An impact assessment of the health technology assessments

Commissioned by NHS Quality Improvement Scotland

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An impact assessment of the health technology assessments produced by NHS Quality Improvement Scotland

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EXECUTIVE SUMMARY

Background
Health technology assessment (HTA) is increasingly used in health services to promote health, prevent and treat disease and improve rehabilitation and long-term care. However, the impact of HTA on the adoption of the evidence-based recommendations is limited. The aim of this study is to examine the impact of HTAs conducted by NHS Quality Improvement Scotland (NHS QIS) and its predecessor the Health Technology Board for Scotland (HTBS). In this study a structured evaluation of some of the aspects of the dissemination and implementation strategies of the HTAs is presented.

Aims and objectives
The aim of this project is to examine how NHS QIS can improve the impact of HTA on policy, by increasing the adoption of their evidence-based recommendations. More specifically, the objectives were to: (i) describe the current method of dissemination; (ii) summarise existing evidence on the effectiveness of this method in comparison with other methods of dissemination; (iii) evaluate the specific methods of dissemination employed by NHS QIS; (iv) identify the effects of the dissemination on target services; and (v) identify the effect of dissemination on other related services and on research.

Methods
Design
Three of the five HTAs conducted by NHS QIS were selected as case studies: Prevention of relapse in alcohol dependence representing rehabilitation; Troponin testing in acute coronary syndromes representing acute care focused on informing care management decisions; and Routine ultrasound scanning before 24 weeks of pregnancy representing preventative screening.

Data collection consisted of two main components: review of existing documentation; and a qualitative component involving in-depth interviews with a sample of national and local policy makers, health professionals, and patient focus groups to assess the impact on routine practice. In the first component the HTA documentation was critically appraised so that judgements could be made about the quality of the dissemination strategy and about the accessibility, relevance and ease of understanding of the document. Evidence on the effectiveness of alternative methods of dissemination and implementation was based on a
summary of a recent systematic review of the effectiveness of different dissemination and implementation strategies. The impact of dissemination on targeted services was based on a review of management protocols and patient information leaflets and the impact on research was assessed by a review of potentially relevant research projects. This component did not seek to identify the effect of the HTA on other services. The second component of the research elicited the views of users (health professionals, managers, and patients) on the same factors as those addressed by the first component as well as any secondary effects on other related services. Health professionals and managers for each HTA considered were identified from the lists of those receiving the original dissemination of the HTAs as well as consideration of which groups the information from the HTA might be relevant. As far as possible for each therapeutic area in each of the chosen health areas the head of service, a service manager and a health professional were interviewed. The Scottish Executive Health Department Senior Medical Officers with responsibility for each therapeutic area were also interviewed. Overall, 29 people took part in 28 interviews. The views of patients were elicited from three focus groups, one in each therapeutic area. The methods used to identify participants varied between therapeutic areas but the methods used to collect data during the focus groups were the same.

Analysis
The evaluative structure provided by the option appraisal approach was used to organise the data obtained from the two components of data collection. This facilitated the description of the current implementation strategy and its outcomes along with a consideration of other relevant alternatives.

Results
The method of implementation adopted by NHS QIS is best summarised as targeted dissemination of educational materials. Such an approach is likely to have only a modest effect on behaviour. Other methods of supporting implementation such as reminders are likely to be more effective (although more costly). The targeting and tailoring of the documentation for health professionals produced by NHS QIS has generally been successful although dissemination may need to be widened to other organisations and groups within the health service. For HTAs that seek to influence several professional groups and agencies however more effort in developing and disseminating appropriate materials may be needed. The dissemination of documentation to non-professionals and patients was very poor.
Interviewees believed that many of the recommendations had been adopted before the HTA launch but little evidence was found from the review of documentation that recommendations of the HTAs were included in management protocols. Differences existed between the HTAs reflecting the different stages of development of services and the complex nature of the services themselves. However, there was a perception that HTAs have helped the development of services and may help to reduce the variability in the care provided to patients. The HTAs were also felt to have improved the care of patients and patient satisfaction although there was less consensus for the alcohol HTA which seeks to change more complex services than those services considered by the other two HTAs. With respect to patient satisfaction the limited knowledge of patients of the recommendations of the HTAs means it is unclear how well informed patients were about what care to expect.

Constraints limiting the implementation of the HTA recommendations related to the non-mandatory nature of the HTA recommendations and the limited resources and funds available. In particular, difficulties were identified in staff training, and in the recruitment and retention of trained staff. Other constraints related to the availability of suitable infrastructure and the knock on effect on subsequent services.

