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The challenges of cross-national research in primary health care across Europe

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Introduction

Cross-national studies in Europe are becoming increasingly common and have an important role in epidemiological research.[1] Kearney *et al*. working on an European Community funded project highlight the benefits of international collaborative research, which include larger sample sizes and generalizability, sharing of expertise and resources, thereby minimising duplication of studies.[2] However, the authors acknowledge that it is also fraught with difficulties. It is complex and involves challenges of management,[3] funding,[3,4] language[2,4] and communication,[2–4] culturally sensitive data collection instruments,[2–4] availability of resources and access to subjects.[4]

Access to and recruitment of participants is a common difficulty in research and within the primary care setting it can be problematic when multiple general practices are involved.[5] The recruitment of participants from multiple general practices within a cross-national European study poses additional challenges.

Reflecting on our experience of a cross-national study, this paper will consider some of the challenges of access to subjects and their participation, some factors influencing access and participation, and will propose suggestions for those undertaking future international collaborations.

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The Immidiet study

The Immidiet study is a population-based cross-sectional study, funded by the European Union (EU). The Immidiet Consortium consists of eight partners from seven sites in five EU countries. Our study compares healthy couples from regions of England, Belgium and Italy in order to evaluate the present dietary habits and the risk profile of the three communities at different risk of myocardial infarction.[6] The prerequisite of healthy couples necessitated that couples were recruited through general practices. Each country set out to establish a local GP network, through which to recruit approximately 270 couples. The required number of couples was recruited from south-east England ($n = 263$), the Flemish territory of Belgium ($n = 268$) and the Abruzzo region of Italy ($n = 270$) (Figure 1). Although the three study teams adhered to the entry criteria and study protocol, differences emerged in the recruitment procedures between the three countries. These included the initial contact with GPs and their role within the study, and thereafter variations in how potential couples were approached (Table 1).

Recruitment of GPs

The first challenge for the Immidiet Consortium was that in two of the three countries there were no official networks of GPs, established either geographically or relating to our topic of interest, through which we could work. Due to the organization of GPs in England, practices were recruited rather than individual GPs within a practice (Table 1). This was in contrast to the large number of GPs who were initially contacted in Belgium and Italy. The total number of GPs in the three countries that agreed to take part was similar (range 43–59), however response rates differed. In England and Belgium the response rate was greater than 50%, whereas in Italy it was only 30% (Table 1).

