Feasibility Study for the provision of Cross Border Out of Hours GP Services
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FOREWORD

In June 2001 CAWT commissioned a study to be carried out by the University of Ulster, the National University of Ireland, Galway and Causeway Data Communications Ltd., to examine the issues necessary for consideration before cross border out-of-hours arrangements could take place. The results of this study are now complete and are contained in this report.

The research reveals that of the one million inhabitants in the CAWT region approximately 65,000, across the length of the border, are closer to G.P. out-of-hours services in the opposite jurisdiction. The report also highlights that over 70% of this population live in areas that can be classed as socially deprived. If a patient were free to travel across the border to see a GP out-of-hours, the travel distance, depending on location, would be considerably reduced.

A number of detailed legislative, financial and practical issues have been raised in the feasibility study. It is also clear that the implementation of a cross-border service would require considerable organisation and preparation.

However, on the basis of the research and various analyses, the conclusion is that the introduction of a cross border G.P. out-of-hours service is indeed feasible. Based on the report's recommendations, CAWT is now in a position to develop a pilot scheme, which will be implemented for a trial period.

CAWT believes that such a service has tremendous potential to improve access to health care for inhabitants of the border region. One of its many strengths lies in the fact that it adopts a locality-based approach to needs assessment and service delivery and indeed might be seen as a first stage in the wider development of improving regional access to services, regardless of jurisdiction.

I would like to congratulate all those who have contributed to this excellent study. CAWT will maintain its support for this and for other innovative developments in healthcare provision, as we continue to work for the benefit of our resident populations.

Mr. Paul Robinson
Director General of CAWT
ACKNOWLEDGEMENTS

The authors would like to acknowledge the assistance of all of those who contributed to this project. In particular, we would like to thank Frances McReynolds, Judith Doherty and the staff at the CAWT Resource Unit, The CAWT Secretariat and members of the CAWT Out of Hours Sub-Group, namely Tadhg O'Brien, Eugene Gallagher, Noel Scott, Eddie Ritson and Dr. Robert Thompson.

We are also indebted to all of those who participated in the various workshops throughout the duration of the project (named in the Appendices), and especially to Dr. Brian Sweeney, Eugene Dunn, Sharon Fulton, Mark Armstrong, Joy Synnott, Kate Mulvenna and Martina Ralph for their valuable assistance and advice.

We were amazed at the level of enthusiasm, support and encouragement we received from the various health service professionals on both sides of the border, with whom it has been a pleasure to work.
EXECUTIVE SUMMARY

A multi-disciplinary team of academics, medical professionals and technical experts from the University of Ulster, the National University of Ireland, Galway, and Causeway Data Communications Ltd., Coleraine, was commissioned by CAWT to undertake a feasibility study into the provision of cross-border out of hours primary care services in the Irish border region. The project, initiated through the Primary Care sub-group’s Primary Care Project ‘Developing Primary Care across Borders and Boundaries’, began in May 2001 and was completed in May 2002. This report presents the findings and recommendations from the study.

The basic terms of reference for the study were to research joint working and co-operation between professionals on a cross-border GP out-of-hours arrangement and produce an operational plan addressing the organisational and management issues, which need to be considered before cross-border co-operation can take place. The study focused only on patients travelling across the border to seek care in primary care centres. The option of GPs crossing the border to provide home visits was not considered.

Using an agreed set of core strategic and operational issues and a number of basic principles as guidelines, a project management plan and methodology was formulated, which divided the key research tasks into three distinct sections, Geographical, Professional and Business, and Technical.

A Geographic Information Systems approach was adopted to identify and quantify the areas and populations in the border areas who could potentially benefit from the availability of a cross-border out of hours service. It was shown that circa. 65,000 people would be eligible for the service on the basis of living closer to an out of hours centre on the other side of the border. Further analysis revealed that the majority of those eligible reside in areas that are designated as being materially deprived.

From the technical perspective, an analysis of the current protocols, processes, software and network solutions used by the various co-operatives in the region was undertaken. It was fortunate that all of the co-operatives use the same ADASTRA software as this facilitated the development of an interconnected cross-border software solution.

A range of professional and business issues was investigated including matters of professional registration,
Indemnity insurance, prescribing and dispensing. It was concluded that most issues could be readily addressed with the exception of the dual registration issue, which should be resolved between representatives of the Boards, co-ops, GPs and the registration bodies.

A retrospective study of demand for co-op services over a one-year period was used to identify the potential increases and decreases in demand for consultations at primary care centres that operate on a cross-border basis. In general, it was predicted that the co-ops in the North would experience a net gain in surgery visits whilst those in the South would experience a net loss. In addition, the current structures, funding and charging arrangements in each of the co-ops were examined and a proposal for the costing and administration of financial transactions in a cross-border arrangement was put forward.

The research team has recommended the implementation of a pilot study to test the system in practice before attempting a roll-out across the whole cross-border area. It is recommended that the service should be piloted in two areas, one where patients from NI travel to the RoI and the other where patients from the RoI travel to NI for care. An operational plan for implementation has been devised.
1. Introduction

Improving the health and social wellbeing of the population, including access to primary health care, is a central component of national, regional and local health strategies in both the Republic of Ireland and Northern Ireland. In 1992 health boards on both sides of the Irish border entered an arrangement (known as the Ballyconnell Agreement) to cooperate in identifying and addressing specific health and social needs in the border region. Since then, the formal entity created from the agreement, CAWT (the acronym for ‘Co-operating and Working Together’), has undertaken a series of broad-ranging projects and initiatives, organised through various sub-group specialities. This study was initiated through the Primary Care sub-group’s Primary Care Project ‘Developing Primary Care across Borders and Boundaries’.

A multi-disciplinary team (See Appendix 1) of academics, medical professionals and technical experts from the University of Ulster, the National University of Ireland, Galway, and Causeway Data Communications Ltd., Coleraine, was commissioned to undertake a feasibility study of the provision of out of hours primary care services in the Irish cross-border region.

The basic terms of reference for the study were to research joint working and co-operation between professionals on a cross-border GP out-of-hours arrangement and produce an operational plan addressing the organisational and management issues, which need to be considered before cross-border co-operation can take place. The work began in May 2001 and was completed in May 2002. This report presents the findings and recommendations from the study.

1.1 Background

It is widely recognised that, relative to national standards, border areas tend to suffer from high levels of material and social deprivation. The reasons for this are many and varied but tend to focus around general problems of rurality, peripherality and low levels of economic activity, which are compounded by the inhibitive nature of political/administrative borders. The Irish cross-border region is a typical example, where these classic problems have been exacerbated by the consequences of 30 years of politically motivated conflict and violence (Cook et al., 2000, Bond et al., 2001, Moore et al., 2001).

It is also well recognised that the more deprived populations tend to suffer from poorer levels of health and therefore tend to have greater
levels of need for health care services. In addition, the more deprived populations (even in urban areas) also tend to have poorer levels of access to health care services. This is known as the 'Inverse Care Law' (Hart, 1972). Poor access to health care can lead to low levels of utilisation, which can ultimately lead to poorer health outcome. Consequently, from a health care provider perspective, the residents of deprived areas, especially deprived rural areas, which have poor access to services may experience 'unmet health care needs'. Improving access to health care services is therefore an important issue for health authorities in both the UK and the Republic of Ireland. Improving rural access to health care is a particularly important goal for local health authorities in the Irish border region.

Out of Hours Primary Care Services

One of the most significant developments in the provision of primary health care services in both the United Kingdom and the Republic of Ireland in the 1990s has been the move towards establishing co-operatives for the management and delivery of out of hours services. The main impetus behind this development has been the relentless increase in demand for out of hours care. This ever-increasing demand for services and the associated pressures of service provision have resulted in increased stress and reduced morale within the medical profession (Hallam, 1994).

Such co-operatives provide urgent primary care services for patients who require advice from their GP after their surgery has closed. The advice offered by the co-operatives triage GP or nurse is provided either via a telephone conversation or a consultation at an out of hours primary care centre. A much smaller proportion of patients receive home visits.

A key feature of the new co-operatives is that they operate from a limited number of centralised primary care centre (PCC) locations. This has considerable benefits in terms of rationalising costs and significantly reducing the after hours commitments of participating GPs and/or locums. An unfortunate consequence of this arrangement, however, is that many patients who require a primary care centre consultation must travel a distance that may be in excess of 30 or 40 miles (O'Reilly, 2001). Primary care centres tend to be strategically located in towns or near centres of population in order to provide the best access for the greatest number of patients. The corollary of this is that populations experiencing general problems of access to primary care services during normal
surgery hours have even greater problems with access to out of hours primary care centres. In the context of the Irish Border region the consequences are considerable, given that there are few large centres of population along the border corridor.

It is recognised that many people living in the border region actually live closer to an out of hours primary care centre on the other side of the border. To date, the number of people residing in such areas has not been quantified. Following on from the general problems of availability of and access to health care services in rural border areas, it is logical to question whether it is possible to provide out of hours services on a cross-border basis. The benefits would appear to be clear. If currently available out of hours services on both sides of the border were made attainable on a cross-border basis, then there would be a potential opportunity to improve access for many people.

Currently, the political border functions as a discrete entity providing a finite demarcation between the two health care systems. A key objective of the Boards and Trusts in the border area, set out in the Ballyconnell Agreement (revised in 1998) is 'to exploit opportunities for co-operation in the planning and provision of services, which will improve the health, and social well-being of their resident populations'. Investigating the opportunity for providing a cross-border out of hours service is therefore a logical step in pursuing that objective. A recent study commissioned by the Centre for Cross-Border Studies (2001) entitled 'Cross-Border Co-operation in Health Services in Ireland' highlighted both the enthusiasm for and potential benefits of providing cross-border out of hours services. The report also suggested that the implementation of such a scheme could improve cross-border relations at the primary care level and open the way for further co-operation.

Out of Hours Co-operatives in Northern Ireland and the Republic of Ireland

In Northern Ireland, up until the early 1990s out of hours provision was provided by General Practitioners working as part of an on-call rota within their practices. In 1995, the General Medical Services Council (GMSC) negotiated a new deal for the provision of Out of Hours Care with the Department of Health and Social Security (DHSS). This had three main areas of change:

1. Development fund money became available for the provision of Out of Hours services.
2. It gave GPs the option of transferring their out of hours
responsibility to another principal.

3. It established the right of a GP to decide whether the patient needed an out of hours consultation and, if they did, where this consultation should take place.

These changes provided the basis for the formal establishment of the out of hours co-operative system that exists today. Although the first GP co-operatives within the NHS were established as early as 1970, the major change in out of hours services in NI came after the 1995 deal. In 1990 there were only six co-operatives nationwide. By 1999, 80% of GPs were working within a co-op system. In Northern Ireland, the border area is currently covered by three co-operatives (FOYLEDOC, MOURNEDOC and ASADOC). FOYLEDOC operates out of two premises. Services are provided at either centre on an alternate monthly basis. MOURNEDOC provides services from a single primary care centre, whilst ASADOC services are provided from six different primary care centres.

In the Republic of Ireland in 1997, 51% of all GPs were single-handed and only 8% of GPs work practices of three or more partners. Until very recently, a large number of GPs were working over 100 hours a week on call. Consideration of the out of hours co-operative model arose from increasing reliance on commercial deputising services in urban areas where there were concerns about the supply of suitably qualified locum doctors. There were also concerns that these commercial ventures were not widely available in rural areas. In 1997 and 1998 agreements were reached between the Department of Health and Children and the Irish Medical Organisation which allowed significant adjustments in the provision of scheduled General Practitioner Services which were directly relevant to the out of hours context.

The first GP co-operative to be established in the Republic of Ireland was CAREDOC in 1999. CAREDOC initially covered services within Carlow and its surrounding areas. The North Eastern Health Board Area piloted its co-op in September 2000 and was the first regional co-operative in the country. NEDOC now covers the eastern border area with the exception of the Cooley Peninsula, Dundalk and Monaghan town. In 2001, the North Western Health Board established an out of hours co-operative (NOWDOC), which provides urgent out of hours care to the boards resident population initially in the north Donegal area. The majority of the areas along both sides of the border are therefore served by out of hours co-operative schemes.
1.2 A Socio-Economic Profile of the Irish Cross-border Region

The geographical area covered by CAWT encompasses four health boards, the North Eastern Health Board and the North Western Health Board in the Republic of Ireland and the Western Health and Social Services Board and Southern Health and Social Services Board in Northern Ireland. The area comprises approximately 1 million people, representing about 21% of the total island population and 25% of its land area (CAWT, 2002).

The focus of this study is upon the areas closest to the actual border itself. Defining what actually constitutes the border area and its population is really a matter of choice and depends upon the context in which it being discussed. There is therefore no clear, definitive or universally accepted definition of what constitutes the Irish cross-border region. For the purposes of providing a general socio-economic profile of the region, the definition adopted (and analysis) by Cook et al. (2000) is used here.

In very general terms, the Irish border region can be defined as the seven District Council Areas (DCAs) in Northern Ireland, which share a land border with the Republic of Ireland, and the five counties in the Republic, which adjoin the border.

The region thus defined consists of the following: the counties of Donegal, Leitrim, Cavan, Monaghan and Louth; and the DCAs of Derry, Strabane, Omagh, Fermanagh, Dungannon, Armagh and Newry & Mourne. This produces two sub-regions that are similar in terms of population size; the total population of the five Republic of Ireland counties is in the region of 350,000, while the Northern Ireland DCAs contain a population a little over 410,000 (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>NI Border</th>
<th>RI Border</th>
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<tbody>
<tr>
<td>Total population</td>
<td>411,705</td>
<td>348,231</td>
</tr>
<tr>
<td>% of population of Ireland</td>
<td>8.1</td>
<td>6.8</td>
</tr>
<tr>
<td>% of land area of Ireland</td>
<td>7.7</td>
<td>12.5</td>
</tr>
<tr>
<td>number of census units</td>
<td>1134</td>
<td>428</td>
</tr>
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Table 1: Population and census units in the border region (Cook et al., 2000)

Table 2 presents demographic data, split into six categories to allow comparison between several different geographic bases. For example, comparisons can be made between the border region and all of Ireland, between Northern Ireland and the Republic, and between each country and its own border region.

The border region contains approximately 15% of Ireland's population, with a marginally higher proportion of the population in the economically inactive age groups, and a considerably lower percentage...
of the urban population (defined as those living in settlements of over 500 people). The level of urbanisation is particularly low on the southern side of the border. Only one settlement in the border region has a population greater than 50,000 and the majority of towns are below 20,000. Although two of the three largest towns in the region are in the Republic of Ireland, all but one of the remaining towns with a population over 10,000 are on the northern side of the border. The majority of the population of the border region lives either in rural areas or in relatively small towns; less than 30% of people live in towns of 10,000 or above, compared to nearly 50% throughout Ireland, while the figure for the five border counties of the Republic of Ireland is just over 15%.

