Confidentiality and consent in medical research

Overcoming barriers to recruitment in health research

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The public needs to be included in debates about what is, and isn't, in its best interests. Until then, ethics committees should suspend their preference for "opt-in" recruitment to research projects

This article is the third in a series building on a recent Medical Research Council initiative relating to use of personal information in medical research

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The burden and expense of implementing current research ethics and governance requirements are beginning to be recognised.[1 2] However, the ethical requirements may also affect the quality of the primary research. Ethics committees are now insisting that researchers can approach only people who respond positively to letters from their general practitioner or hospital clinician, informing them about an opportunity to take part in research—that is, people who have opted in.[3 4] However, the ethical benefits of this approach are not proved and it can lead to low response rates, wasted resources, and research of limited validity.

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Opting in and out

Before the changes, properly vetted and approved researchers were allowed to contact potential participants directly after NHS staff had identified and sent information to them about the research. The initial letter from NHS providers stated clearly that if people did not want to be contacted by researchers they should let NHS staff know, so that their contact details would not be passed to the research team—that is, they could opt out. By contrast, many ethics committees now require that researchers approach only people who respond positively to a letter from their general practitioner or hospital clinician informing them about an opportunity to take part in research—that is, potential participants must opt in to being contacted by a researcher.[3 4] Under both systems, the researcher then seeks informed consent for participation.

An opt-in system for approaching potential participants is claimed to benefit patients because it ensures that only healthcare providers have access to the information that, say, someone has diabetes unless that individual has explicitly agreed to the information being given to a third party. However, we believe that in most cases the adverse effects on the conduct of methodologically rigorous research more than outweigh any putative advantages.

Firstly, scientific losses must be considered as well as confidentiality gains. If scientific losses are real, patients and the public need to know about them, because they may prefer a carefully regulated opt-out system to an opt-in system that produces evidence—and care—of poorer quality. Such losses are likely to vary according to the type of study but could include:

- Failure to include participants who might benefit most from an intervention (such as those who have more severe disease or are socioeconomically disadvantaged)
- Underestimation (or overestimation) of the incidence or prevalence of a condition
- Biased assessment of the association between an exposure or risk factor and a health outcome
- Failure to detect differences in quality of care and outcome between socioeconomic or ethnic groups
- Failure to capture the full range of views and perceptions about a health issue.

Secondly, for most patients the claimed confidentiality benefits may not be real. Patients may distinguish between different kinds of third parties and may not consider, for example, a brief telephone call after a letter explaining the proposed research to be an unjustifiable invasion of their privacy if there seems to be a good reason for the call and their privacy is in all other respects protected. If, as seems likely, many people who do not respond to a request would not object to being approached by a researcher, an opt-in system may deprive them of the opportunity to participate in research or allow their records to be used for such purposes. Indeed, some people might prefer an opt-out system because of the support and reassurance that personal contact can provide. This raises the possibility that the advantages and disadvantages of the two systems might be distributed differently across patient groups. All of these arguments point in the same direction: if some kind of trade-off between confidentiality costs and health benefits is unavoidable, the debate about what it means to protect patients' interests must be public.

Evidence of compromised scientific quality

For "catch 22" kinds of reasons, few randomised trials have compared the numbers and characteristics of participants recruited to research projects under opt-in and opt-out conditions. (We know of at least one such trial considered unacceptable by an ethics committee, I Nazareth, personal communication). Nevertheless, two recent studies, one a trial, have provided some relevant information.

A randomised controlled trial comparing the two recruitment strategies in a prognostic study of patients

with angina concluded that the opt-in approach "resulted in lower response rates and a biased sample."[5] The response rate to the opt-in approach was 12% lower as judged by clinic attendances, and patients in the opt-in arm had fewer risk factors and less functional impairment. Once the appointment was made attendance at the clinic was similar in the two groups, suggesting that those recruited through the opt-out approach were not less motivated to participate in the research.

In Scotland, a survey of 10 000 adults in which participants had to opt in to being sent a postal (or electronic) questionnaire about communicating their views to the NHS achieved a response rate of 20%.[4] Previous surveys in the same geographical area but without the extra consent stage had achieved response rates of 70-80%. There was also evidence of increased non-response bias with the opt-in approach.

These results should be considered in the context of extensive epidemiology and health services research showing that apparently small procedural changes in how research participants are recruited can lead to scientifically important biases as well as lower recruitment rates. Research on factors influencing the response to postal questionnaires is particularly extensive,[6–8] and indicates that bias and reduced response rates under an opt-in system are not just plausible but predictable. Until the size of such effects is known, neither potential participants nor experts acting on their behalf can set costs against any putative benefits. If trials are considered unethical, we need a meta-analysis of existing recruitment data, perhaps supported by a consortium of research funders with access to unpublished data from project progress reports, etc.

Do participants object to opt-out systems?

Catch 22 applies once again, but a recent example of a project in which researchers were allowed to approach patients directly is provided by the Southampton women's survey.[9] Women were sent information and then telephoned by researchers acting under contract to general practitioners; more than 12 500 women (about 75% of those contacted) agreed to join the study. Only a small number queried the researcher's right to approach them, and only a handful maintained a critical stance when the reason for the call was explained, the researcher's credentials were established, and the importance of the research topic was conveyed. This suggests that public concern about an opt-out approach is minimal and likely to be outweighed by the potential for harm from biased results from opt-in approaches.

Support for the general claim that the public considers some invasions of their privacy to be justifiable is provided by a recent national survey that found favourable public attitudes towards the use of the National Cancer Registry for identifying and contacting potential research participants.[10] The right to privacy of the minority who do not wish to be approached is safeguarded under an opt-out system.