Secondary effects of the HTAs varied but overall they were believed to have increased workloads. For each of the HTAs the recommendations could be argued to have helped the development of services although the manner in which this occurred varied. For the troponin and ultrasound HTA there were both substitution and addition effects to related services identified. For alcohol services the HTA was believed to have helped the development of services. Overall, the HTAs seemed to have prompted little extra research related to the research recommendations made. However, a number of projects potentially relevant to the research recommendations made in the alcohol HTA (the first of the HTAs considered to be launched) were identified.

Limitations and notes on generalisability

Only three of the five HTAs conducted by NHS QIS have been considered. Furthermore, their impact has only been considered for three areas within Scotland. The HTAs and geographic areas were, however, explicitly chosen to aid the generalisability of findings. Nevertheless, concerns remain as to how generalisable the results are to other areas.
Considerable efforts were made to identify relevant documentation and to identify key individuals (even if the sample size for the interviews and focus groups was modest). It is reassuring to note that consistent themes emerged from both components of the research and that where differences existed between the HTAs these might be linked to the nature of the services that the HTAs sought to influence.

**Key findings for NHS QIS**

The results of the study indicate several areas where the dissemination and implementation of HTA recommendations might be developed. The ability of NHS to act on all of these areas is limited. Nevertheless there are a number of potential ways which NHS QIS might consider in order to improve the dissemination and implementation of future HTAs:

- Widening dissemination to other relevant groups NHS libraries.
- Improving dissemination of information to patients and patient representative groups. This may require the development of materials that can be used in local patient information sheets.
- Investigating of the value of facilitating the use of more active strategies such as reminders and educational outreach meetings. However, before such strategies are adopted for a given HTA consideration should be given to the level of adherence to HTA recommendations.
- For HTAs that cut across professional boundaries and involve multi-agency working more sophisticated approaches may be required to engage professionals groups which might not be familiar with the principles of HTA. This may involve the identification of barriers and facilitators of behaviour change for these groups so that the development of tailored interventions can be informed.
- Prioritising HTA recommendations including the development of the budget impact assessments to reflect this prioritisation.
- Identifying options for the facilitation of relevant training courses.
- Consideration as to the desirability of changing the status of the HTA within the NHS so that the recommendations may be seen as mandatory.

**Keywords:** Health technology assessment, dissemination, implementation, option appraisal, evidence-based practice
1 INTRODUCTION

Health Technology Assessment (HTA) has been described as a multi-disciplinary field of policy analysis, which studies the medical, social, ethical and economic implications of development, diffusion and use of health technology.\(^1\) It is an internationally recognised term that covers any method used by those working in health services to promote health, prevent and treat disease and improve rehabilitation and long-term care.\(^2\) An inherent part of the process of HTA is the evaluation of alternative courses of action in order to derive recommendations about effective and efficient care. The NHS Quality Improvement Scotland (NHS QIS) and its predecessor, the Health Technology Board for Scotland (HTBS) have used the HTA approach to make recommendations about care in five specific areas.\(^3\)

It has been recognised by the NHS QIS, amongst others, that the simple development of recommendations is not in itself sufficient to change practice. Unless practice changes in line with the recommendations of the HTA then the research resources devoted to it may be wasted. Three ways of introducing the recommendations into practice can be outlined: diffusion, dissemination and implementation.\(^3\) Diffusion is passive in that it is not targeted, planned or controlled, and only motivated potential recipients will seek it.\(^4\) A more active process is dissemination, which aims to increase the awareness of recommendations amongst the target audiences and often involves the use of targeted and tailored information. Implementation involves the identification and adoption of interventions to assist in overcoming potential barriers to the use of the recommended practices. In economic terms implementation may act on the way in which resources are used (organisational factors) or on arguments within an individual’s utility function (behavioural factors).

The consideration of the efficiency of HTA per se is beyond the remit of this project as it involves the development of recommendations about efficient practice. However, the efficiency of HTA is also influenced by the scope for change in practice (i.e. does current practice substantially conform to recommended practice) and the relative effectiveness of the dissemination and implementation strategies considered. Both these issues are pertinent to

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\(^{a}\) The five HTAs conducted by NHS QIS and its predecessor the Health Technology Board for Scotland are:
- The organisation of troponin testing services in acute coronary syndromes
- Routine ultrasound scanning before 24 weeks of pregnancy
- Organisation of services for diabetic retinopathy screening
- Prevention of relapse in alcohol dependence
- Positron Emission Tomography (PET) imaging in cancer management
this study. With respect to the former issue if there is little scope for practice to change then this means that no reasonable implementation strategy could be shown to influence practice. In such a situation active dissemination and implementation of the HTA would not be efficient (although the identification of which practices are efficient may still be worthwhile) regardless of the relative effectiveness of alternative dissemination and implementation strategies.

