunisation.

Immunisation is presently a highly controversial topic. Many CAM practitioners are supporters of the ‘anti-vaccination movement’. The measles, mumps and rubella vaccination programme (MMR) has been of recent concern among professionals, parents and the general public. This concern was caused by claims that the MMR vaccination could be related to autism, Crohn’s disease and inflammatory bowel disease [3]. As a consequence, rates of MMR vaccination fell from 92% in 1996–1997 to 88% in 1998 [4]. In a survey for BBC Radio 5 Live, more than half of

GPs surgeries reported that the uptake of the MMR vaccine had fallen [5].

Anti-vaccination groups and campaigns are gaining support, particularly in the USA and Western Europe [6]. Chiropractors, homeopaths and naturopaths often advise their clients against immunisation [7]. In a survey investigating US chiropractors’ attitudes, one-third agreed that there is no scientific proof that immunisation prevents disease and that vaccinations cause more disease than they do prevent [8]. In an Australian survey 83% of all Sydney homeopaths did not recommend immunisation [9] and a German survey found that active immunisations against the ‘classic childhood diseases’, including MMR are used with more restraint among homeopathic physicians [10]. In another study of 117 Austrian homeopaths only 33 homeopaths rated immunisation as an important preventive procedure [11]. The chiropractic profession has also repeatedly expressed their negative view on vaccination [12]. The reasons for this are complex and rooted in the early philosophy of these approaches to healthcare. The early chiropractic philosophy considered most diseases to be a result of spinal nerve dysfunction caused by misplaced vertebrae. A minority of chiropractors is still accepting this concept [13].

On this background, the purpose of this survey was to investigate what advice UK homeopaths, chiropractors and general practitioners give regarding MMR vaccination.

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## 2. Method

All e-mail addresses listed in UK practitioner referral directories online and private websites were extracted. Homeopaths' e-mail addresses we found at <http://www.homeopath.co.uk/directory> and at homeopaths' private homepages. Chiropractors' e-mail addressees we recruited from [http://www.chiro-online.com/interadcom/engl\\_dc.html](http://www.chiro-online.com/interadcom/engl_dc.html) and at various chiropractors' private homepages. GPs' e-mails were extracted from <http://www.internetgp.com/gpsites/alphabet.htm>. We also intended to involve naturopaths. However, no database for UK naturopaths was accessible. Thus, only homeopaths, chiropractors and GPs were chosen.

All practitioners thus identified received the same query about MMR immunisation from a mother hesitating to give the MMR vaccine to her baby daughter (Appendix A). After 2 weeks of data collection (spring 2002), all respondents were informed that they had received an e-mail from a fictitious patient, as part of a research project. Confidentiality was assured, the intention of the project was explained and all participants were given the option of withdrawing from the project at this stage. Consent was implied through a non-response to the follow-up e-mail (Appendix B).

The following criteria were applied for evaluation of the remaining data: (1) Do practitioners respond to requests for vaccination advice by e-mail? (2) Do the respondents advise in favour of vaccination? (3) Are there statistically significant differences between the three groups regarding the nature of the advice given? Responses were categorised into (a) advising to have MMR (positive response), (b) advising not to have MMR (negative response), (c) indirectly advising to have MMR (for instance, using phrases, such as "If I had a child I would probably sway towards vaccinating it using the MMR vaccine") (positive response), (d) indirectly advising not to have MMR (for instance, stressing that own children were not vaccinated, or using phrases, such as "in principle I am against inoculation" or "I would most likely look at alternatives to vaccination") (negative response), (e) advising to obtain as much information as possible (neutral response), (f) no advice (neutral response) and (g) advising to have separate vaccinations for measles, mumps and rubella. Our local ethics committee gave ethical approval to the protocol of the project in April 2002.

The responses were analysed independently by two blinded researchers.  $\chi^2$  analyses were employed to sta-

tistically assess differences between groups using SPSS statistical software.

## 3. Results

One hundred and sixty eight e-mail addresses of homeopaths were contacted (Table 1). Of the 144 e-mails that were delivered we received 104 responses (response rate = 72%). Of those, one response arrived at a date beyond the deadline. Twenty-seven homeopaths (26%) wished to withdraw from the project after being debriefed about its nature. Of the 77 participating homeopaths, none advised the mother in favour of the MMR vaccination for her daughter, 3 (4%) openly advised against the MMR vaccination, 2 (3%) homeopaths indirectly advised to get the MMR, 28 (36%) indirectly advised not to have the MMR, 22 (29%) advised the mother to obtain as much information as possible before deciding, 14 (18%) gave no advice but offered their telephone number or a consultation with another homeopath, 5 (7%) advised to get individual vaccines and two homeopaths (3%) suggested neither to have the MMR nor any homeopathic vaccine but to treat the illnesses individually with a homeopathic remedy when they occur. Twenty-one different websites were recommended for further information.

Sixty-three e-mails to chiropractors were sent out, of which 50 were delivered. We received a total of 22 responses (response rate 44%). Six chiropractors (27%) withdrew their response. One chiropractor (6%) recommended getting the MMR vaccination, three (19%) indirectly advised not to have MMR, three (19%) more indirectly advised having the MMR and a further three (19%) advised to obtain as much information as possible before making a decision. Five chiropractors (31%) gave no advice and one (6%) suggested getting individual vaccines. Three websites were suggested by chiropractors for further information.