The regional level data presented in Table 2 (overleaf) suggests that overall, the population living close to the border experiences a higher level of several forms of deprivation, namely, higher unemployment levels, a more dependent age-structure, and a greater proportion of housing with poor amenities. In deprivation terms, the significance of urbanisation (the level of which is far lower in the border region) is open to question. On the one hand it could be argued that those who live in more rural areas are less likely to be exposed to particularly urban forms of deprivation, related to aspects of the physical and social environment. Such forms of deprivation include overcrowding and high population density, noise, pollution, crime and so on, which tend to impinge more on the economically disadvantaged sections of the population of a large urban centre. On the other hand, while residence in rural areas or small towns may mean the avoidance of some of the worst aspects of the urban social and

<table>
<thead>
<tr>
<th></th>
<th>Ireland</th>
<th>N. Ireland</th>
<th>R. Ireland</th>
<th>Border</th>
<th>Nt Border</th>
<th>RT Border</th>
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<tr>
<td>population</td>
<td>5,103,409</td>
<td>1,577,690</td>
<td>3,325,729</td>
<td>759,936</td>
<td>411,705</td>
<td>348,231</td>
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<tr>
<td>households</td>
<td>1,545,085</td>
<td>525,362</td>
<td>1,019,723</td>
<td>221,098</td>
<td>121,543</td>
<td>99,535</td>
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<td>mean h'hold size</td>
<td>3.30</td>
<td>3.00</td>
<td>3.46</td>
<td>3.44</td>
<td>3.39</td>
<td>3.50</td>
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<tr>
<td>% in towns &gt; 500</td>
<td>68.2</td>
<td>73.2</td>
<td>66.0</td>
<td>50.9</td>
<td>55.9</td>
<td>43.8</td>
</tr>
<tr>
<td>% in towns &gt; 5,000</td>
<td>55.7</td>
<td>61.0</td>
<td>52.8</td>
<td>32.7</td>
<td>41.5</td>
<td>22.2</td>
</tr>
<tr>
<td>% in towns &gt; 10,000</td>
<td>48.6</td>
<td>55.3</td>
<td>45.6</td>
<td>27.0</td>
<td>55.7</td>
<td>15.4</td>
</tr>
<tr>
<td>% males</td>
<td>49.4</td>
<td>48.7</td>
<td>49.7</td>
<td>50.1</td>
<td>49.7</td>
<td>50.6</td>
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<td>% females</td>
<td>50.6</td>
<td>51.3</td>
<td>50.3</td>
<td>49.9</td>
<td>50.3</td>
<td>49.4</td>
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<tr>
<td>% ≤ 15 years</td>
<td>27.8</td>
<td>26.0</td>
<td>28.6</td>
<td>29.7</td>
<td>29.5</td>
<td>30.1</td>
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<tr>
<td>% ≥ 65 years</td>
<td>11.8</td>
<td>12.6</td>
<td>11.4</td>
<td>12.0</td>
<td>11.0</td>
<td>13.3</td>
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</tbody>
</table>

Table 2: Demographic characteristics of the border region (Cook et al., 2000)
physical environment, it can itself be associated with a form of deprivation which is based on poor access to a wide range of services. This type of deprivation would include poor access to services provided in the retail, education and health-care sectors, and to the employment opportunities offered by larger towns. Such access deprivation poses particular problems for the economically disadvantaged residing in remote rural areas, who are unable to afford private transport, and reside in areas where public transport is infrequent and/or relatively expensive.

References:


<table>
<thead>
<tr>
<th></th>
<th>Ireland</th>
<th>N. Ireland</th>
<th>R. Ireland</th>
<th>Border</th>
<th>NI Border</th>
<th>RI Border</th>
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<tr>
<td>male unemp (age 16-64)</td>
<td>19.0</td>
<td>19.3</td>
<td>16.8</td>
<td>24.2</td>
<td>25.0</td>
<td>22.7</td>
</tr>
<tr>
<td>male unemp (age 16-24)</td>
<td>26.5</td>
<td>24.7</td>
<td>27.6</td>
<td>29.9</td>
<td>29.2</td>
<td>30.8</td>
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<tr>
<td>female unemp (age 16-64)</td>
<td>13.0</td>
<td>10.9</td>
<td>14.3</td>
<td>14.5</td>
<td>13.2</td>
<td>16.3</td>
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<tr>
<td>female unemp (age 16-24)</td>
<td>21.2</td>
<td>17.0</td>
<td>23.1</td>
<td>21.3</td>
<td>19.4</td>
<td>23.8</td>
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<td>age dependency</td>
<td>39.6</td>
<td>38.6</td>
<td>40.1</td>
<td>41.8</td>
<td>40.3</td>
<td>43.4</td>
</tr>
<tr>
<td>Economic dependency</td>
<td>66.2</td>
<td>63.6</td>
<td>67.4</td>
<td>69.2</td>
<td>68.4</td>
<td>70.1</td>
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<td>% with no car</td>
<td>34.6</td>
<td>35.5</td>
<td>34.1</td>
<td>33.7</td>
<td>33.2</td>
<td>34.4</td>
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<tr>
<td>% ≥ 75 yrs living alone</td>
<td>4.8</td>
<td>5.8</td>
<td>4.2</td>
<td>5.1</td>
<td>5.0</td>
<td>5.4</td>
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<tr>
<td>% lone parents</td>
<td>3.5</td>
<td>4.6</td>
<td>2.9</td>
<td>3.3</td>
<td>4.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Persons per room</td>
<td>0.60</td>
<td>0.59</td>
<td>0.64</td>
<td>0.62</td>
<td>0.59</td>
<td>0.67</td>
</tr>
<tr>
<td>% public housing</td>
<td>15.5</td>
<td>29.4</td>
<td>9.6</td>
<td>20.1</td>
<td>30.7</td>
<td>7.2</td>
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<tr>
<td>% without bath or shower</td>
<td>4.5</td>
<td>1.7</td>
<td>5.9</td>
<td>5.4</td>
<td>2.5</td>
<td>9.0</td>
</tr>
<tr>
<td>% without central heating</td>
<td>32.7</td>
<td>17.2</td>
<td>40.7</td>
<td>31.2</td>
<td>19.2</td>
<td>45.8</td>
</tr>
</tbody>
</table>

Table 3: Unemployment levels and selected deprivation characteristics of the border region


O'Reilly, D. (2001) General Practice OOH service variations in use and equality in access to a doctor. British Journal of General Practice: 51; 625-9
2. Methodology

2.1 Terms of reference

The basic terms of reference for this study were:
'To research joint working and cooperation between professionals on a cross-border GP out-of-hours arrangement and produce an operational plan addressing the organisational and management issues, which need to be considered before cross-border co-operation can take place.'

A steering committee made up of members of the CAWT Primary Care sub-group and an advisory group with representation from the four boards, GPs and the co-operatives in the CAWT area was established to assist and monitor the development of the project on a regular basis.

The steering committee provided an illustrative set of core operational and strategic issues (including joint registration, professional indemnity and public liability, funding charges and billing arrangements, prescribing and dispensing of drugs, patient choice and access to secondary care services) to be addressed in the study.

In addition, the research team and CAWT identified and established a number of basic working principles for the project:

- There would be no change to existing co-operatives unless by agreement.
- Patients would have the right to choose which Co-op centre they attend.
- In the short term, there would be no cross-border home visits by GPs.
- In emergencies, patients should be admitted to the most appropriate hospital, closest to the OOH primary care centre (subject to patient choice).
- Ambulances should be dispatched across the border (if necessary) on the basis of shortest distance travelled.
- There must be agreement on payments and inter-board transactions, arranged to fund the service.

It was accepted that from a purely practical and logistical perspective, the implementation of the full range of out-of-hours services on a cross-border basis in a single phase was unrealistic. It was also accepted that the whole process of introducing out of hours services on a cross-border basis should be managed in a logical and phased manner. It was therefore agreed that the feasibility study would be conducted on the basis that, in the first instance, the service...
would be restricted to patients only travelling across the border to consult at cross border primary care centres.

Using the set of core strategic and operational issues and basic principles as a guideline, a project management plan was drawn up dividing the key tasks into three distinct sections, Geographical, Technical and Professional and Business. These three distinct areas were used as a basic structure for conducting the research and for presenting the findings in this report. Each key area had its own specific set of objectives and tasks. These are outlined below.

2.2 Geographical Issues

The main aim of this section was to identify the border areas and quantify the population residing in these areas that could benefit (in terms of improved access) from the provision of a cross-border out of hours service. The specific objectives were:

- To identify current 'within jurisdiction' primary care centre catchment areas
- To identify 'irrespective of jurisdiction' primary care centre catchment areas
- To identify areas which would be suitable for cross border out of hours arrangements
- To identify the populations and estimate number of people residing in areas that are closer to a primary care centre outside their residential jurisdiction
- To estimate the gains, losses and net differences in catchment populations of each primary care centre

2.3 Technical Issues

The main aim of this section was to identify software solutions to the technical and telecommunication challenges that emerge from the proposed cross border out of hours arrangements. To this end, a number of key objectives were identified:

- To undertake a technical evaluation of current ADASTRA system employed by co-ops
- To undertake a technical evaluation of the mechanisms for intersystem networking and connectivity on a cross border basis
- To identify a mechanism that facilitates the integration of the inventory of eligible populations (GIS output) into the ADASTRA system

2.4 Professional and Business Issues

The main aim of this section was to identify any possible professional or economic barriers to the successful implementation of cross border out
of hours GP services and to determine whether and how such professional and economic obstacles could be overcome to facilitate the establishment of collaborative out-of-hours service. The following objectives were therefore set:

- To identify potential professional and business barriers (e.g., medical registration, professional indemnity, complaints procedures and premises insurance) to the successful implementation of cross border out of hours GP services and to make recommendations as to how these barriers may be overcome

- To determine the feasibility of providing licensed medicines, prescribed by out of hours GPs to cross-border patients

- To estimate changes in demand for centre consultations, that would occur at each out of hours centre if a cross border provision was established

- To identify suitable financial arrangements for the payment of cross-border centre consultations

2.5 Methodologies Employed

After the initial research period, an introductory workshop, held in July 2001, was used to inform the attending key stakeholders (from the co-ops, boards and local practices) of the terms of reference of this study, the key issues that would be investigated and the proposed methodology that would be used.

Attendees were offered the opportunity to contribute their thoughts and ideas on both the key issues raised and the proposed methodology. The stakeholders were also provided with details of the feasibility study’s website address, which was used throughout the study to provide stakeholders with up to date details of the study’s progress. A discussion board was also posted on the website to allow stakeholders to voice their opinions on relevant issues.

Given the discrete nature of the three key areas, three different methodological approaches were employed to achieve the overall aims and objectives. The geographical issues were investigated through the use of a Geographical Information System (GIS) approach. Primary and secondary data sources were utilised and interrogated within the GIS to accomplish the geographical aims and objectives.

The technical experts employed desktop research techniques, which included an examination of the ADASTRA systems technical reports, to gain an in-depth understanding of the systems architecture, functionality and capabilities. Visits
were made to primary care centres and call management centres on both sides of the border to view the system in operation. Key technical personnel at these sites were also consulted with regard to the current software solution and their perception of software requirements for the proposed service. In-depth interviews with the software developers and providers were also conducted. The focus of these interviews was upon the development of a cross border telecommunication system.

A number of key business and professional issues were identified. These included general professional issues (including indemnity and registration), pharmacy issues and financial issues. A multidisciplinary team of academics, medics and health care professionals, investigated these issues. Verbal communication followed up by written correspondence was used to investigate the general professional issues. A series of meetings and interviews was held to address the key pharmacy issues. A one-day workshop, attended by key co-op and health board personnel was devoted to the financial issues raised by the proposed service.

A final workshop was held in April 2002. Again, the key stakeholders from the local co-ops and health boards were invited, along with representatives from the main professional bodies, ambulance and acute service providers. This final workshop was used to inform the attendees of the study's main findings and recommendations and also to provide the key stakeholders with a final opportunity to express any outstanding concerns/ issues that required further investigation.
3. Geographical Issues

One of the fundamental data requirements for the successful implementation of the cross border out of hours arrangements, is an inventory of the populations that qualify to avail of cross border services. Such an inventory would include details of all populations residing in areas that are closer to a primary care centre located across the border. An important component of the project remit was therefore to conduct a geographical analysis of out of hours provision within the CAWT region. The overall aim of the analysis was to identify areas and their populations on either side of the border that could benefit (in terms of improved access) from cross border out of hours service provision. Five key objectives were identified and are set out below.

3.1 Objectives

- To identify current ‘within jurisdiction’ primary care centre catchment areas
- To identify ‘irrespective of jurisdiction’ primary care centre catchment areas
- To identify areas which would be suitable for cross border out of hours arrangements
- To identify the populations and estimate number of people residing in areas that are closer to a primary care centre outside their residential jurisdiction
- To estimate the gains, losses and net differences in catchment populations of each primary care centre

3.2 Methods

A Geographic Information Systems (GIS) approach was employed to perform the necessary spatial analyses for this section. A GIS is a computer-based system that facilitates the creation, storage, manipulation, query, analysis and display of geographically referenced data. Data can be geographically referenced either explicitly, via an X and Y co-ordinate system such as the Irish Grid or Latitude/Longitude, or implicitly via an address or postcode and a related georeferencing software package. The benefit of GIS over standard database and statistical software is that it provides the capability of performing complex spatial analytical queries and analysis such as ‘where are the areas that have very high mortality rates and very poor access to health care services?’

Some of the basic key functionality within GIS and employed in this study include:

- Buffer Analysis: selecting an area around a feature and identifying and querying information within that area;
• **Overlay Analysis:** Integrating attribute information from a number of disparate datasets that are referenced to the same geographical base e.g. integrating mortality data with census data and health care facility locations;

• **Network Analysis:** Identification of best route, nearest facility or finding a service/catchment area

Given the fact that so much of the routine data collected and held by health authorities is or can be geographically referenced, it is not surprising that GIS has been used widely in this sector for research and planning purposes. Examples include epidemiological analysis, patient distribution, accessibility analysis, needs assessment and site location analysis. Today GIS is one of the fastest growing technologies in the health arena, helping health care professionals and managers make better informed decisions by making full use of available information. For more information on GIS, refer to DeMers (2000) or Gatell and Loytonen (1998).

**Software:** All of the spatial data analyses were conducted using ArcView 3.2, a vector-based GIS software product from Environmental Systems Research Institute Inc (ESRI), Redlands, California. The catchment analysis in the study was produced using the Network Analyst extension for ArcView.

### 3.3 Data

Data identifying the location of out of hours primary care centres were obtained from each co-op in the study area. 22 sites providing out of hours cover to the population (some proposed and some fully operational) were included in the study (see Table 3.1). The site locations in the NWHB area were provided before the NOWDOC Co-op service was established. As such, they represented all proposed out of hours primary care centre locations in the North Western Health Board Area. At the time of undertaking this study, it was not possible to determine at which NWHB locations primary care centres would be established, so all locations were included in the analysis.