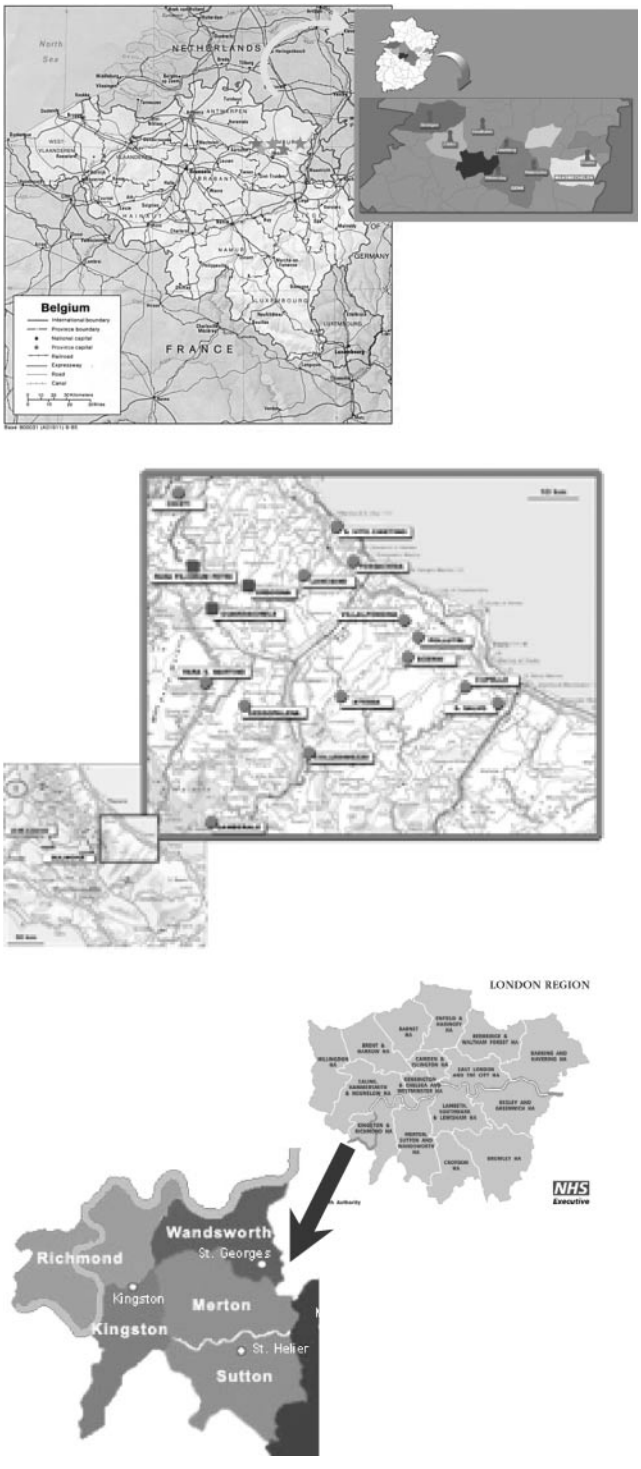

FIGURE 1 *Maps of Belgium with the municipalities of the Limburg area (top panel), of central Italy indicating the Abruzzi region (middle panel) and of the Greater London and the Boroughs of Merton & Sutton (bottom panel) where the Immidiet study was carried out*

Response rates of GPs

General practice is an ideal context in which to conduct primary care research[7] and while the demand for GPs to participate in research is growing[8] the actual recruitment of GPs remains a concern.[9] The response of GPs to their involvement in research is influenced by a number of factors,[7] most notably the perceived relevance of the research question to both general practice and their clinical practice.[8,10,11] In addition, GPs' consider lack of time to be a major barrier to their participation in research.[11,12] Whilst such factors must be considered, in reality it may be necessary to balance the ideal with what is feasible in a local situation. For example, personal practice visits are recommended when recruiting GPs to a study[5] and this method was employed to recruit the English GPs in our study. However, the participating GPs in Italy were situated over an area of 200 km radius (Figure 1) and it was impractical for the study team to visit them individually; instead these GPs were contacted by letter and this may have contributed to the lower GP response rate in this country. If a preferred recruitment method cannot be employed, it is recommended that known improvements are made to the selected method in order to enhance response rates. For example the use of a reminder letter.[1]

When conducting a cross-national study, an awareness of local structures and context is needed to best support participants. Thus the approach in England and Belgium was to utilise the study team in order to minimise the GP workload, thereby reducing the potential for GPs to decline participation through lack of time. Conversely, Italian GPs were expected to have a more active role within our study and this may have led to the higher response rate within the English and Belgian samples.

Conditions to improve GP participation

In the three countries GPs have successfully participated in research and examples of this are the Thrombosis prevention trial in the UK[13] and the Primary Prevention Project in Italy.[14] In the Immidiet study we encountered different levels of research experience and expectation amongst the participating GPs. The need to support the development of scientific research in the context of family practice was highlighted in a recent editorial[15] and academic departments are in an ideal position to facilitate this.[16] Collaboration with GPs was essential in order to access couples who formed the subjects within the Immidiet study. Conditions to achieve such collaboration are described by Kochen[17] and include the co-ordinated organization of GP and investigator networks.[18] A limitation of research networks is that they take time to develop, however they do ensure that studies are relevant to practice.[3] Although the GPs involved in the Immidiet study were recruited after the study question was conceived, local and international GP networks have been established and strengthened and are in place for future research.

Previous cross-national European studies, conducted in general practice have included participants from England, Belgium and Italy.[1,19] However, response rates differ between the three countries and in comparison to those in our study. GP response rates to our study may

Table 1 *Recruitment procedures in the three countries*

Country	*n* GPs approached	*n* GPs participated (RR%)	Initial contact to GP	GP Role	*n* couples approached	Initial contact to couples
England	80 (17 Practices)	43 (54%) (8 Practices)	Letter and presentation to GPs who responded positively	Reviewed list of couples on computerized GP registers	5284	Computerized letter from GP and Professor of study team
Belgium	104	59 (57%)	Presentation	Assisted with random selection of couples	408	Personal letter from GP
Italy	150	45 (30%)	Letter	Random selection of couples. Arranged screening appointment by telephone	343	Telephone contact from GP

RR = response rate.

simply reflect their perceived interest in cardiovascular epidemiology across Europe.