We sent e-mails to 111 GPs, of which one message was returned. We received no responses from GPs. We therefore decided to send the same letter to National Health Service (NHS) Direct and received the following reply "... (we) are unable to provide advice on the MMR vaccine. We are able to give general information about the vaccine from accredited public health websites only. We cannot advise you on single dose vaccines, or where to obtain them." NHS Direct recommended four websites for more information.

Table 1

Professional group	Response rate (%)	Withdrawal rate (%)	Advise to immunise <sup>a</sup> (%)	Advise not to immunise <sup>a</sup> (%)
Homeopaths ( <i>n</i> = 168)	104 (72)	27 (26)	2/77 (3)	31/77 (40)
Chiropractors ( <i>n</i> = 63)	22 (44)	6 (27)	4/16 (25)	3/16 (19)
General practitioners ( <i>n</i> = 111)	0 (0)	NA <sup>b</sup>	NA	NA

<sup>a</sup> Directly or indirectly (of those who responded and did not withdraw).

<sup>b</sup> NA: not applicable.

Using  $\chi^2$ -test to compare responses between homeopaths and chiropractors, we distinguished between positive and negative attitudes towards MMR. There was no significant difference in negative attitudes between responses from chiropractors and homeopaths,  $X^2(1, n = 92) = 1.74$  ( $P = 0.05$ ). However, there was a significant difference in positive attitudes between the two groups,  $X^2(1, n = 92) = 10.18$  ( $P = 0.05$ ). Significantly more chiropractors displayed a positive attitude towards MMR vaccination.

#### 4. Discussion

None of the practitioners involved in this study can be seen as representative of any organisation nor are they representative of their profession. When visiting websites of homeopaths' and chiropractors' organisations, no policy statements for guiding parents on the vaccination debate were found.

Our results confirm previous observations [5] that some CAM providers advise their patients against immunisation. The conclusiveness of our findings is limited by the small sample sizes and the low response rates. The sample sizes were determined by the number of e-mail addresses we were able to locate. The response rates were reduced through the option of withdrawal, which we felt was an ethical imperative. Initially, homeopaths showed a good response rate (72%) compared to chiropractors (44%). These figures were reduced to 53 and 32%, respectively, through subsequent withdrawals. Remarkably, GPs unanimously abstained from advising over the Internet, which resulted in a response rate of zero. No homeopath and only one chiropractor directly advised in favour of the MMR vaccination. Two homeopaths and three chiropractors indirectly advised in favour of the MMR. More chiropractors displayed a positive attitude towards the MMR when compared to homeopaths.

We are keenly aware of the fact that this study raises important ethical issues, it represents research on human subjects without informed consent. In order to minimise our ethical dilemma we fully debriefed all participants after responses had been received. This step does not, however, entirely solve the ethical problem of not obtaining informed consent. Informed consent would have rendered this project impossible. We (and our ethics committee) felt that identifying a potential safety issue in the interest of public health had sufficient potential benefit to outweigh the small risk, namely wasting practitioners time or alienating them. In fact, several respondents were appreciative of our project and accepted that it might contribute to participants' re-thinking their position on the MMR-vaccine and the nature of any advice given on the Internet. Others felt that a study such as ours could help CAM professions to be more accepted and to obtain a better status in healthcare. Unfortunately, we also received three official complaints about our investigation.

If one accepts, firstly, that MMR vaccination does more good than harm and, secondly, that some CAM providers are

an obstacle in obtaining this net benefit, one must consider ways of changing the attitude of such practitioners. Obviously, this is much easier said than done. We believe that a strategy to achieve this aim should include a rational and open debate about the pros and cons of immunisation in the chiropractic and homeopathic literature. Moreover, the media would have an important role to play in objectively informing both, the general public and the growing population of CAM providers on the potential risks and benefits of (MMR) vaccination.

In conclusion, our study has confirmed previous investigations, suggesting that some CAM providers have a negative attitude towards immunisation, specifically MMR. With the raising popularity of CAM this could amount to a major threat to public health. Ways of rationally debating the issues with proponents of CAM should therefore be found.

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#### Appendix A

Dear homeopath/chiropractor/GP,

My 1 year old daughter is coming up for MMR vaccination but I am not sure whether she should have the MMR at all. I want the best for her but there is so much about it in the news at the moment. My friend has been told by her therapist better not to get the MMR for her son. Can I ask your advice? Should I go ahead with the MMR, should I try separate vaccination or should I not vaccinate at all? Or perhaps, is there an alternative to vaccination?

I would very much appreciate your opinion.

Best wishes, Laura Phillips.

#### Appendix B

Dear homeopath/chiropractor/GP,

A few weeks ago you received an e-mail from a young mother asking you for advice on vaccination for the immunisation of her child. The patient 'query' you received was part of a research project investigating homeopaths'/chiropractors'/GPs' responses to this vignette. The aim of the project carried out by the Department of Complementary Medicine, University of Exeter is to investigate what sort of MMR advice is given via the Internet and to publish the results in a scientific peer-reviewed journal. This study is part of a wider research project about the safety of Internet advice and our protocol has received ethical approval by an independent ethics committee.

You can rest assured that confidentiality will be strictly observed and that at no stage will your identity be disclosed

to anyone outside this research project. If you have any questions, please do not hesitate to send me another e-mail.

This e-mail is a follow-up, asking you retrospectively for your informed consent. If we may use your original response you do not need to reply to this. We will then assume you agree. However, if you would like to withdraw from the study please reply to this e-mail and state that you would like to withdraw, in which case we will exclude your response from the report and completely remove it from our records. Responses received 14 days after we have sent the original e-mail will be discarded and counted as non-responses.

Thank you very much for your understanding.  
Best wishes, Katja Schmidt.

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