The locations of the NI primary care centres were assigned geocodes (grid references) from the Post Office's Central Postcode Directory (CPD). ROI primary care centre addresses do not have postcodes. These locations were manually geocoded from paper maps. The locations were then mapped within the GIS using the assigned geocodes.
Feasibility Study for the provision of Cross Border Out of Hours GP Services

<table>
<thead>
<tr>
<th>North Western (RoI)</th>
<th>North Eastern (RoI)</th>
<th>Southern (NI)</th>
<th>Western (NI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballyshannon</td>
<td>Castlederg</td>
<td>Craigavon</td>
<td>Derry (2 centres)</td>
</tr>
<tr>
<td>Carrick on Shannon</td>
<td>Cavan</td>
<td>Downpatrick</td>
<td>Enniskillen</td>
</tr>
<tr>
<td>Donegal</td>
<td>Drogheda</td>
<td>May</td>
<td>Limavady</td>
</tr>
<tr>
<td>Dungloe</td>
<td>Navan</td>
<td>Newry</td>
<td>Omagh</td>
</tr>
<tr>
<td>Kilbegs</td>
<td></td>
<td></td>
<td>Strabane</td>
</tr>
<tr>
<td>Letterkenny</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sligo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tubbercurry</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1: Primary Care Centre locations provided by the Four CAWT Health Boards

Two digital road network datasets, one representing all roads in Northern Ireland, the other representing roads in all the Republic of Ireland's border counties were used in the study. Both datasets included details of all motorways, A, B and C (minor) class roads.

Population data for the two jurisdictions was acquired from the NI Statistics and Research Agency (NISRA) and the Central Statistics Office, Dublin (CSO). The most up-to-date population data available for the analysis were collected via the 1991 and 1996 population censuses in NI and the RoI respectively. Census derived population data are collected and disseminated at a small area level. These small areas are known as enumeration districts (EDs) in Northern Ireland, and as district electoral divisions (DEDs) in the Republic of Ireland. There are 1464 EDs and 601 DEDs in the study area (i.e. the CAWT area). The NISRA and CSO population data were provided at the small area level in tabular format.

3.4 Current 'within jurisdiction' primary care centre catchment areas

ArcView's Network Analyst extension product was used to simulate patient journeys from their place of residence to the nearest out of hours centres. Rather than measuring euclidean distance (as the crow flies), the simulated patient journeys were routed according to the underlying road network. NI road centrelines were used to simulate NI patient journeys and RoI road vector data were used to simulate RoI patient journeys. The patient journey simulations were determined by impedance calculations. Impedance is defined as the 'cost' associated with traversing each road segment or junction. For this study, the cost of traversing each road segment was determined by the road segment.
The two road network datasets are displayed in Map 3.1 and Map 3.2.

Two different simulations were run. The first simulation modelled patient journeys within NI to NI primary care centres and the second modelled patient journeys within the RoI to RoI primary care centres. Both simulations were run according to the shortest distance to each primary care centre. These simulations were then used to identify 'within jurisdiction' primary care centre catchment areas. These...
3.4 Combined digital road networks 'within jurisdiction' catchment areas are illustrated in Map 3.3.

3.5 Cross Border 'irrespective of jurisdiction' primary care centre catchment areas

The road network database used to conduct the cross border patient journey simulations was prepared from the NI road centrelines (provided by Ordnance Survey Northern Ireland) and the RoI road...
vector data (provided by Ordnance Survey Ireland). GIS data conversion tools were used to merge these two disparate datasets into a continuous topologically linked road network. This exercise was crucial, given the need for the road network to contain interconnected NI and RoI roads to facilitate cross border journey simulations. Map 3.4 displays the digital road network data used in the analysis.

Cross border patient journeys were simulated to measure the distance to the nearest centre, regardless of jurisdiction. 'Irrespective of jurisdiction' primary care centre catchment areas were identified from the simulations and are presented in Map 3.6.

### 3.6 Areas that would be suitable for cross border out of hours arrangements

Overlay analysis tools were used on the two catchment area maps (Maps 3.3 and 3.6) to identify the areas that are closer to a cross border out of hours centre (i.e. a centre located outside the home jurisdiction) than to a centre located in their home jurisdiction. These areas, which could benefit from cross border service arrangements are illustrated in Map 3.7.

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**Map 3.7: Areas suitable for cross border out of hours primary care arrangements**
3.7 Populations and estimated number of people residing in areas that are closer to a primary care centre outside their residential jurisdiction

The results of the overlay analysis were used to identify the populations that would benefit from a cross border out of hours arrangement. Population data, derived from the smallest census divisions available (EDs and DEDs in NI and ROI respectively) were used in the analyses. The population centroid datasets were merged, using GIS data conversion tools to create a single population distribution map for the study area (Map 3.5).

An overlay analysis was conducted on the mapped population data (Map 3.5) and the map of areas closer to a primary care centre outside the home jurisdiction (Map 3.7). This analysis was used to identify the populations residing closer to cross border out of hours centres. Map 3.8 displays results of the analysis.

The map displays the current 'within jurisdiction' catchment area boundaries of the out of hours primary care centres (black lines), along with cross border service areas (i.e. coloured areas) eligible for cross

Map 3.8: Populations and Estimated number of people residing in areas that are closer to a primary care centre outside their home jurisdiction
border care. These cross border service areas are shaded according to the nearest out of hours centre. The size of the populations residing in each area is also indicated. For example, of the patients currently served by the Carndonagh primary care centre, 8459 are actually closer to the primary care centre in Derry.

3.8 Gains, losses and net differences in catchment populations for each primary care centre

Details of the eligible populations illustrated in Map 3.8 are also presented in tabular format in Table 3.2. Table 3.2 shows the original catchment population (based on shortest journey) and the number who would qualify for a cross border consultation (again, based on shortest journey). The net difference in service area populations and the size of the proposed cross border catchment areas are also included in Table 3.2:

3.9 Conclusion

GIS was used to monitor access to out of hours care in the CAWT area and to evaluate the possibility of developing cross border arrangements. This study has modelled patient journeys and identified the areas that would benefit from improved access to out of hours primary care consultations, through cross border co-operation. This benefit is however, based upon the assumption that a cross border consultation is available at the time a call is received.

The results of this analysis support the idea that a significant proportion of the rural border populations would benefit from cross border out of

<table>
<thead>
<tr>
<th>CAWT Centre</th>
<th>Original catchment population</th>
<th>Population who would be eligible for cross border service uptake</th>
<th>Cross Border catchment population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derry</td>
<td>54367</td>
<td>Gain: 12143, Loss: 0, Net Difference: 12143</td>
<td>66510</td>
</tr>
<tr>
<td>Strabane</td>
<td>33665</td>
<td>Gain: 10346, Loss: 198, Net Difference: 10148</td>
<td>43814</td>
</tr>
<tr>
<td>Enniskillen</td>
<td>56668</td>
<td>Gain: 2743, Loss: 7834, Net Difference: -4887</td>
<td>51781</td>
</tr>
<tr>
<td>May</td>
<td>79703</td>
<td>Gain: 4118, Loss: 7413, Net Difference: -3295</td>
<td>76408</td>
</tr>
<tr>
<td>Newry</td>
<td>91592</td>
<td>Gain: 12488, Loss: 8111, Net Difference: 4377</td>
<td>95969</td>
</tr>
<tr>
<td>Cavan</td>
<td>48560</td>
<td>Gain: 4296, Loss: 888, Net Difference: 3410</td>
<td>51970</td>
</tr>
<tr>
<td>Castlederry</td>
<td>99121</td>
<td>Gain: 5524, Loss: 15608, Net Difference: -1065</td>
<td>97956</td>
</tr>
<tr>
<td>Letterkenny</td>
<td>53133</td>
<td>Gain: 0, Loss: 12940, Net Difference: -12940</td>
<td>39213</td>
</tr>
<tr>
<td>Carndonagh</td>
<td>25498</td>
<td>Gain: 0, Loss: 8549, Net Difference: -8549</td>
<td>16909</td>
</tr>
<tr>
<td>Ballyshannon</td>
<td>10760</td>
<td>Gain: 3106, Loss: 891, Net Difference: 2215</td>
<td>12975</td>
</tr>
<tr>
<td>Donegal</td>
<td>11888</td>
<td>Gain: 418, Loss: 0, Net Difference: 418</td>
<td>12306</td>
</tr>
<tr>
<td>Carrick-Sh-Shannon</td>
<td>17241</td>
<td>Gain: 0, Loss: 954, Net Difference: -954</td>
<td>16177</td>
</tr>
<tr>
<td>Total</td>
<td>581977</td>
<td>85184, 65184, 0, 581977</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.2: Cross border Catchment Population
hours services. More consultations could be made more accessible. This is significant, especially given the poor access experienced by rural populations in the border region, which is often compounded by high levels of area deprivation.

The results of this research also potentially provides part of a technical solution, which could be used by triage GPs/nurses to determine which out of hours centre would be most convenient for a patient to attend.

This study has proved the value of GIS in the health service planning field. The analysis has illustrated the important role of GIS in highlighting current spatial constraints on service delivery, by identifying areas that are poorly served under existing arrangements. A clear picture of such constraints is essential to aid more informed decision-making in health care planning and evaluation. It is therefore for this reason that GIS technology will continue to play a role in improving the quality of health care provision.

References


4. Technical Issues

The out of hours co-op services on both sides of the border are managed using call management protocols, which are facilitated through the use of sophisticated call management software. The technical solutions in the various co-ops provide advanced facilities for the communication of patient details between Call Management Centres and Out of Hours Primary Care Centres. Cross border communication (between call management centres and primary care centres) is one of the key technical requirements of a cross border out of hours service. The development of a technical solution is imperative to the successful implementation of cross border out of hours services and is therefore the focus of this section of the report. Through examining current IT and technical issues, the overall aim of this section is to identify solutions to the technical challenges that emerge from the proposed cross border out of hours arrangements. Three key objectives were identified and are set out below.

4.1 Objectives

• To undertake a technical evaluation of current call management systems employed by co-ops
• To undertake a technical evaluation of the mechanisms for intersystem networking and connectivity on a cross border basis
• To identify a mechanism that facilitates the integration of the inventory of eligible populations (GIS output) into the call management systems

4.2 Methods

Visits were made to the ASADOC coop's call management centre in Craigavon and to the NEDOC coop's call management centre in Ardee. Key technical personnel working in each call centre provided an overview of the call processing mechanisms (discussed below). Out of hours primary care centres in each jurisdiction were also visited. During these visits the researchers observed the call processing mechanisms in operation.

The call management software employed by each co-operative was identified. Staff at the call management centres and primary care centres provided an overview of the basic functionality of the software. Important information was also gathered from the software providers. The software developers were also consulted. They provided imperative technical information.
Access was also gained to the software user’s documentation and web based support services.

4.3 Technical evaluation of current call management system and procedures employed by co-ops

System details
The current call management process is facilitated by commercial software. All co-operatives operating within the CAWT region use the ADASTRA call management system. This system is developed and supplied by ADASTRA Software Ltd. (Kent).

The ADASTRA system provides capabilities for handling a wide variety of operational aspects relating to out-of-hours service provision. The functionality includes facilities for answering calls, automatically transferring patient details to GPs and transmitting patient details between call centres and out of hours centres. The software also provides facilities for notifying surgeries of out of hours contacts made by their patients. In addition, it provides functions for generating summary statistics and calculating charges and payments due to GPs.

The system runs on a Microsoft Windows NT4 platform using a 32-BIT DOS based environment. The DOS based environment provides the system with an ‘old-style’ menu driven user interface. ADASTRA is currently developing a windows interface system, which is due for release in 2003. When available, co-operatives will be entitled to upgrade from the DOS to the Windows interfaced system.

Procedure details
Call handling procedures in both the RoI and NI are very similar. The general procedures utilised in both jurisdictions are discussed below and illustrated in Figure 4.1. There are a number of minor differences between the various co-ops. These are discussed at the end of this section.

Upon answering each call, the operator asks the caller for his/her phone number. The phone number is entered into the system. A system search is then performed. This search identifies whether a call has previously been received from a patient using the same phone number. If details of a previous call from the current number are found, the operator asks the caller to confirm the patient’s personal details and to describe the patient’s symptoms. If the call is being made by/ or on behalf of a first time patient, the operator asks for the patient’s personal details (including name, address and GP) and for symptom details. These details are
then input into the system. The operator then informs the caller that the details are being forwarded to the doctor or triage nurse on call and that the doctor or triage nurse will return the phone call as soon as possible.

The call record is passed to the GP or triage nurse via an assessment pool where the GP or triage nurse receives details on his/her VDU (via a pop-up message), which informs him/her of the awaiting patient’s details. If the patient is the only caller awaiting a reply, the GP or triage nurse assesses the case and returns the call. If there are numerous callers awaiting a reply concurrently, the patient’s details are added to a list of waiting calls on the pop-up list. Calls are not returned on a first-in first-out basis. Instead, each individual call is assessed by the GP or triage nurse and ranked in order of urgency. The most urgent call is returned first. Patients are therefore triaged according to the perceived urgency of the call.

When the most urgent call has been identified and returned, the GP or triage nurse discusses the symptoms with the patient/caller and then decides upon a course of action. The GP or triage nurse may decide that the patient can be given adequate advice over the telephone. In such instances, the GP or triage nurse provides the advice and enters details of the same on the system’s patient record. The GP or triage nurse may alternatively decide that the patient requires a face-to-face consultation. If such a patient is fit to travel to a primary care centre, he/she is invited to attend the co-op’s nearest centre for a consultation. The GP or triage nurse determines the nearest centre. If the patient is not fit to travel, arrangements will be made for the patient to receive a home visit. If it is decided that the patient requires emergency care, the emergency services are notified.

If the patient has agreed to attend an out of hours centre, the GP or triage nurse will then forward a copy of the patient’s details to the relevant out of hours primary care centre (i.e. the one the patient has agreed to attend). These details are forwarded either via phone, fax or by dial-up connection. Dial-up connection transmits a call from a computer terminal in the call centre to a terminal in the out-of-hours centre. Once the patient has received a consultation, the GP enters details of the course of the action onto the patient’s file.

If a patient receives a home visit, the GP located at the patient’s local out of hours centre will conduct the home visit. Once consulted, the GP enters details of the consultation and
the course of the action taken, onto the patient's file.

Once the completed consultation details are entered onto the system, the patient's record is flagged as 'complete'. Periodically the central hub, located in the call management centre, requests the return of all completed call details from the remote servers at the out-of-hours centres. The details of all calls flagged at the out-of-hours centre as 'complete' are updated at the hub terminal in the original call centre and the original call record is closed. At the end of each out of hours period, details of all calls received are summarised, both by GP and by practice. Each practice with a patient who has used the service is faxed details of their patient's out of hours consultations on a daily basis.

Differences in co-op call management procedures

- Although the majority of co-ops employ GPs to triage incoming calls, some co-ops prefer to use nurse triage. The proportion of face to face consultations varies depending upon whether nurse or GP triage is used. A previous comparative study of nurse and GP triage in NDADOC (North Down and Ards Doctors on Call) found that nurse advisors triaged fewer calls per session and that a higher percentage of patients triaged by nurses sought further medical advice (50% as opposed to 29% when GPs triaged).