Understanding the strengths and limitations of the existing HTAs conducted by NHS QIS as well as the context in which their recommendations were introduced may provide useful information with which to inform the development and dissemination of future HTAs. This project presents a structured evaluation of the impact of three of the five HTAs conducted by NHS QIS.

The three HTAs chosen as case studies were:

- **Prevention of relapse in alcohol dependence** representing rehabilitation (hereafter called the Alcohol HTA).
- **Troponin testing in acute coronary syndromes** representing care focused on informing care management decisions (hereafter called the Troponin HTA).
- **Routine ultrasound scanning before 24 weeks of pregnancy** representing preventative screening (hereafter called the Ultrasound HTA).

These HTAs represent care focused on informing care management decisions in different situations (rehabilitation, acute care, and preventative screening, respectively). They have been chosen to be representative of broad areas in which future HTAs may be conducted.
2 AIMS AND OBJECTIVES

2.1 Aim
The aim of this project is to examine how NHS QIS can improve the impact of HTA on policy, by increasing the adoption of the evidence-based recommendations they contain.

2.2 Objectives
The aim outlined above will be addressed by meeting the four objectives outlined below.

Objective 1 Evaluate the effectiveness of the dissemination of the HTAs recommendations
The initial stage in evaluating the effectiveness of the dissemination strategies is to understand the commissioning and funding arrangements as well as associated plans for dissemination for the HTAs. In particular, questions might be asked such as: What dissemination strategies were outlined at the outset of the work? What funding arrangements were made for dissemination and implementation activities? Answers to such questions allows a critique of planned dissemination activities. Furthermore, the answers would define the funded specified objectives of the HTA process that can be compared to what has happened as defined by observation and post hoc definition of “best practice criteria” provided by the literature.

A further aspect of the work that is pertinent to this objective is the examination of the targeting of the dissemination and consideration of how such targeting might be improved. As outlined in Chapter 1, a dissemination strategy might consist of targeted and tailored materials. Three distinct questions can be identified that help to define the dissemination strategy used: What dissemination activities were there? Which individuals were targeted? Do these individuals remember receiving the recommendation and, if relevant, the supporting documentation? Answers to similar questions would serve to outline potential alternative dissemination strategies. For example, what alternative strategies are there? Who were the right people to be targeted? Do the ‘right’ people remember receiving the HTA material?
Objective 2  Critically appraise the documentation itself, by seeking views of users on factors such as accessibility, clarity, relevance and ease of understanding

This objective relates to the tailoring of the recommendations for users. One of the first questions that could be addressed is whether the documents could be readily obtained. Due to the time lag between publication of the documentation and the start of this project, the assessment is biased due to changes in the way, for example, the documentation is reported on the NHS QIS website. Other questions that could be posed relate to whether the documentation was clearly written. For example: Did it provide relevant information? Were the recommendations relevant? Were they easy to understand? Did the number of recommendation limit the usefulness of the HTA? Were the recommendations in any form of priority order?

Objective 3  Measure the impact of the recommendations on national and local health policy makers and on patients, focussing particularly on changes to patient outcomes as a result of the implementation

The aim of many dissemination and implementation studies is to improve care in a cost-effective manner. However, such changes are often difficult to identify and measure and as a result many studies have focused on intermediate outcomes such as extent of behaviour change. Such an approach may sometimes be appropriate, as it has been argued that an evaluation of alternative dissemination and implementation strategies can legitimately be limited to measures of professional behaviour change. This is because the recommended behaviour has already been shown to be more effective and efficient. This is the case for the evidence-based recommendations produced by NHS QIS. Therefore, the questions outlined for this objective relate to how health care behaviour has reportedly changed and the perception as to whether recommendations have been met. For example, how have policy makers at the local and national level reacted to the recommendations (i.e. do they value the HTAs and do they believe the findings of the HTAs)? What service developments can be identified? What are the perceived barriers to change? Do patients think that the recommendations have been/are being met? For those involved in planning services, were the budget impact assessments believable?

Objective 4  Capture any secondary effects on research and other related services

While HTAs seek to make recommendations based on the best available evidence, there are often areas where uncertainty remains and questions for further research can be outlined.
Furthermore, the decision to adopt one technology over another may promote research into the way new services might be organised. Therefore, questions could be asked about whether the HTAs have prompted any further research at both local and national level. Additional questions can be asked to clarify what questions the further research sought to address and whether this research addressed gaps in the evidence identified as topics for further evaluation in the HTA.