More debate is needed on the characteristics of research that would, and would not, justify an opt-out approach, but patients seem likely to view opting out as appropriate for most projects relevant to the NHS. Particularly sensitive topics might justify a different strategy, but ethics committees should presume that opting out is the best approach and opting in might occasionally need to be used—the opposite of current practice. The needs of people unable to opt out—for example, because of severe mental incapacity or terminal illness—have to be carefully considered, but in most cases their doctors would be able to exclude them at the stage of sending initial letters.

Decisions to opt in

Little is known about why many people agree to take part in research if the researcher approaches them but far fewer if they have to take the initiative and approach the researcher. The opt-in figure may be argued to be a better reflection of the numbers who actually want to participate because researchers have no opportunity to coerce potential participants. However, researchers are also unable to clarify or extend the information initially provided, which for both practical and ethical reasons is usually kept fairly brief.

Given the important role of the initial information sheet, do we know what information potential participants need and wish to have in order to opt in to research?[11] And what kind of information do they regard as coercive? Is it coercive to draw attention to a complimentary article about the research in the local newspaper, for example? A systematic review showed that monetary incentives doubled the odds of responding to postal questionnaires,[6] but ethics committees may see their inclusion as an undue inducement. It could equally be argued, however, that it is legitimate to compensate participants for the opportunity costs of taking part in research.

We can find out what information potential research participants are given, and what regulatory authorities say they should, and should not, be given. But that is not the same as knowing what information they would wish or need to be given. Health research is likely to be novel for many potential participants, and few will understand its scientific basis. Most people may not realise the importance of a high response rate, and so some may conclude that their participation is not needed. Others may erroneously assume that their response will not be useful because they are not very articulate, because only "typical" patients will be wanted, or because they cannot see, read, or walk very well. Patients may also have more hostile misconceptions. Although events at Alder Hey did not concern legitimate research, the scandal may nevertheless have fostered the view that research is a morally suspect activity, conducted in pursuit of researchers' private interests, of poor quality, and on topics of no importance or value to the NHS. Discussion with a researcher could allay some of these concerns.

Most participants will not want detailed explanations of methodological matters, such as the problems caused by biased samples. They are likely to prefer reassurance that the topic is important, that impartial and informed referees have judged the research to be of high quality, and that their contribution is valued and appreciated. Methodological research—for example, on informed consent to trial participation[12–15]—

supports this interpretation and also shows that providing information may not in itself be enough to meet the requirements of informed consent.[16] A system in which potential participants have to give their consent to have their consent sought loses known benefits with no compensating evidence that the crucial first decision is adequately informed.

The information needs of potential participants at the first stage of an opt-out process have not been properly investigated either, and it is likely that mutually beneficial changes could be made. However, in a well regulated research environment—that is, with further information provided as part of the full consent process at the next stage—the consequences of being less than adequately informed at stage one of the opt-out arrangements are relatively minor.

Consequences of change

Certain kinds of research have suffered more than others under the present system, but winners and losers are determined by administrative factors not research priorities. The least affected are projects in which participants are recruited as they attend clinics that have research staff in attendance. A member of NHS staff must still identify people who are eligible and make the initial approach, but all the patients have to do is agree that the researcher may come over and talk to them, which may be an agreeable diversion if the clinic is running late. However, having a researcher "on standby" is feasible only if there are likely to be many eligible patients or access to research nurses (for example) working across different projects. Except for the most common conditions, eligible patients may be few and far between, particularly for studies that rely on the opportunistic recruitment of patients with specific conditions in primary care. The full impact of an opt-in system is seen in those projects that require records to be searched and letters to be sent: recruitment rates are lower, more practice time must be spent recruiting, inevitably in competition with other priorities. The arrangement is often unsuccessful and may lead to failure of the study.

We suggest therefore that all NHS users should receive brief information about the potential use of personal information for research and that a strategy to inform individuals about how such research can contribute to improved health should be promulgated. The information should explain that the quality of research depends on recruiting the right participants. Recruitment procedures are part of the science, not an administrative add-on, so if patients and the public want certain kinds of research to be conducted, recruitment procedures need to aim to reduce bias and improve recruitment rates as far as possible. Since participation in research is likely to be determined by perceptions of trust and fairness, the NHS must have a robust and forthright communication strategy to explain why research using personal information is needed and the importance of ensuring high participation rates.

This series arose from discussions stimulated through participation in the MRC's data sharing and preservation initiative, which aims to extend new and secondary research using high value research datasets collected with public funding for the public good. It will lead to a web based route map through current regulatory processes supported by guidance for good practice when using personal data for medical research (www.mrc.ac.uk/strategy-data_sharing_implementation.htm). We thank Peter Dukes and Allan Sudlow for support and advice. The opinions expressed are those of the authors.

Contributors and sources: JH has carried out and reviewed health research conducted under opt-in and opt-out systems. AH chaired a group that developed current MRC guidance relating to use of personal information in medical research (http://www.mrc.ac.uk/pdf-pimr.pdf). AH chairs an MRC working group on managing challenges of consent and confidentiality in research on personal data in medical research. Both authors were responsible for writing the paper, which was based on an original idea by JH. JH is the guarantor.

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Summary points

- Research ethics requirements are compromising the scientific quality of health research
- Opt-in systems of recruitment are likely to increased response bias and reduce response rates
- There is no evidence that potential participants object to a properly regulated opt-out system
- The crucial first decision whether to contact a researcher is unlikely to be adequately informed
- Public debate is needed about what it means to protect patients' interests

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