- The process of central triaging is carried out in both RoI co-ops (i.e. NEDOC and NOWDOC). In NI, central triaging is only used in co-operatives where there is only one out of hours base (i.e. FOYLEDOC and MOURNEDOC). ASADOC does not offer centralised triage. Calls are passed on to the local out of hours centres before being triaged. Therefore no clinical assessment of the call is made until the call handler transmits the call record to the out of hours centre to which the patient's GP is attached.

- In the RoI, any patient invited for a face to face consultation is directed to the out of hours centre nearest to that patient's home. However, in NI, the decision of which centre a patient is invited to attend depends on the location of the surgery at which the patient is registered. NI patients are therefore not necessarily invited to the out of hours centre nearest to their homes.

- The method employed to communicate patient details both within the call centres and
between call centres and primary care centres varies amongst the different co-ops. In all co-ops, patient details are passed from the operator to the triage GP or nurse electronically; however, some co-ops also choose to forward a hard copy of this information to the triage personnel. In addition, the electronic transfferal of patient details between call centres and primary care centres is, in some co-ops, backed up by either a telephone call or by fax.

![Flowchart of General Current Call Management Process]

*Figure 4.1: General Current Call Management Process*
After identifying the call management procedures currently employed by the co-ops, a number of strategic cross-border issues requiring further consideration were identified:

- How would cross border patients be managed?
- How would triage personnel decide which centre is the patient's nearest out of hours centre?
- Would the caller be offered any information on waiting times to assist him/her in deciding whether to avail of a cross border consultation?
- How would local out of hours centres be informed of a cross border patient's impending visit?
- How would co-ops record cross border consultations?

4.4 Proposed Model for Cross Border Out of Hours Calls

4.4.1 Technical Architecture
The compatibility of the call management systems used by all CAWT region co-ops, to manage out of hours calls is assured, as all the co-ops employ the ADASTRA call management software solution. A cross border system could be configured in the same manner as the present systems. Therefore, given the architecture of the currently used software, cross border communication is technically possible.

Options for transferring cross border patient details
If the patient decides to attend a cross border centre, the triage personnel at the home call centre sends the patient's details to the receiving cross border primary care centre. The patient's details held at the original call centre could be transmitted either directly to the cross border primary care centre, or indirectly via a cross border call management centre. The key stakeholders were consulted and the general consensus favoured the second option - that is call details being sent firstly to the cross border call centre, and from there onto the cross border primary care centre where the patient would consult.

It was agreed that call details would be transmitted indirectly from the call centre to the cross border call centre and then on to the cross border out of hours centre. So for example, the system would be set up so that a call originally made to the ASADOC call centre (Craigavon) by a patient residing in Crossmaglen, would be redirected to the NEDOC call centre (Ardee) and then on to the nearest primary care centre (Castleblaney).

A variety of methods were identified for the indirect transmission of calls. Call transmittance options included telephone, fax and dial-up connection.
The systems at both the hub and remote site would both require reconfiguration to facilitate the transmission and management of calls which result in cross border consultations. The hubs at the call centres would be reset to enable communication with cross border hubs. Cross border hubs would be privileged to access details of cross border patients only. The cross border hub would then redirect details of all consulted patients back across the border to the original call centre. Reports and charges would be compiled and distributed to the relevant surgeries. The co-operating cross border call centres could also run charge reports for cross referencing purposes.

Recommendations

- Appropriate call management software should be developed. The design of such software should include new functionality that can be used to identify patients who have travelled across the border for a consultation.
- Responsibility for following the call through to completion, issuing the surgery report and implementing charges should rest with the call centre that received the initial call.
- A dial up connection should be employed for call transmission.
- The new reconfigured system should undergo an initial trial before being used to facilitate cross border servicing.
- Call centres and primary care centres should have access only to details of patients who will cross the border to consult.

4.4.2 Integrating GIS output into the ADASTRA system

At present, when a patient is advised to consult a GP at an out of hours centre, (s)he is given directions to the appropriate primary care centre nearest to the patient’s home. A look-up facility is used to determine the “most appropriate” primary care centre. In NI, the allocated primary care centre depends solely on the location of the practice to which the patient belongs. In the RoI, the decision of which centre to attend is based solely on distance. Here the GP or nurse triage confers with the patient to decide upon the most convenient centre available.

A mechanism for informing triage personnel of a patient’s eligibility to avail of a cross border consultation is required. If the patient lives closer to an out of hours centre located within his/her own jurisdiction, the patient is not eligible and therefore does not qualify for the option of a cross border consultation. In such circumstances, the GP or triage nurse advises the patient to attend the out of hours centre within their residential jurisdiction. If, however,
the patient lives closer to a cross border out of hours centre, he/she is eligible and should be informed of his/her choice to avail of a cross border consultation.

The required mechanism would rely upon a patient’s residential address, which could be attributed with closest primary care centre information. This additional information would be stored in a separate database and accessed through a look-up table. It is recommended that the key link field would contain a geographic code/identifier, such as a postcode (for NI addresses) or a DED code (for RoI addresses).

The ability to add an additional attribute to the database is beyond the current functionality of the software. This facility would have to be developed in conjunction with software developers. Potential developers have been contacted regarding this matter.

**Recommendations**

- Patient eligibility and choice should be built into the system through the development of a look-up facility which identifies the patient’s nearest out of hours centre.
- Triage personnel should be informed of a patient’s eligibility and subsequent available choice, via a seamless support tool provided within the software system.
- Postcodes should be used as the geographic identifier for patients calling from NI.
- DED codes should be used as the geographic identifier for patients calling from RoI.

### 4.5 Overview of Recommended Cross Border Call Handling Procedures

Where a patient requires a face-to-face GP consultation and is also fit to travel, he/she is invited to attend

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**ACASTRA Patient Record**

<table>
<thead>
<tr>
<th>Patients Address 1</th>
<th>Patients Address 2</th>
<th>Patients Address 3</th>
<th>Patients Postcode</th>
<th>Call Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market: Place</td>
<td>Crossmaglen</td>
<td>BT35 9JJ</td>
<td>Centre</td>
<td>Consultation</td>
</tr>
</tbody>
</table>

**Look-up table**

<table>
<thead>
<tr>
<th>Patients Postcode</th>
<th>Nearest OOH Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTXX XXX</td>
<td>Castlereaney</td>
</tr>
<tr>
<td>BTXX XXX</td>
<td>not eligible</td>
</tr>
<tr>
<td>BT35 9JJ</td>
<td>Castlereaney</td>
</tr>
<tr>
<td>BTXX XXX</td>
<td>Cavan</td>
</tr>
<tr>
<td>BTXX XXX</td>
<td>not eligible</td>
</tr>
<tr>
<td>BTXX XXX</td>
<td>not eligible</td>
</tr>
<tr>
<td>BTXX XXX</td>
<td>not eligible</td>
</tr>
</tbody>
</table>

*Figure 4.1: Patient Look-up Process*
an out of hours primary care centre for a consultation.

If the nearest out of hours centre is located outside the patient’s residential jurisdiction then under the proposed service, the patient will have two options. The first option is to travel across the border to this nearest out of hours centre. The second option is to stay within the residential jurisdiction and consult a GP at the local primary care centre. If the patient chooses the second option (i.e. to stay within their home jurisdiction), then the call is processed using the procedures that are already in place. These procedures are detailed in section 4.3.

Additional procedures have been proposed to handle call details of patients who choose to avail of cross border consultations. These additional procedures have been developed in consultation with local service planners and build upon the current call-handling model. This process is illustrated in figure 4.2.

When a patient decides to travel across the border for a consultation, his/her call details are communicated to the relevant cross border call management centre. This call centre contacts the nearest primary care centre to check availability and appointment times. This information is then relayed back to the patient. If the patient decides to utilise the cross border service, he/she will then travel across the border to the nearest out of hours centre to consult with a cross border GP. The cross border GP consults with the patient and enters the advice given onto the patient’s record. The patient’s record is then flagged as complete and is transferred back to the original call centre via the cross border call centre. Cross border out of hours calls can be summarised by GP and by practice. The patient’s consultation details are communicated to their home co-op on a regular basis. In turn, the home co-op can communicate this information to the patient’s GP. As illustrated later, this procedure will be essential for billing purposes.
Feasibility Study for the provision of Cross Border Out of Hours GP Services

**Primary Care Centre Consultation**

Does patient live closer to a cross border primary care centre?

- **Yes**
  - Patient has choice of consulting in home jurisdiction or across the border
    - Availability and appointment times are checked at cross border call centre
    - Patient will attend cross border primary care centre
    - Patient details are forwarded to cross border out of hours centre
    - Patient consults GP
    - GP enters patient details onto system file
    - Patient file is flagged as closed and returned (across the border) to original call management centre

- **No**
  - Patient has no choice - must consult within home jurisdiction
    - Procedures currently in place are followed:
    - Patient will attend co-op in home jurisdiction

*Figure 4.2: Proposed Cross Border Call Management Process*
Recommendations

- The cross border call management process should be built upon the current/ existing processes
- The process used to accommodate patients who decide to avail of a cross border consultation should be as similar as possible to the process used to accommodate patients who visit an out of hours centre within their home jurisdiction
- Cross border patient details should be forwarded to the cross border primary care centre indirectly via the cross border call management centre

A number of key system requirements have been identified in this study of cross border service technical issues. These requirements will have to be met through collaboration with a chosen software provider/developer. It is therefore recommended that, prior to rolling out this service, a business case should be formulated and presented to software developers who will be responsible for the design, modification and development of the required service interface.

Other Technical Recommendations

In addition to the recommendations that result from addressing the aforementioned technical aims and objectives, a number of other key technical recommendations were identified whilst investigating the Professional and Business Issues. Since these recommendations are of a technical nature, they have been included in this technical section:

- The system should provide a facility to inform triage personnel of any patient known to be mentally or terminally ill since, as recommended in section 5.12, these individuals should be excluded from the study (Professional Issue).
- The call management system’s outcome sheet should be modified to include details of medications administered to cross border patients. This information will inform practice staff and make the patients own GP aware of the drugs prescribed (Pharmacy Issue).
- The system should also include a facility to identify/ differentiate GMS and fee-paying patients. This amendment is necessary, given the payment systems discussed later in the Business Issues section.
- Facilities should also be set up to ease procedures relating to the charging and payment of cross border services (see Business Issues).
5. **Professional and Business Issues**

A range of concerns identified for consideration were classed as professional and business issues. These issues were further subdivided into general professional and business, pharmacy, workload and financial. This section of the report discusses the general professional and business issues. The investigations into the other three issues (i.e. pharmacy, workload and financial) are presented in later sections.

5.1 **General Professional and Business Issues**

The overall aim of this section of the study was to identify any general professional and business barriers to the successful implementation of cross border out of hours GP services, and to make recommendations as to how these barriers may be overcome.

5.2 **Objectives**

1. Examine issues of medical registration in Northern Ireland and the Republic of Ireland
2. Examine issues of nursing registration in Northern Ireland and the Republic of Ireland
3. Examine issues around indemnity for Northern Ireland and Republic of Ireland GPs and nurses who consult cross border patients
4. Examine procedures for dealing with cross border complaints
5. Examine the attitudes of organisations/unions whose members will work on a cross-border arrangement (such as the British Medical Association, The Irish Medical Organisation, The Irish College of General Practitioners, The Irish Nursing Association and The Royal College of Nursing)
6. Examine issues of premises insurance
7. Examine issues of hospital and crown indemnity for doctors treating cross border in-patients in the secondary health care setting
8. Examine issues for the border ambulance services
9. Examine attitudes of patient advocate groups

5.3 **Methodology**

Numerous stakeholding organisations were identified and included in this study. Contact was made with a named official from each relevant organisation via an initial telephone conversation. A letter followed within twenty-four hours, requesting the organisations' opinions on the proposed cross border service and any perceived barriers to its successful implementation.
All contacts were informed that the feasibility study was considering patients only travelling across the border and that all eligible patients would be offered the choice of where to consult. It was also affirmed that, at this stage of the project, GPs and nurses would only practice in the jurisdiction in which they are registered.

5.4 Medical Registration

The Irish Medical Council in the Republic of Ireland and the General Medical Council in the United Kingdom are the statutory medical bodies responsible for the annual registration of all medical doctors practising within their respective jurisdictions. The councils are responsible for the protection, promotion and maintenance of the health and safety of their communities. If necessary they may also instigate disciplinary proceedings.

The Irish Medical Council was supportive of the proposed service and made three main points:

1. Current Irish legislation does not facilitate the practice of doctors crossing European Union borders to practise in another jurisdiction. However, there are no perceived difficulties with current legislation, given the proposed service outline, whereby patients rather than GPs cross the border to consult.

2. GPs providing services to cross border patients should have a contract and a complaints procedure in place prior to the commencement of the scheme.

3. If at any time in the future the scheme were rolled out to allow GPs to cross the Irish border, then each NI GP would have to be fully registered with the Irish Medical Council.

The General Medical Council (GMC) expressed two main areas of concern:

1. Under Section 47 of the Medical Act, all doctors holding an appointment in any public establishment in the UK must be registered with the GMC. The GMC expressed concern over the legality of the proposed arrangement. Their main concern was that doctors from the RoI working under a formal arrangement to see NI NHS patients could be perceived to be holding an appointment in the NHS. All doctors in the NHS must be registered with the GMC.

2. Under the Medical Act, doctors cannot prescribe unless they are registered. A doctor from Northern Ireland is able to prescribe to a patient from the Republic who consults the GP in NI. However, any RoI patient requiring medication prescribed by the NI GP out of hours would
have to have their prescription dispensed in the NI. This may be inconvenient for patients.

The General Medical Council has stated that in its opinion the most appropriate solution would be to ensure that all the doctors in any cross-border scheme are registered in both the Republic and the UK. The GMC advised that CAWT should seek independent legal advice if they did not intend to dual register RoI GPs who provide a cross border service.

Recommendation

- Taking due consideration of the correspondence from the General and Irish Medical Councils, CAWT should examine the issue of dual registration for Republic of Ireland doctors who will consult with patients from Northern Ireland. We recommend that CAWT seek independent legal advice regarding the issues of dual registration. The implications of dual registration on future re-accreditation should also be considered.

5.5 Nursing Registration

The statutory bodies for nursing regulation are the United Kingdom Central Council of Nursing, Midwifery and Health Visitors (UKCC) in Northern Ireland and Bord Altranais in the Republic of Ireland.

The UKCC had no additional requirements for those nurses registered in Northern Ireland who consult patients from the RoI. Bord Altranais stated that a nurse registered with them and practising in the Republic can care for patients within a health care facility regardless of their address.

Recommendation

- Both nursing registration bodies should be informed in writing of the start date of any proposed service.

5.6 Medical Indemnity

The Medical Defence Organisations provide indemnity for individual practitioners. Insurance is essential for each doctor. Such organisations provide GPs with advice and legal support, as well as financial settlements, when necessary. RoI GP subscriptions are higher than NI GP subscriptions due to the higher level of litigation in the RoI. Unlike hospital doctors, who are covered by 'block cover' indemnity arrangements provided by the employing hospital, GPs in both jurisdictions purchase their own indemnity cover.