The attempts to change the use of one technology may have intended or unintended effects on the use of other technologies. This could be observed as either changes to complementary technologies or the substitution of one technology for another. An example of a complementary change in the use of a related technology would be the increased use of a recommended diagnostic test leading to the increased use of a particular type of subsequent treatment. An example of a substitution might be where the increased use of the recommended diagnostic technology leads to the reduced need for other diagnostic and treatment technologies. Therefore, questions could be asked as to whether the use of other related services have changed as a result of the guideline recommendation, what those services were and how these services have changed. A further consequence is that because health care resources are scarce, the adoption of a recommendation may use or free up resources that could be utilised in the provision of another health care intervention.
3 SUMMARY OF THE THREE CASE STUDIES

Each of the three HTA’s considered by this study was published in three separate documents: (1) The HTA Report; (2) the HTA Advice; and (3) Understanding our advice. The HTA Report was a detailed scientific report describing the methods, results and recommendations of the HTA. The full scientific reports have a longer list of recommendations, whereas the second document, the HTA Advice, summarises the recommendations, with specific reference to the full report in the explanatory text. In the final document, Understanding our advice, which is targeted at non-health professionals and patients, a summary of the changes in services due to the adoption of the recommendations is presented. Further details of each of the three HTAs are provided in Table 3.1 and in each subsection below.

Table 3.1 Summary of HTA Milestones

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<th>Milestones</th>
<th>Alcohol HTA</th>
<th>Troponin HTA</th>
<th>Ultrasound HTA</th>
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<td></td>
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<tr>
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<td></td>
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<td>May 2002</td>
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<td></td>
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<tr>
<td>Protocol published</td>
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<td>Oct 2001</td>
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<td></td>
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<td>Aug 2002</td>
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<tr>
<td>Revised protocol</td>
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<td></td>
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<tr>
<td>Dec 2002</td>
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<td></td>
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<tr>
<td>Open meeting</td>
<td>7 August 2002</td>
<td>10 June 2003 (Glasgow)</td>
<td>24 Sep 2003 (Glasgow)</td>
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<tr>
<td>Consultation comments published</td>
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<td>Sept 2002</td>
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<td>Jan 2004</td>
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<td>HTA Advice</td>
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<td>Feb 2004</td>
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<td>Understanding advice</td>
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<td>Events</td>
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<td>Launch</td>
<td>18 Dec 2002 (Glasgow)</td>
<td>15 Dec 2003 (Glasgow)</td>
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<td>22 Sep 2003 (Edinburgh) In conjuncture with SIGN guideline launch event</td>
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<tr>
<td>Related press release</td>
<td>22 Sep 2003 (SIGN)</td>
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In addition to formal events related to each HTA NHS QIS staff presented the findings of the results at a variety of local, national and international meetings. These meetings were aimed at some of the target professional groups for the HTAs.

3.1 Alcohol HTA

Following the publication of the Scottish Executive’s The Plan for Action on alcohol problems, Local Alcohol Action Teams were required to prepare local strategies to implement part of the plan. This HTA aimed to provide the local policy makers and planners with advice on prevention of relapse in alcohol dependence.

This HTA was conducted by the predecessor of NHS QIS, the HTBS (Table 3.1). The Consultation Assessment Report was published in August 2002 following a six-week Consultation period, which ran from the 7th August to the 17th September 2002. The HTA report was published in December 2002 and the launch event was on the 18th December 2002 in Glasgow. A seminar was conducted on the 13th March 2003 in Glasgow and a related seminar was held on 22nd September 2003 in Edinburgh in conjunction with the Scottish Intercollegiate Guidelines Network (SIGN) guidelines launch event. There were press releases on the 6th February 2001 and 18th December 2002. There was also a related press release on the 22nd September 2003 for the SIGN guidelines. An update of the HTA was published in December 2005.

Treatment of alcohol dependence consists of two stages: the acute stage (i.e. detoxification), and the rehabilitative stage (i.e. prevention of relapse). This HTA was about the second stage, prevention of relapse in patients with alcohol dependence. These treatments are mainly for people with more complex needs (within Tier 3) or for people with highly specialised needs (Tier 4) of the Scottish Executive’s Alcohol Problems Support and Treatment Framework. As stated in the HTA, it is of primary interest to those concerned with these specialist tiers. It complements the SIGN guidelines on the management of harmful drinking and alcohol dependence in primary care, which was published in September 2003.