Recruitment of participant couples

The next challenge for the Immidiet Consortium was the recruitment of couples through the GPs in each of the three countries. Although the total number of couples from each country included in the Immidiet study was similar, thirteen times more couples were initially contacted in England than in Belgium and fifteen times more than in Italy (Table 1). This was partly attributable to the inclusion criteria and migration patterns of people in south-east England, which will not be discussed further here. It was also partly due to differences in the initial methods used to approach potential couples between the three countries.

In England the study team generated a computerized list of all potential couples in each practice and sent a letter of invitation to an average of 661 (range 375–1217) couples per practice. A letter was also sent to potential Belgian couples; however this was a personal letter from their GP. In contrast GPs in Italy were much more involved in patient recruitment; they each personally identified and contacted by telephone an average of 12 potential couples from their patient registers.

The different methods employed in the three countries may have possible implications for bias. Within research a number of factors have the potential to exert bias, in the English sample it could be introduced only through non-response since the same invitation letter was sent to all potential couples. Conversely, Belgian and Italian GPs themselves could have introduced potential bias through their method of contact and invitation of selected couples. To protect against this the selection of potential couples was randomized.

Factors influencing patient participation

Recruitment of patient participants is an ongoing problem.[9,20] A systematic review by Ross *et al*. summarizes various barriers which influence patients in their decision to participate in research.[11] Conversely there are a number of reasons, which appear to motivate patients to participate in research studies. However there is potential for these reasons to vary or to have more influence between different populations.[21]

Personal referral by GPs is more successful than computerized, less specific methods when recruiting patients into a study, although both methods do generate participants.[5] Fewer couples required invitation in Belgium and Italy and recruitment was completed more quickly than in England, where a less personal invitation method was employed. Patients' attitudes to their doctors may well influence the enthusiasm with which they will take part in a study that does not benefit them directly and could exert additional influence beyond that of differences simply in recruitment methods.

Social influences, such as patients being directly contacted by their GP, may govern their decision whether to participate; the doctor can exert considerable influence and this should not be underestimated. Purdy *et al*. showed that 67% of patients are more willing to participate if a doctor known to them had invited them to take part,[22] while Bevan *et al*. found that over a third of patients participated to comply with the doctor's request.[23] Unlike in England, patients in Belgium and Italy may register with multiple GPs and consequently may be less well acquainted with them. However, studies have shown that in these countries doctor–patient communication is valued more than in England.[24] In Belgium in particular, GPs have a high level of involvement with their patients and the GP–patient relationship is recognized by both parties as emotionally and financially important[25] and this may have contributed to the successful recruitment of Belgian couples to our study.

Organizational differences can also affect how patients respond to research. Research participants often rate the possibility of closer monitoring as an important benefit for them[26,27] and this may be a significant motivating

factor. However as the roles of GPs and access to medical/preventative services differ between countries, the potential benefit of access to cardiovascular screening services through the Immidiet study may have been more influential in certain countries. Patients across Europe are generally very positive about their GP however, doctors received a lower rating in all countries where there was no fee for service at the point of contact and where the GP acted as a gatekeeper to secondary services.[28] Despite this, doctors in the UK were rated highly for their preventative care.

Recruitment delays

Recruitment delays are common in research and there are various reasons for this, which include a restrictive entry criteria or participant non-acceptability of data collection tools. To minimize delays, barriers should be anticipated and then addressed by the researchers.[29] Additional problems will undoubtedly be encountered when conducting cross-national studies but these may be difficult to anticipate since requests and expectations that are reasonable in one country may not be acceptable in another.[2] Local study teams are able to highlight potential barriers to participation and propose solutions.

Conclusion

Within cross-national studies response rates can vary widely and may be influenced by social, demographic and cultural factors in the different countries, despite efforts to standardise approaches.[1] Participant recruitment is of paramount importance for the successful outcome of any medical research study. Higher response rates are associated with more active and direct GP–patient contact, which in turn can be influenced by the level of GP motivation and involvement in a study.[30] Local study teams can contribute to the success of cross-national studies and are best able to develop appropriate strategies to promote recruitment rates (Box 1). With the provision of high GP support, through established GP research networks and the help of GPs in promoting research, international collaborative research should prosper.

BOX 1 *Recommendations for future cross-national research*

Collaboration with GPs

Establish GP research network, co-ordinated by academic department

Recruitment of general practices with multiple GPs

Development of research question in conjunction with GPs

Recruitment of GP through presentations

Study team to facilitate GP involvement within the study

Patient recruitment

Recruit sufficient numbers of GPs, to generate adequate sample size

Involve GPs in recruitment of patients

Straightforward data collection tools

Declaration

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Conflicts of interest: none.

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Appendix 1

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