The Medical Defence Union (London and Dublin) and The Medical Protection Society already provide
Indemnity for GPs practising in both jurisdictions. Neither organisation was aware of any medico-legal impediment that would prevent GPs on either side of the border consulting patients who have crossed the border to see them.

The Medical and Dental Defence Union of Scotland does not provide any cover for GPs practising in the Republic of Ireland and has no plans to extend medical indemnity to cover GPs practising in Northern Ireland who wish to treat patients from the Republic. Medisec in Dublin will only provide medical indemnity to GPs from the Republic. The St. Paul International Insurance Company is withdrawing from all medical indemnity work from October 2002.

<table>
<thead>
<tr>
<th>Name of Organisation</th>
<th>Indemnity in the Republic of Ireland</th>
<th>Indemnity in Northern Ireland</th>
<th>Response to the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Defence Union</td>
<td>Yes</td>
<td>Yes</td>
<td>Will provide indemnity to GPs from both jurisdictions who partake in the scheme at no extra cost.</td>
</tr>
<tr>
<td>Medical Protection Society</td>
<td>Yes</td>
<td>Yes</td>
<td>Will provide indemnity to GPs from both jurisdictions who partake in the scheme at no extra cost.</td>
</tr>
<tr>
<td>Medisec</td>
<td>Yes</td>
<td>No</td>
<td>Will provide indemnity to GPs from the Republic of Ireland who partake in the scheme at no extra cost.</td>
</tr>
<tr>
<td>Medical and Dental Defence Union of Scotland</td>
<td>No.</td>
<td>Yes</td>
<td>MODUS have no plans to extend indemnity to those Northern Ireland GPs who intend to consult patients crossing the border from the Republic of Ireland.</td>
</tr>
</tbody>
</table>

Table 5.1: Summary table of Medical Indemnity Organisations contacted and replies received

Recommendations

- GPs and nurses working within out of hours primary care centres should seek their own indemnity cover, stipulating their involvement in this scheme.
- CAWT should consider options for reimbursing any differences in subscription charges that might arise if a GP has to change indemnity organisations in order to provide cross border care.
- Hospitals should check that their existing indemnity arrangements cover their medical and nursing staff who consult cross border patients referred through a cross border out of hours service.
### Table 5.2: Annual Subscription rates for full-time Northern Ireland GPs

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Rate per annum (£ sterling, May 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Defence Union</td>
<td>3275</td>
</tr>
<tr>
<td>Medical Protection Society</td>
<td>2980</td>
</tr>
<tr>
<td>Medical and Defence Union of Scotland</td>
<td>2479</td>
</tr>
</tbody>
</table>

#### 5.7 Procedures for dealing with cross border complaints

An accessible, efficient and fair complaints procedure should be available to all patients who use the proposed service. Ideally the procedures in place in each of the participating co-ops should be as similar as possible.

In Northern Ireland co-ops, the complaints procedure has two stages. The first is local resolution, which involves the service provider attempting to resolve a complaint as quickly and as directly as possible. If a complaint cannot be resolved locally, the complainant may take the complaint to the second stage and apply for an independent review. In 1996, the NHS Executive in NI directed each practice to appoint a complaints officer and develop a complaints protocol. This enabled many complaints from patients to be resolved 'in-house'. If the complaint could not be resolved to the satisfaction of all concerned in this manner the health board would become more actively involved, culminating in an independent review of the complaint. The independent review involves a formal meeting, run by a convenor and an independent panel in which the doctor and the patient are usually expected to attend, not necessarily at the same time. The Western and Southern Health and Social Services Boards in Northern Ireland have these procedures in place.

The GMC stated that patients from the Republic who consult a GP who practises in Northern Ireland would have to use NHS complaints procedures and ultimately complain to the GMC if something went wrong.

In the Republic of Ireland, NEDOC has developed a complaints procedure to handle any complaints arising from the uptake of out of hours services. The health board that supports the co-op deals with complaints made by GMS patients, whilst the Irish Medical Council deals directly with complaints made by private patients.

**Recommendations**

- The four border health boards
should develop in-house complaints procedures to specifically cover problems arising from consulting a cross border GP. These should have an agreed protocol across all health boards.

- Complaints should be handled by the jurisdiction in which the consulting GP is registered to practise. Therefore all complaints from RoI patients who attended NI primary care centres should be dealt with using the NHS complaints procedure, and all complaints from Northern Ireland patients who attended RoI primary care centres should be managed using the GMS complaints procedures.

5.8 Attitudes of the Medical and Nursing Unions

In Northern Ireland the main GP union is the British Medical Association and the main nursing union is the Royal College of Nursing. Their equivalents in the Republic of Ireland are the Irish Medical Organisation and the Irish Nursing Association. These four unions, along with the two Colleges of General Practitioners, were contacted.

The British Medical Association (Northern Ireland) and the Irish Medical Organisation welcomed the spirit of the proposal and requested to be kept informed of all contracts and any difficult issues.

The Royal College of General Practitioners (Northern Ireland) was supportive of the proposal. The Irish College of General Practitioners noted the proposal and, although not specifying any particular needs, were keen that GP needs would be identified.

The Royal College of Nursing (UK) was supportive of the proposed service. The RCN stated that nurses working in the scheme should have good systems of cross border communication to ensure seamless pathways of clinical care. As regards indemnity for RCN members, the RCN stated that it would have to further investigate general legislative issues regarding the legal provision of health care on either side of the border. The Irish Nursing Organisation has neither responded to two letters nor any of the telephone contacts made.

Recommendation

- All organisations that have been contacted should be informed in writing of the starting date of the proposed scheme.
5.9 Premises Insurance

The British Medical Association Insurance Services found that the proposal presented some difficulty with the underwriters they approached. Cover given to a commercial insurance policy applies to territories forming part of the United Kingdom. This cover would exclude premises whose users hold a contract to consult Republic of Ireland patients. Negotiations are ongoing to secure an underwriter. The cost of the additional policy will be related to the number of Republic of Ireland residents expected to visit the premises in any month.

Irish Public Bodies Mutual Insurance is the current insurer of the NEDOe and will also be the insurer of NOWDOC from September 2002. The Irish Public Bodies Mutual Insurance stated that any premises, owned and operated by the board to provide services to patients, also operated to cater for patients travelling from Northern Ireland.

Recommendations

- The insurance of out of hours premises, treating patients from another jurisdiction should remain the responsibility of the owners. Owners of premises should inform their underwriters that they are contracted to consult cross border patients.

5.10 Hospital and Crown Indemnity

The initial telephone response from Altnagelvin Hospital was that although the likely numbers of patients admitted would be small, the hospital would expect to have a contract with the NWHB that would cover indemnity. The hospital required a clearer idea of the anticipated number of RoI patients requiring in-patient admission each week. An estimate of 1-2 inpatient admissions per week (derived from the study into demand for cross border services (section 7)) was provided.

Hospitals in the border counties are used to receiving cross border patients. In the summer months, for example, up to 25% of inpatients in Letterkenny hospital are from Northern Ireland. Under current EU arrangements, all Northern Ireland patients in need of urgent care and admitted to Letterkenny/Monaghan/Cavan General Hospital, receive the necessary treatment.

Recommendations

- Hospitals should check that their existing indemnity arrangements would extend to cover the treatment of cross border patients admitted through cross border out of hours arrangements.
- CAWT should monitor the
changes in activity that might occur in hospitals that are affected by the provision of cross border services.

• Some in-patients will require follow-up as outpatients. It is recommended that in such circumstances, the patients’ GPs should organise appropriate follow-up within the patient’s own jurisdiction.

5.11 Ambulance Services

The NI Ambulance Service Trust provides services throughout NI. The Trust’s Southern and Western divisions, which cover the NI border areas; and the Ambulance Service providers of the North Eastern and North Western Health Boards were contacted. The consensus amongst the service providers was that there is good cross-border co-operation between the services for emergency cover. The ambulance service providers felt that they did not have the additional resources required to facilitate additional cross-border out of hours transfers. It was however made clear that in the majority of cases patients will be travelling to secondary care using the private mode of transport used to reach the primary care centre.

Three different scenarios for the transport of out of hours patients from a primary care centre to a hospital, were envisaged:

1. Where clinically appropriate, patients should be encouraged to travel to hospital in the mode of transport used to reach the primary care centre.

2. For those patients who either arrive at the centre in urgent need of hospital attention or whose condition deteriorates whilst at the centre, an emergency ambulance will be required to transfer the patient to the nearest appropriate accident and emergency centre.

3. There will be a group of patients for whom there is no easy solution, for example, a patient with atypical cardiac chest pain in whom a myocardial infarction needs to be excluded in an accident and emergency centre. In this case, the clinical condition of the patient does not warrant an emergency vehicle but because of the risk of a cardiac arrest (associated with an acute myocardial infarction), the patient should not be allowed to drive or be driven in a private car.

Recommendations

• CAWT should negotiate arrangements for cross border service provision with the relevant ambulance providers
• Each clinical presentation should be assessed on individual merit.
• Co-operatives should develop
feasibility Study for the provision of Cross Border Out of Hours GP Services

local protocols to manage certain situations, e.g. cardiac-type chest pain. be used to exclude such patients from the scheme.

5.12 Patient Advocate Groups

The Southern Health and Social Services Council (SHSSC) and the Western Health and Social Services Council (WHSSC) were supportive of the proposed service. The WHSSC stated that its support was "conditional on continuing peace and the absence of a terrorist campaign in those border localities."

No equivalent patient advocate groups exist in the ROI. No ROI organisations able to comment on the patient's perspective were identified.

Other General recommendations:

- A named individual or group with agreed and explicit responsibility for suspending the scheme, for whatever reason, should be identified.
- Two groups of patients—those who are receiving either terminal or mental healthcare—may not benefit from this project and they should be excluded from the service. We recommend that GP practices provide the OOH co-ops with a continually updated list of those patients who are mentally or terminally ill. The telephone triage systems should
6. Pharmacy Issues

Important pharmacy issues arise from the question of providing cross border primary care services. These issues have been investigated and are reported here. One of the key principles behind the pharmacy study is that any medication prescribed to a patient must be licensed in the dispensing jurisdiction. Emergency or starter medication licensed only in the RoI must only be dispensed in that jurisdiction. The same applies to medication licensed in NI. The overall aim of this section is to determine the feasibility of providing licensed medicines, prescribed by out of hours GPs, to cross-border patients.

6.1 Objectives

- To investigate the current provision of out of hours pharmacy services
- To evaluate the dispensing options available to cross-border co-ops
- To identify and consider key operational issues (including the supply, labelling and financing of drug packs)

6.2 Methods

The CAWT pharmacy working group includes senior pharmacy management representatives from each of the four CAWT Health Boards. The working group's members were consulted individually and collectively throughout the research. Local GP prescribing advisors and unit pharmacists were also consulted. These individuals provided invaluable information and clarification of key cross-border pharmacy issues.

6.3 Current provision of out of hours pharmacy services

Pharmacists do not presently provide dispensing services at out of hours centres in either NI or the RoI. Currently, there are three different methods employed to dispense licensed medicines prescribed out of hours:

1. Ad hoc out of hours dispensing services are provided by some pharmacies in both jurisdictions. To date the provision of ad hoc out of hours pharmacy services has not been monitored. Pharmacists are not remunerated for this service.

2. Pharmacies in NI also operate a rota system to provide out of hours services. As with the ad hoc service provision, there are no records of how many patients are dispensed drugs through the provision of such services:
however pharmacists are remunerated for this service. There is no rota system in the RoI, although pharmacists do open on the basis of ‘good faith’.

3. Out of hours GPs in both NI and the RoI co-ops dispense starter drug packs. These drug packs contain the medicines that are prescribed most often during out-of-hours.

6.4 Evaluation of Options for Cross-border Co-ops

The three different methods discussed above were identified and considered as being potential options for providing pharmacy services dispensing on a cross border out of hours basis. These options are described and evaluated below.

Pharmacist dispensing medicines in-situ in Co-op setting

The first option is for co-operatives to employ pharmacists on an ‘out of hours, on-call’ basis. This would allow pharmacists to be in situ in out of hours centres as and when required. Under this model, cross border patients who are prescribed medicines by a GP would have their medicines dispensed by a pharmacist working within the out of hours centre. A similar model has previously been piloted in the Northern Health and Social Services Board area in Northern Ireland.

In terms of patient care and convenience, the CAWT Pharmacy Sub Group considered this option to be the most desirable. The provision of such a service would have important financial and human resource implications. Demand for such a service is likely to be limited; consequently, in terms of resources, this option was viewed as the least efficient.

The ‘on call’ pharmacist scheme in the Northern Health and Social Services Board area was piloted over a one year period. The pharmacists’ call-out rate was extremely low and, as a consequence of the limited demand, the service was withdrawn. Without a significant increase in demand for out of hours services, it is envisaged that the provision of in-house pharmacy services would be economically inefficient. Even if demand increased to a sufficient level, this model would be difficult to implement due to the current shortage of pharmacists.

Pharmacies opening on a ‘rota’ basis

At present, pharmacies in NI and the RoI open outside normal working hours. In the RoI, these pharmacies open on an ad hoc basis, providing services as and when required. In NI, as well as ad hoc provision, a number of pharmacies operate rota systems, providing services at scheduled times. It was proposed that a pharmacy rota system could
be put into operation. The rota would be determined by the co-operatives. A co-ordinated and mirrored rota system on both sides of the border would be necessary, in order (i) to enable health boards to reimburse their respective pharmacists and (ii) to allow medicines to be dispensed in the licensed jurisdiction. The overall consensus was that although it would be helpful to develop a pharmacy rota system, this would probably not be viable.

This second proposed model would require service duplication on both sides of the border. In light of the current pressures on pharmacy provision, it is anticipated that such a mirrored system would not be viable. This would be due to the extra demands that would be placed on pharmacy services and the current shortage of pharmacists.

Provision of Starter Drug Packs and Emergency Drugs to Co-ops

The medications provided in starter drug packs are mainly oral medications used for the initial treatment of patients. These starter drug packs provide sufficient medication for up to 48-72 hours. Co-operatives also hold a stock of emergency drugs. These emergency drugs are sometimes required for the immediate treatment of patients in an emergency/acute situation.

Patients receiving a starter pack are informed that the administered dosage is an incomplete course of the required medication and that they should contact their own GP during normal surgery hours to complete the script. Following this, the patient is responsible for contacting his or her own GP, who then prescribes the remaining course of medication. In the majority of cases, the patient then presents the final prescription to the pharmacist who dispenses the remaining drugs. In a minority of cases, where the GP can dispense, the patient can actually receive the remaining medication from their own GP.

Recommendations

- The provision of starter drug packs was considered to be the most viable option. This was because it offers both convenience for the patient and is thought to be more cost effective than the other two models.

- Any medication given to patients must be licensed in that jurisdiction. Hence cross border patients can be provided with starter or emergency drug packs licensed in the GP's jurisdiction. Any modification to be made to the medication will be dealt with through follow-up contact with the patient's own GP.
• The out of hours GP would complete an electronic outcome sheet detailing prognosis and drugs administered. The call management system should prompt the co-ops GP to detail the drugs administered. This outcome sheet would then be sent electronically to the patient's GP. This system is already in operation in the NEHB. We recommend that all patients who receive medication, should be advised to contact their own GP when the surgery reopens in order to receive follow-up medication or a consultation.

• The patient's GP is liable for any medication (s)he prescribes as follow-up medication. Therefore, on receiving the information on medication provided on the electronic outcome sheet, the patient's GP should decide whether a consultation is necessary before the patient is given a follow-up script.

6.5 Operational Issues

Supply of starter packs
In both NI and the RoI, drug companies leave random supplies of sample starter packs with pharmacies. However these are not solely relied upon as they do not always reflect optimum prescribing choice. Starter drug packs are therefore sourced from manufacturing units.

In NI drug starter packs are supplied and packaged by manufacturing units to pharmacies. The pharmacies then supply the starter packs and emergency medicines to local out of hours co-operatives. So for example, the WESTDOC co-op in the WHSSB area receives starter packs and emergency drugs from nominated pharmacies in the WHSSB area.

In the RoI, pharmacies make up starter drug packs which are supplied directly to the out-of-hours centres. For example, each month four nominated pharmacies supply each of the four out of hours centres in the NEHB.

In the event that the drugs needed by the patient are not contained within the drugs pack or emergency medicine supplies, RoI patients are usually considered as European visitors and on production of ID, receive a script. A list of pharmacists willing to open in these infrequent situations is held by the co-op's GPs. Alternatively, on occasion, where the necessary drugs are not held in the out of hours centre, patients are referred to secondary care settings.

Labelling Starter Packs
Each starter pack of medicine is packaged and labelled by the supplier. The labels include details of each medication's dosage and batch number. The label also includes a space where the GP can
fill in the patient’s name and address, as well as the date and co-op of issue.

In NEDOC the medication labels applied by the pharmacies advise on the agreed dosage and batch number. The labelling also details the name and address of the pharmacy supplying the drugs.

**Financing Starter Packs**

In Northern Ireland, a nominal sum is top-sliced from the GP prescribing budget. For example in WESTDOC, money has been top-sliced from GPs' prescribing budgets and held at Board level. The Co-op manager orders stock from agreed pharmacies and submits delivery notes and orders to the Board on a monthly basis. These are cross-checked and payments are made. GPs are not responsible for covering the cost of starter packs.

NEDOC have been allocated a grant from the GMS (Payments) Board to cover pharmaceutical costs of the out of hours services. In the Northern Ireland Health Board the drugs are ordered on a weekly basis by the Unit pharmacist on receipt of stock counts submitted by the Clinical Nurse Managers of the out of hours centres. They are delivered by the nominated pharmacy of that month and at the end of the month, the pharmacist receives formal stock order forms to be submitted to the GMS (Payments) Board for payment.

**Recommendations**

- CAWT should also consider making alternative arrangements for dispensing drugs that are not held in the primary care centre.
- Cross border dispensing arrangements should be negotiated locally amongst co-operatives and local health boards.
- The provision of a cross border out of hours service will increase demand for dispensed medicines in certain areas. It is therefore recommended that the uptake of starter drugs and emergency medicines should be formally monitored. This information could then be used to determine whether demand for out of hours dispensing is high enough to justify the provision of on call pharmacy services.
7. Additional Workload and Demand Issues

Changes in provision will have important implications for future demand for out of hours care. Changes in demand will have knock-on implications for resources. An accurate prediction of future demand was therefore required to assess the potential financial implications of the proposed service. Utilisation data can be used to predict demand for services. As already noted in section four (technical issues), out of hours utilisation data are routinely collected by each of the out of hours co-operatives in the CAWT area. Utilisation data for the one year period prior to commencement of this feasibility study were requested and received from each out of hours co-op in the study area. Geostatistical analyses of the NI and RoI utilisation data were carried out in order to produce an estimate of the changes in demand for centre consultations that would occur at each out of hours centre if cross border provision was put in place.

7.1 Objectives

1. To estimate the number of people from NI who would be offered the choice of consulting at a RoI out of hours centre
2. To estimate the number of people from the RoI who would be offered the option of consulting at a NI out of hours centre
3. To estimate changes in demand for centre consultations in CAWT area co-ops over a one year period

7.2 Data Collection

The data required for the study are routinely collected by each out of hours co-op. Details of all calls received by co-ops are logged onto the co-ops central call management database. The call details presented in Table 7.1 were requested for each patient who contacted the service during the one year study period (from 1st August 2000 to 31st July 2001).

The datasets received from each co-op are summarised in Table 7.2. All data were fully anonymised to protect the identity of the patients. Both ASADOC and FOYLEDOC provided data for the time period requested. In total there were 47,519 and 38,287 records in the ASADOC and FOYLEDOC datasets respectively. The call records received from ASADOC were a 50% representative sample of all calls received over the study period. Calls made to MOURNEDOC after midnight, between 1st August 2000 and 31st July 2001 were included in the FOYLEDOC dataset. All calls
received by MOURNEDOC before August 2001 were paper based, but calls received from 1st August 2001 onwards were stored in digital format. MOURNEDOC co-op was only able to provide approximately two months of call data (2,792 records).

At the time of collecting the data, out of hours patient contacts in the North West Health Board were not available in digital format. A total of 54,289 records were received from NEDOC. These records covered all calls received between 18th September 2000 and 31st August 2001.

7.3 Methodology

The call records received from the NI co-ops included details of the patients’ residential postcodes. The patient postcodes were assigned a geocode through linkage with the Central postcode directory (CPD), a product produced and maintained by the Post Office, using the same procedure as detailed earlier in section 3.3. The calls received by NI out of hours centres were stored in digital format and overlaid with the cross border service areas identified earlier in the geographical section of this report (Map 3.7).

The RoI call records received from NEDOC also included patient address information. However, the data provided did not include the DED code as had been requested. Without this spatial identifier it was not possible to map the calls made within the RoI. As a result, an alternative methodological approach was devised to estimate the additional workload that would result from RoI patients consulting at NI primary care centres. The age-sex utilisation rates in the NEHB were applied to the populations residing in the areas of the RoI closer to NI centres.

<table>
<thead>
<tr>
<th>Date range</th>
<th>ASDOC</th>
<th>ROYALDOC</th>
<th>MOURNEDOC</th>
<th>NEDOC</th>
<th>NIDOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/08/2000-31/07/01</td>
<td>4,731</td>
<td>38,767</td>
<td>2,792</td>
<td>54,289</td>
<td>-</td>
</tr>
<tr>
<td>1/08/2000-31/07/01</td>
<td>4,731</td>
<td>38,767</td>
<td>2,792</td>
<td>54,289</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 7.2: Data received for workload study
7.4 Estimating the number of people from NI who would be offered the choice of attending a RoI out of hours centre in a one year period

The postcodes held in the Northern Ireland co-op records were used to map the origin of all out of hours calls made to NI co-ops. The proportion of postcoded records in each individual co-op dataset varied greatly. The datasets from MOURNEDOC and FOYLEDOC were well postcoded, with over 92% of records in each dataset containing postcodes. The 50% sample dataset received from ASADOC was poorly postcoded with over 50% (n = 19,197) of records not postcoded.

In total, 25% of all Northern Ireland co-op records (n = 21,862) did not have postcodes.

Quick Address System (QAS), a commercial software package employed to clean UK address databases, was used to clean the addresses held in the NI co-op patient database. This processing amended and corrected records that had incorrect postcode details. After processing the database using QAS, 95% of all records held full postcode details. Five percent (n = 4147) were left without postcodes due to insufficient address information. These records were excluded from the study.

Map 7.1: Sample of base visits made by South Fermanagh residents who would qualify for a crossborder consultation.
The postcoded patient records held in the processed database were then assigned geocodes/map references, obtained from the CPD. Once geocoded, the origin of each call was then plotted within the GIS.

Spatial analysis tools were employed to overlay call origins with cross border service areas. Once overlaid, it was possible to identify all calls received from patients who reside closer to a RoI than to a NI primary care centre. As an illustrative example, Map 7.1 reveals the origin of a sample of South Fermanagh calls, which resulted in a base consultation. Here, NI patients who reside closer to the Cavan out of hours centre in the RoI are depicted by a red dot. All other patients (i.e. those made by patients who reside closer to a NI centre) are depicted by a blue dot.

This overlay technique enabled the identification of all NI patients who attended a NI primary care centre during the study period, and who actually resided closer to an existing or proposed RoI primary care centre. These visits have been summarised according to the RoI centre to which patients lived nearest (Table 7.3). From Table 7.3, it is evident that 36 patients who received an out of hours consultation at a NI centre during the study period resided closer to the proposed out of hours centre in Donegal than to a primary care centre in NI. 270 patients lived closer to the proposed out of hours centre in Ballyshannon, 228 closer to Cavan, and a further 984 closer to Castleblaney.

<table>
<thead>
<tr>
<th>Doh Centre</th>
<th>NI Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donegal</td>
<td>36</td>
</tr>
<tr>
<td>Ballyshannon</td>
<td>270</td>
</tr>
<tr>
<td>Cavan</td>
<td>228</td>
</tr>
<tr>
<td>Castleblaney</td>
<td>984</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1518</strong></td>
</tr>
</tbody>
</table>

Table 7.3: Base consultations made in Northern Ireland by patients who reside closer to a RoI out of hours centre.

The query facilities in the GIS were also used to identify the NI out of hours centre that these 1518 patients actually attended. Table 7.4 reveals that of the 36 patients who were closer to Donegal, 16 actually attended the Strabane centre and a further 20 attended the Enniskillen centre. All of the 270 individuals who reside closer to Ballyshannon attended the Enniskillen centre. Enniskillen co-op GPs also consulted a further 228 patients who reside closer to Cavan. Therefore, over the study period, Enniskillen GPs consulted 518 patients who resided closer to a cross border out of hours centre than to the Enniskillen centre. GPs at Moy and Newry consulted 496 and 488 patients who lived closer to the Castleblaney out of hours centre.
Feasibility Study for the provision of Cross Border Out of Hours GP Services

<table>
<thead>
<tr>
<th>Town</th>
<th>No of GP visits (1/9/99-31/5/00)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strabane</td>
<td>16*</td>
</tr>
<tr>
<td>Enniskillen</td>
<td>20</td>
</tr>
<tr>
<td>Enniskillen</td>
<td>270</td>
</tr>
<tr>
<td>Enniskillen</td>
<td>Cavan</td>
</tr>
<tr>
<td>Mov</td>
<td>Castletown</td>
</tr>
<tr>
<td>Newry</td>
<td>Castletown</td>
</tr>
<tr>
<td>Total</td>
<td>1518</td>
</tr>
</tbody>
</table>

Table 7.4: Estimated number of NI patients who would consult a RoeI Primary Care Centre in a one year period

*It should be noted that, due to the lack of computer based records held by MOURNEDOC, an alternative methodology was devised to estimate the number of NI patients who would be offered the option to consult at Donegal instead of Strabane. The alternative methodology is the same as the one used to estimate the number of RoeI patients who would attend a NI primary care centre over a one year period. This alternative methodology was based on the age-sex utilisation rates observed in the NI population during the previous year.

7.5 Estimating the number of people from the RoeI who would be offered the option of attending a NI out of hours centre:

Utilisation data were requested from the RoeI co-ops to estimate the number of people from the RoeI who would be offered a consultation at a primary care centre in Northern Ireland. Records of out of hours consultations in the NWHB area (now covered by NOWDOC) for the study period were not accessible since these were held on paper rather than on the required digital format. NEDOC supplied the requested data in digital format. The NEDOC dataset contained 54,289 patient call records. Each record contained details of the patient’s postal address. However, this address information did not include the spatial identifier (DED) required to undertake the same type of spatial analysis applied to the NI data.

An alternative methodology was therefore devised to estimate the number of RoeI patients who, in a one-year period, would be offered the choice of consulting at either a NI or a RoeI centre. Age/sex utilisation rates within the NEHB area were calculated. The population residing in the Dundalk area was excluded from the calculations since Dundalk’s population is not serviced by NEDOC.
To calculate the centre utilisation rates for each of the age/sex cohorts in the NEHB area, the number of base visits made by each age/sex cohort to a NEDOC primary care centre during the study period (Column A - Table 7.5) was divided by the number of NEHB residents in each age/sex cohort (Column B). This result was then multiplied by one thousand to reveal the base visit rate per one thousand of the population (i.e., the utilisation rate - Column C).

As is evident from the utilisation rates revealed in Table 7.5, 176 primary care centre consultations were made per one thousand males aged 14 and under in the population during the study period. Similarly, 91 primary care centre consultations were made per one thousand females aged 25-44 in the NEDOC population. These utilisation rates were applied to the populations residing in cross border services areas to approximate the number of RoI patients who would be offered a consultation at a Northern Ireland primary care centre each year.

Table 7.6 provides a summary of the predicted number of patients from the RoI who would be given the choice of availing of a cross border consultation over a one year period. 1185 RoI patients would be eligible to consult at the Derry out of hours centre, 979 at Strabane, 240 at Enniskillen, 414 at Moy and 1252 at Newry.

Further analysis reveals the age/sex breakdown of these patients as well as their local RoI co-ops (Table 7.7).
It should be noted that there is potential for overestimation in this prediction of additional workload expected for NI primary care centres. This is because the age/sex based utilisation rates that have been used have not accounted for urban-rural variations in utilisation. Rurality and more specifically distance from services, is known to have a detrimental effect on utilisation rates. Those residing in rural areas with poor access to GP services are less likely to make use of services compared to their urban counterparts who are more likely to avail of services.

It should also be noted that an unknown proportion of service utilisation in NI is already attributable to RoI residents who use NI addresses to avail of health care which is free at the point of delivery. If formal arrangements for the provision of cross border health care are put in place, this will have an effect on the recording of cross

<table>
<thead>
<tr>
<th>DOH Centre</th>
<th>RoI Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derry</td>
<td>1185</td>
</tr>
<tr>
<td>Strabane</td>
<td>979</td>
</tr>
<tr>
<td>Enniskillen</td>
<td>240</td>
</tr>
<tr>
<td>Moy.</td>
<td>414</td>
</tr>
<tr>
<td>Newry</td>
<td>1252</td>
</tr>
</tbody>
</table>

*Table 7.6: Estimated number of base visits made by RoI patients to out of hours centres in Northern Ireland in a one year period.*

So for example, it is predicted that of all males aged 0-14 currently served by the Carndonagh primary care centre, 219 would be given the option of travelling to Derry (their nearest out of hours centre). The final column in Table 7.7 reveals the total number of people who would have the option of availing of a cross border consultation. It is predicted that, each year, a total of 855 patients who are currently residing in the Carndonagh catchment, would be offered a consultation at the Derry primary care centre (which is closer to the patient's place of residence).

<table>
<thead>
<tr>
<th>Over 65</th>
<th>19-64</th>
<th>Under 19</th>
<th>Total</th>
<th>Derry</th>
<th>Strabane</th>
<th>Enniskillen</th>
<th>Moy</th>
<th>Newry</th>
</tr>
</thead>
<tbody>
<tr>
<td>471</td>
<td>375</td>
<td>74</td>
<td>920</td>
<td>48</td>
<td>36</td>
<td>10</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>468</td>
<td>374</td>
<td>73</td>
<td>915</td>
<td>47</td>
<td>35</td>
<td>10</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>465</td>
<td>373</td>
<td>72</td>
<td>910</td>
<td>46</td>
<td>34</td>
<td>10</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>462</td>
<td>372</td>
<td>71</td>
<td>911</td>
<td>45</td>
<td>33</td>
<td>9</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>459</td>
<td>371</td>
<td>70</td>
<td>909</td>
<td>44</td>
<td>32</td>
<td>9</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>456</td>
<td>370</td>
<td>70</td>
<td>909</td>
<td>43</td>
<td>31</td>
<td>9</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

*Table 7.7: Breakdown of patients by current and cross border primary care centre, who would be offered the choice of a cross border consultation (based on the above estimates).*
border service uptake. It is however impossible to quantify the effect of formalising cross border out of hours arrangements on NI cross border workload.

7.6 Workload estimates for one year period

Finally, by compiling the information presented in the previous two sections, it is possible to predict the workload changes that would be experienced at each out of hours centre. The predicted changes are presented in Table 7.8.

Two co-ops, Derry and the proposed centre in Donegal, would not lose any of their service populations. Both would however experience increases in their service areas and therefore increases in their workloads. The increase in workload in Donegal would be minimal (currently predicted to be approximately 18 patients per year). However, the predicted workload increase in Derry is more significant, with an additional 1185 patients expected per annum. The Newry primary care centre is predicted to receive even more patients from the RoI (1252) per year than the Derry primary care. However as noted above, the reader should bear in mind that the workload gains predicted for NI co-ops are likely to be overestimated since, due to data limitations, it was not possible to control for the effects of distance and rurality on utilisation.

Other centres will experience no additional workload (Letterkenny, Carndonagh and the proposed centre in Carrick on Shannon). These co-ops will however lose

<table>
<thead>
<tr>
<th>OOH Centre</th>
<th>Base Visits</th>
<th>Gain</th>
<th>Loss</th>
<th>Net Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derry</td>
<td>1185</td>
<td>0</td>
<td>1185</td>
<td></td>
</tr>
<tr>
<td>Strabane</td>
<td>979</td>
<td>15</td>
<td>963</td>
<td></td>
</tr>
<tr>
<td>Enniskillen</td>
<td>240</td>
<td>518</td>
<td>-278</td>
<td></td>
</tr>
<tr>
<td>Moylese</td>
<td>414</td>
<td>496</td>
<td>-82</td>
<td></td>
</tr>
<tr>
<td>Newry</td>
<td>1232</td>
<td>468</td>
<td>764</td>
<td></td>
</tr>
<tr>
<td>Cavan</td>
<td>228</td>
<td>84</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>Castletinaney</td>
<td>964</td>
<td>1666</td>
<td>-682</td>
<td></td>
</tr>
<tr>
<td>Letterkenny</td>
<td>0</td>
<td>1309</td>
<td>-1309</td>
<td></td>
</tr>
<tr>
<td>Carndonagh</td>
<td>0</td>
<td>855</td>
<td>-855</td>
<td></td>
</tr>
<tr>
<td>Ballyshannon</td>
<td>270</td>
<td>78</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>Donegal</td>
<td>36</td>
<td>0</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Carrick-on-Shannon</td>
<td>0</td>
<td>78</td>
<td>-78</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.8: Predicted Base Visits in One Year
Feasibility Study for the provision of Cross Border Out of Hours GP Services

approximately 394, 1309, 855, and 78 centre consultations respectively to NI co-ops. The net difference in out of hours workload is also displayed in Table 7.8. Letterkenny is likely to experience the greatest decrease in workload, whilst Derry will experience the greatest increase.
8. Financial Issues

This section examines the complex issues of funding and charging arrangements in co-ops and identifies the mechanisms required to facilitate charging and payment transactions in a cross-border context. The research team was given the general brief of determining the financial arrangements for the payment of cross-border centre consultations. From discussions at the first introductory workshop held in July 2001 in Enniskillen, it was clear that the financing and costing of a cross-border out of hours service could be problematic. The lack of any simple solution was due to significant and complex differences in both the structuring and financing of the various co-ops in the study area (between and within jurisdictions). It was agreed that these matters would be investigated further and discussed via a dedicated one-day financial workshop (held in Omagh in November 2001), involving representatives from the Boards, co-ops and GPs.

8.1 Objectives
- To examine the current structure and financing of co-ops in the study area.
- To identify the main differences in financial systems.
- To develop a financial model for cross border transactions.

8.2 The current structure and financing of co-ops in the study area

Northern Ireland

In Northern Ireland, co-ops are independent non-profit organisations owned and run by groups of General Practitioners to provide quality out-of-hours primary care services to their patients. Co-op funding falls into two general categories: (i) infrastructural funding and (ii) service funding. Infrastructural funding covers the costs of facilities, such as electricity, heat and transport, while service funding is used to pay for the items of service provided (i.e. telephone advice, primary care centre consultations and home consultations). While the basic co-op model is the same across the province, there is considerable flexibility in the system. There are therefore many differences in the ways individual co-ops decide to run their financial affairs.

Infrastructure funding is partly financed by the DHSSPS Out of Hours Development Fund, partly funded by the local health board and partly funded by the co-op members. Infrastructure funding from members is capitation based. Capitation fees are paid by GPs for each patient covered by the out of hours service and are therefore dependent upon practice list size.
The basic fee paid per patient varies both between and within co-ops.

Northern Ireland co-ops also receive service funding which covers the costs of service provision. Service funding is derived from the Central Services Agency (CSA) for services provided after 10pm and at weekends. In addition, most co-ops also receive (top-up) service funding from co-op members to cover other service costs, such as services provided before 10pm. The amount secured from members varies from co-op to co-op as it relates to different consultation levels and types of service provided, such as specialist cars and drivers for home services. Most co-ops pay a fee for GPs working out of hours shifts, the costs of which are covered by the CSA/member contribution. Others prefer to operate a simple rota system whereby GPs do not receive payment from the co-op but do receive the CSA payment for each patient seen. Co-ops therefore operating under this scheme do not require service funding from their members. The consequence of these variations in modes of service provision means that there is no standard fee for items of service. Within Northern Ireland, there is a move to have a regional solution where funding is standardised throughout. However, this is not likely to happen in the near future.

Republic of Ireland
The system in the ROI is less complex. The NEDOC and NOWDOC Co-ops are funded and supported by their local Health Board. The health boards cover all infrastructure and services funding. GPs are not required to contribute to co-op funding. Participating NOWDOC GPs receive Special Type Consultation (STC) fees for out of hours consultations. However, NEDOC GPs waive their rights to claim the STC fees for out of hours services. Instead, NEDOC GPs are paid by the employing co-op for hours worked. There are two levels of payment, triaging and consultation. Fees paid by private patients are accrued and distributed amongst the GPs proportionate to hours worked at the end of the financial year. The amount charged for primary care centre or home consultation varies within co-ops and is determined by the GPs themselves.

8.3 Comparison of financial systems:
The basic differences, which stem from the different structural models adopted in NI and the ROI are illustrated in Table 8.1. In the ROI, co-ops are supported and maintained by the health boards with GPs receiving a salary for hours worked and an additional payment from consulting private patients. In
NI co-ops are owned and maintained by the member GPs, and receive variable infrastructural and service contributions from the health departments. These co-ops are run on a cost neutral basis.

In Northern Ireland, all patients receive health care free at the point of delivery through the NHS system. In the Republic of Ireland GMS patients receive free care whilst non-GMS patients pay a fee per service provided at point of delivery. Co-ops in the RoI have facilities to accept financial transactions for the payment of service, including cash payments. This facility is not available in NI.

The actual time of consultation in Northern Ireland has significant financial implications for both GPs and co-ops. If a GP in Northern Ireland consults a patient after 10 pm, the Central Services Agency (CSA) will currently contribute £23.50 towards the cost of providing that consultation. There is no such contribution for consultations provided between 6 pm and 10 pm.

### 8.4 Important issues for a cross-border service

There are a number of key issues pertinent to the development of a financial model for a cross-border OOH service.

From the workload study it is apparent that in any North/South out of hours arrangement there will not be parity in terms of cross border patient flows. Some areas will have net gains in primary care centre visits, while others will have net losses simply as a consequence of current population distribution and service provision. This will have knock-on effects in terms of co-op income. For example in NI, increases or decreases in consultation rates will affect the service income component for co-ops. Similarly, in the ROI, increases or decreases in consultation rates will affect the income of GPs through gains/losses of non-GMS patient fees.

<table>
<thead>
<tr>
<th>Funding</th>
<th>RoI</th>
<th>NI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100% from Health Board</td>
<td>Partially funded by DoH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Partially funded by GP members</td>
</tr>
<tr>
<td>Service payments</td>
<td>Partially paid by DoH (GMS)</td>
<td>Partially paid by CSA</td>
</tr>
<tr>
<td></td>
<td>Partially paid by Private Patients</td>
<td>Partially paid by GP members</td>
</tr>
<tr>
<td>GP Income</td>
<td>Profit shared amongst GPs</td>
<td>Cost neutral - no profit,</td>
</tr>
</tbody>
</table>

Table 8.1: Fundamental cross border differences in co-ops financial systems
In ROI non-GMS patients pay for services at point of delivery. NI co-ops do not have this facility. In a situation where ROI non-GMS patients seek care in the NI, a payment system would have to be introduced.

Internal charges for items of service vary widely, both between and within each jurisdictions. It is accepted that cross-border services must be paid for. The dilemma is whether to apply a standard charge which might be accepted by all participating co-ops or to allow corresponding co-ops on either side of the border to negotiate their own rates.

While the numbers of patients expected to use the cross-border service may be relatively small compared to overall usage in the region, from a financial perspective, the timing and geographical distribution of these consultations could be important. At present, many co-ops operate close to their staffing threshold levels at peak time periods (e.g. weekends). Any significant increase in workload from cross-border consultations may have considerable staffing and therefore financial implications. This issue would need to be considered on an individual co-op/PCC basis.

**European Union Regulations**

European Union regulations were studied to ascertain whether any formal arrangements already in place at the European level could assist or be used in determining a suitable financial model for a cross-border OOH service. While all European citizens are free to travel and seek medical care in other EU countries, there are a limited number of ways of having the costs covered.

Form E111 does not cover individuals for free or reduced-cost treatment who travel to another EEA country specifically for medical care. It is only valid when a person becomes ill whilst abroad, not when a patient travels for the purpose of seeking medical help.

Form E112 covers individuals who travel specifically for medical care. The scheme is only available where a clear need for on-going treatment is established and accepted by the health authority. Form E112 is not issued automatically but requires authorisation from the Health Department within the patient’s jurisdiction. The scheme is not available on an ad hoc emergency consultation basis and would therefore be inappropriate in the context of a regular cross-border out of hours service.
8.5 A financial model for cross-border transactions

This is a complex issue for which there is no easy or straightforward solution. The numerous imponderable factors and 'what if...' scenarios make it impossible to devise a comprehensive single solution satisfactory to all parties involved. This point was recognised and accepted at both the financial and final workshops. However, progress was made in that a number of basic working principles were agreed upon with respect to achieving an acceptable working financial model.

Recommendations

- There should be a single standard fee for surgery consultations on either side of the border.
- On comparison of the charging mechanisms within the various co-ops, it was noted that at the time of the study, a base consultation cost around £25 (sterling) existed. As a simple solution, it is therefore recommended that the receiving co-op should accrue a £25 (or EURO equivalent) payment for each centre consultation provided to a cross border patient.

- This fee should be reviewed periodically to consider the impact of any currency fluctuations between the EURO and sterling.
- Fees for consultations provided to NHS (NI) patients in the south should be paid for by the patient's co-op to the RoI provider. Normal internal arrangements for charging GPs/practices and claiming from CSA should still apply.
- Fees for consultations provided in NI to GMS (RoI) patients should be paid for by the respective board to the providing co-op.
- All transactions should be recorded, and billing administered through the standard software procedures currently in place.
- Non-GMS patients receiving a consultation in NI should pay the standard fee to the co-op at the point of service delivery. This would mean that NI co-ops would have to accept financial transactions in sterling or EURO.
- In NI, there should be no change to the income currently received from the Out of Hours Development Fund.
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- The development of a financial model should be negotiated with local co-op members. The financial model developed should (i) depend upon workload trade-offs and (ii) consider both the structure and funding of the local co-ops. There is no guarantee that the scheme will be cost neutral for all parties when rolled out.

It is our overall recommendation that a pilot scheme should be undertaken to test how these financial arrangements would work in practice. The pilot scheme would require two test sites, one where RoI patients travel to an NI primary care centre and the other where NI patients travel to an RoI primary care centre. The principles outlined above would form the basis of a financial model, which could be tested and refined prior to any roll-out across the whole border region. The pilot scheme should be used to monitor and negotiate the impact of cross border patients being admitted to hospital on an emergency basis from an out of hours primary care centre.
9. Conclusion

This feasibility study was commissioned and carried out with a view to facilitating the development of cross border co-operation in primary care service provision. The primary purpose of developing a cross border out of hours service is to improve access to care in border areas.

The basic terms of reference for the study were: 'to research joint working and co-operation between professionals on a cross-border GP out-of-hours arrangement and produce an operational plan addressing the organisational and management issues which need to be considered before cross-border co-operation can take place'. The study focused on patients travelling across the border to seek care in primary care centres: the option of GPs crossing the border to provide home visits was not considered.

Using an agreed set of core strategic and operational issues and a number of basic principles as guidelines, a project management plan and methodology was formulated. This divided the key research tasks into three distinct sections, Geographical, Professional and Business, and Technical.

9.1 Summary of Geographical Research

A Geographic Information Systems approach was adopted to identify and quantify the areas and populations in the border areas who could potentially benefit from the availability of a cross border out of hours service. It was shown that circa. 65,000 people would be eligible for the service on the basis of living closer to an out of hours centre on the other side of the border. Further analysis revealed that the majority of those eligible reside in areas that are designated as being materially deprived.

A retrospective study of demand for co-op services over a one-year period was used to identify the potential increases and decreases in demand for consultations at OOH centres that may operate on a cross-border basis. In general, it was predicted that the co-ops in the North would experience a net gain in surgery visits whilst those in the South would experience a net loss. In addition, the current structures, funding and charging arrangements in each of the co-ops were examined and a proposal for the costing and administration of financial transactions in a cross-border arrangement was proposed.
9.2 Summary of Technical Research

From the technical perspective, an analysis of the current protocols, processes, software and network solutions used by the various co-operatives in the region was undertaken. It is fortunate that all of the co-operatives use the same software solution to manage out of hours calls as this facilitates the development of an inter-connected cross-border software solution. A software and network solution has been proposed to accommodate for necessary linkage of cross-border OOH centres, interface modifications, integration of address-based ‘nearest OOH centre’ databases and additions to the electronic record sheet.

9.3 Summary of Professional/Business Research

A range of professional and business issues was investigated including matters of professional registration, indemnity insurance, prescribing and dispensing. It was concluded that most issues could be readily addressed. The majority of stakeholder organisations contacted was very supportive of the proposed scheme. The general opinion was that the proposal was potentially a significant step forward in improving access to out of hours primary care. No organisations were opposed to the scheme.

The need for a complaints procedure that is accessible, efficient and fair was recognised, as was the importance of giving patients the choice of where they consult and an assurance that there were no plans to limit the existing out of hours arrangements.

The General Medical Council (UK) continues to recommend dual registration for all doctors participating in this scheme. The Medical Council of Ireland does not consider dual registration necessary, so long as there are no plans for doctors to cross the border in a professional capacity. The issue of dual registration of RoI GPs requires further clarification.

9.4 Overall Recommendation

This project aimed to determine the feasibility of implementing a cross-border out of hours primary care service in the Irish border region. It was also intended to deliver a model that would not only provide greater patient access in the region but one that would also be acceptable to those who use and provide the service. On the basis of our research and various analyses it is our belief that the introduction of such a service is indeed feasible. It has been our experience in both correspondence and workshops with key stakeholders that there is considerable support and encouragement for the initiative to
proceed to the next stage. In this regard, we recommend that before attempting to roll out the service across the whole region, a pilot scheme be implemented for a trial period.

9.5 Recommendation for a Pilot Scheme

It has been apparent from conducting the feasibility study that a myriad of issues from geographical and technical to professional and financial needs to be addressed in order to facilitate the establishment of a cross border out of hours service. It is clear that the implementation of the 'live' system will take considerable organisation and preparation. The processes involved will not be simple, nor will it be straightforward. It should be apparent that some issues are considerably more important than others. Each issue needs to be addressed if the proposal is to become operational.

The implementation of a pilot scheme has many advantages:
- The various procedures and infrastructure can be continuously monitored at a local level
- Actual workload impact can be quantified and possible problems/barriers to uptake of the service can be identified
- Financial costs and arrangements can be evaluated
- Infrastructure and technical systems can be tested and refined
- Public opinion can be measured and used as a basis for awareness and promotional activities required for the roll out
- Starter drug packs and follow-up prescribing can be monitored
- Impact on hospital and ambulance service can be evaluated

The research team recognises these advantages and is strongly of the opinion that the best way forward is to undertake a pilot scheme whereby all the basic infrastructure, procedures and protocols are put in place in a limited number of areas and then monitored and evaluated over a trial period of 1-2 years. Our recommendation is for two areas to be selected, one where patients in Northern Ireland will have access to an OOH centre in the Republic of Ireland and one where patients in the Republic of Ireland will have access to an OOH centre in Northern Ireland. On the basis of the workload analysis (see section 7), we recommend the following two areas:

1. **NI border area**: population residing in the area which stretches from north of Keady to Crossmaglen/Silverbridge should be given the opportunity to consult at the NEDOC OOH centre in Castleblaney.

2. **...
2. RoI border area: population residing in the area which stretches from south of Buncrana to Newton Cunningham should be given the opportunity to consult at the FOYLEDOC OOH centre in the city of Derry.

Both areas are illustrated in Appendix 3. These areas have been selected for recommendation simply on the basis of attempting to achieve comparability in the number of cross border consultations. However, the final decision will rest with CAWT, and will depend upon their negotiations with local co-ops, GPs and other relevant bodies.
10. Operational Plan for Pilot Scheme

To assist CAWT in the development of a pilot service, we have devised an operational plan. This plan details the next steps that should be taken to facilitate the development of cross border out of hours services.

1. A steering committee should be formed of relevant personnel from each of the health boards, co-ops and other organisations involved in the study. The steering committee should consider the cost implications of the pilot service and secure funding for the same. The steering group should then establish a project team to include a project manager and an external monitoring team. The project team should meet up on a monthly or quarterly basis to review progress.

2. Taking due consideration of our correspondence with the General Medical Council and The Medical Council of Ireland, CAWT should examine and resolve the issue of dual registration for Republic of Ireland GPs who will consult with patients from Northern Ireland. The implications of dual registration on future re-accreditation should also be considered.

3. The four CAWT health boards should identify and agree upon two out of hours primary care centres, one on each side of the border, to be included in the pilot study. CAWT should then engage in local negotiations with the relevant co-ops, secondary care and ambulance service providers, with the ultimate aim of signing these bodies up to the scheme. The boards and participating co-ops should agree upon the costing mechanisms to be employed.

4. A cross-border software solution should be developed. The system interface should be developed to allow access to look-up tables that will be used to inform triage personnel of a patient's eligibility. System modifications should also be made to allow for the recording of any medications prescribed and for the identification of those who are to be excluded from the pilot (i.e. terminally and mentally ill). Geocoded databases should be used to create look-up tables of NI and RoI addresses to be included in the pilot.

5. The four CAWT health boards and the out of hours co-ops should modify existing in-house complaints procedures to specifically cover problems
feasibility study for the provision of cross border out of hours gp services

arising from the provision of cross border out of hours services. These should have an agreed protocol across all health boards.

6. GPs and nurses working within the Out of Hours centres in this pilot study will need appropriate indemnity arrangements which take into account their involvement in cross border service provision. Appropriate indemnity cover should be established and, where a GP or nurse has to change indemnity organisations in order to participate in this study, CAWT should consider the issue of reimbursing the difference in the subscription rates of the two agencies.

7. Primary care centres will have to be insured for providing care to cross border patients. Premises underwriters will have to be informed and premises cover will have to be amended.

8. The Boards should monitor the change in activity that might occur in hospitals. This might be particularly applicable in the Altnagelvin Area Hospital to cover any ROI patient admitted to the same under this pilot scheme.

9. Administrative protocols for the management of patients who avail of cross border services should be developed. These protocols should be as similar as possible to those used to manage patients who consult at a primary care centre within their home jurisdiction.

10. A monitoring strategy should be developed. An independent monitoring team should be put in place to monitor the pilot service. The monitoring process should commence prior to the operationalisation of the cross border service.

11. All organisations and professional bodies (e.g. nursing unions), whose members will be participating in the pilot scheme should be informed in writing of the start date of the proposed pilot.

12. Taking on board the recommendations presented in section 8.5 the boards and co-ops should negotiate both service charges and charging mechanisms locally. Protocols for processing GMS and NHS patient payments and handling cash payments should be developed.

13. Mechanisms for the supply and dispensing of drugs should also be negotiated locally between
co-ops and boards. CAWT should also consider making alternative arrangements for dispensing drugs that are not held in the primary care centre.

14. Networks professionals should be contracted to connect hubs and terminals at each of the call centres and primary care centres involved in the pilot service.

15. CAWT should embark upon a publicity campaign targeted at those who are eligible to use the cross border service. The result of the geographical analysis could be used to identify the addresses which should receive information about the pilot service. Signage, including information leaflets, should provide details of the service available and advise patients that they should continue to contact the out of hours service within their home jurisdiction.
Appendix One: Profile of Research Team Members

Dr Adrian Moore BSc, MSc, DPhil, has over ten years experience in the design and management of GIS projects ranging from project specific desktop solutions to large scale multimedia distributed spatial information systems. He is a Senior Lecturer in Geographic Information Systems and Head of the Spatial Analysis and Information Technologies Research Group at the University of Ulster. He has been project leader or consultant on over thirty GIS research and consultancy projects costing over £2 million. He specialises in GIS based health and health care applications. He has recently completed a number of large national and European distributed spatial information system projects (IRDSS, CATCH and BORDER). In addition he has been working on a number of locally based consultancy projects for local government agencies and authorities, Health Boards and Trusts in Northern Ireland and the Republic.

Dr Carol McQuillan BSc (Hons), PhD, is currently employed by CDC as a GIS Consultant where she is primarily responsible for projects relating to Health and Healthcare. Dr McQuillan has previously worked as a Research Officer and latterly a Lecturer in Human Geography at UUC. Her PhD employed a GIS approach to investigate the accessibility of primary and secondary health care services in Northern Ireland in relation to (i) need for services and (ii) health care provision policies. She has recently completed a series of projects including location / allocation modelling for health service provision.

Mr Stephen McAllister BSc (Hons), MSc, CertFCP, MCP, is the Networks & Distributed Systems Manager for CDC. He has had 9 years experience in the field of Computer Science - where he has spent time as a Data Management Analyst, GeoTelematics Researcher and Networks Developer. He has recently completed the successful networking of new premises for CDC and maintains server banks in two locations for file storage, internet applications and web hosting. He is also involved in the development of Web-based GIS. Previously he has worked on several successful European Telematics projects as a researcher and software developer.

Dr. Joanna Freeman MBBS DRCOG MRCGP has worked in both the UK and the RoI as a General Practitioner and was instrumental in developing clinical protocols for an out of hours co-operative in London. As a clinical tutor in National University of Ireland, Galway she
teaches clinical and communication skills to undergraduate medical students and she also works as a GP in Tuam, Co.Galway.

Prof. Andrew W Murphy is currently the Foundation Professor of General Practice at the National University of Ireland, Galway and a General Practitioner in a rural practice in Turloughmore, County Galway. This post is supported by the North Western and Western Health Boards. He was previously Senior Lecturer in the Department of General Practice at the Medical School of the Royal College of Surgeons in Ireland. As Foundation Professor, he has been responsible for developing under and postgraduate general practice/primary care education in the University. His postgraduate education has centred on primary healthcare systems and teams and cardiac and trauma emergency care. He has published nationally and internationally on research interests of the management of cardiovascular disease in the community, the delivery of healthcare in rural areas and the general practice/Accident & Emergency Interface.

Dr. Catherine Loughrey, BSc (Hons), PhD, was employed by the University of Ulster to research the pharmacy issues within this study. She has 9 years research experience of which five have concentrated on researching health issues for voluntary and statutory agencies. Recent work has included Primary Health Care research for CAWT into the perceptions of social and healthcare professionals of health needs in the Blacklion and Belcoo region (March 2001), Illicit Drug Use in the Omagh District (October 2001) and Cross-border Peer Research into Illicit Drug Use (forthcoming, June 2002). She is currently commissioned to conduct a range of research and evaluation projects relating to social and health issues.

Prof. Scott Brown is an NHS Principal in General Practice, based in the only RCGP Research Practice in Ireland (Coleraine). He is a former Vice Chairman of the RCGP Council, London and a member of the colleges international and financial committees. He currently holds the chair in General Practice Studies at the Institute of Postgraduate Research in Medicine and Health.
Appendix Two

Attendees of Introductory Feasibility Study Workshop,
Killyhevlin Hotel, Enniskillen, 6th July 2001

Dr. Morris Brown
Western Health and Social Services Board

Ms. Oonagh Carson
Western Health and Social Services Board

Mr. Eugene Dunn
Foyle GP Emergency Service

Ms. Sharon Fulton
Asadoc

Dr. Pat Harold
Blacklion Health Centre

Mrs. Margaret Headon
Primary Care Development Board

Dr. Catherine Loughrey
University of Ulster

Dr. Norbert Lynch
Lisnaskea Health Centre

Dr. John Madden
North Western Health Board

Dr. Joe McEvoy
Foyle GP Emergency Service

Dr. Carol McQuillian
University of Ulster

Ms. Francis McReynolds
CAWT

Dr. Adrian Moore
University of Ulster

Mrs. Kate Mulvenna
North Eastern Health Board

Mrs. Hayley Neely
University of Ulster

Dr. Theo Nugent
Errigal Medical Centre

Dr. Brendan O'Hare
Castlederg Clinic

Ms. Martina Ralph
North Eastern Health Board

Mr. M. Redmond
North Eastern Health Board

Mr. Eddie Ritson
Southern Health and Social Services Board
Mr. Paul Robinson  
North Eastern Health Board

Mr. Noel Scott  
Primary Care Development Board

Ms. Joy Sinnett  
North Western Health Board

Mrs. Linda Stewart  
Western Health and Social Services Board

Dr. Brian Sweeney  
Fintona Medical Centre

Mr. Mark Timoney  
Southern Health and Social Services Board

Dr. Lorraine Wasson  
University of Ulster
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Attendees of the Financial Workshop,
Postgraduate Medical Centre, Omagh, 30th November 2001

Mr Mark Armstrong
Mrs Judith Doherty
Mr Eugene Dunn
Dr. Joanna Freeman
Ms. Sharon Fulton
Ms Geraldine Kane
Ms Dolores McCormick
Dr. Carol McQuillan
Dr. Adrian Moore
Mr Tadhg O'Brien
Mr Noel Scott
Dr Brian Sweeney
Ms Joy Synnott

Asadoc
CAWT
Foyledoc
National University of Ireland, Galway
Asadoc
North Eastern Health Board
Southern health and Social Services Board
Causeway Data Communications (CDC)
University of Ulster
North Eastern Health Board
North Western Health Board
Asadoc
Nowdoc
Attendees of the Final Feasibility Study Workshop,
Carrickdale hotel, Dundalk, 19th April 2002

Mr. Harold Andrews
Dr. Lee Casey
Ms. Moira Devren
Mrs. Judith Doherty
Mr. Eugene Dunn
Ms. Lesley Edgar
Dr. Jo Freeman
Mr. Eugene Gallagher
Mr. Johann Hoey
Dr. Catherine Loughry
Mr. Stephen McAllister
Ms. Karen McCoy
Ms. Frances McLaughlin
Mr. Kenny McMahon
Dr. Carol McQuillan
Dr. Adrian Moore
Mrs. Kate Mulvena
Mr. Sammy Nicholl
Dr. Theo Nugent
Mr. Tadhg O'Brien
Mrs. Charmaine O'Donnell
Mrs. Martina Ralph
Mr. Eddie Ritson
Mr. Noel Scott
Dr. John Sheeran
Dr. Brian Sweeney
Dr. Robert Thompson
Mr. Joe Travers
Dr. Peter Wahlrab

Western Health & Social Services Council
FoyleDoc
UKCC/RCN
CAWT
FoyleDoc
Southern Health and Social Services Board
National University of Ireland
Western Health and Social Services Board
North Eastern Health Board
University of Ulster
CDC
Southern Health & Social Services Council
CAWT
NI Ambulance Service, Southern Division
CDC
University of Ulster
North Eastern Health Board
NI Ambulance Service, Western Division
Asadoc
North Eastern Health Board
Western Health and Social Services Board
NEdoc
Southern Health and Social Services Board
North Western Health Board
NOWdoc
Asadoc
Southern Health and Social Services Board
Sperrin Lakeland Trust
NEdoc
Appendix Three:
Recommended ROI Pilot Area.
Appendix Three: Recommended NI Pilot Area.

Moy Catchment Area
Newry Catchment Area
DEDs & EDs
NI Ward Boundaries
NB** Ward Populations in brackets**