Two main types of intervention were considered in the HTA: psychosocial and pharmacological. The HTA considered that the psychosocial interventions considered to be
clinically effective and cost-effective should be made available to people with alcohol dependence:

- Coping/Social Skills Training (CS)
- Behavioural Self Control Training (BSCT)
- Motivational Enhancement Therapy (MET)
- Marital/Family Therapy

The pharmacological interventions recommended as options for use adjunct to the psychotherapies are acamprosate and supervised disulfiram. The HTA also considered patient-related and organisational issues in delivering the services and implementing its recommendations.

### 3.2 Troponin HTA

Acute coronary syndromes (ACS) represent a spectrum of acute coronary heart disease, which includes unstable angina and myocardial infarction with or without ST segment elevation on the electrocardiogram (ECG). Troponin testing detects the presence and extent of heart muscle cell death, and in association with clinical and ECG findings, helps in diagnosing and assessing the prognosis of patients of cardiac-related chest pain. This HTA aimed to determine the clinical effectiveness and cost-effectiveness of troponin testing, and organisation of such service for different types of hospitals in Scotland.

The HTA was conducted by the NHS QIS (Project number: 97) from April 2002 (Table 3.1). The protocol was published in August 2002, revised in December 2002 and the consultation assessment report was published May 2003. There was a consultation period of six weeks between the 6th June and 17th July 2003, with an open meeting held on 10th June 2003 in Glasgow. Subsequently, the consultation comments report was published in August 2003. The HTA report was published December 2003 and launched in Glasgow on 15th December 2003 together with press release the same day (QIS News archive 29 May 2003 and 15 Dec 2003).

The HTA advises that troponin testing should be made available to all patients with cardiac-related chest pain within 12 hours of presentation in all hospitals in Scotland. The recommended two-step testing (i.e. on admission and 12 hours later) when combined with
information on clinical and ECG risk markers form part of the risk assessment of patients which is used to assess prognosis and to guide management of patient. Where a low-risk status is confirmed, cardiac stress test should be scheduled to facilitate discharge and to ascertain need for further investigation. The evidence suggests that troponin testing is cost-effective, with major savings arising from reduced length of inpatient stay, fewer admissions, and appropriate treatment according to patients’ risk profile. A timely troponin result is important for clinical decision making in an evolving disease. To achieve the short turnaround time would involve organisation of laboratory and testing services.

Key recommendations were that appropriate protocols should be developed and updated; written patient information should be provided including explanation of troponin testing and subsequent management of acute coronary syndromes; audit data on patient with acute coronary syndromes should be collected. Adopting the two-step testing strategy would increase the annual cost between £0.47 and £0.87 million.

3.3 Ultrasound HTA

Ultrasound scanning is currently offered to all pregnant women in Scotland. There is, however, variation in terms of the number, timing, and content of routine scans. As part of the National Pregnancy and Newborn Screening Standards, this HTA evaluated the clinical effectiveness and cost-effectiveness of routine ultrasound scanning before 24 weeks of pregnancy. It evaluated strategies including first trimester scanning only, second trimester scanning only, and first semester plus second trimester scanning, with or without additional maternal serum screening. The needs and preferences of pregnant women were also taken into consideration.

The HTA represents a preventative screening intervention. It was conducted by the NHS QIS (Project number: 77), and was started in May 2002 (Table 3.1). The protocol was published in October 2002 and the consultation assessment report was published in August 2003. A consultation period was held from 26th August to the 6th October 2003 and an open meeting was held on the 24th September 2003 in Glasgow. The HTA report was published in February 2004 and a launch event was held in Edinburgh on 13th February 2004. A press release was made on the same day.
The HTA recommended that a first trimester scanning be offered to women between 10 and 13 weeks of gestation. This would comprise the measurement of nuchal translucency and the measurement of two maternal serum markers (PAPP-A and free $\beta$-hCG). This is followed by a second trimester anomaly scan, between 18 and 22 weeks of gestation.

The service requirements recommended including establishing a national working group to determine quality assurance, safety, specification and maintenance of the ultrasound equipment. Protocols and appropriate written patient information should also be developed. Informed written consent should be received from all women prior to screening procedures. It was estimated that following implementation of the HTA recommendation, the annual cost of antenatal screening would increase by 52% to £9.6 million.
4 METHODS

4.1 Study design

The study addresses the objectives outlined in Chapter 2 using two main components of research:

1. A review of existing documentation; and
2. In-depth qualitative interviews or focus groups with a sample of national and local policy makers, clinicians and patients to assess the impact of the HTA recommendation.

The conceptual framework used to integrate these two components and structure the research was provided by the technique of option appraisal, a recognised approach for the appraisal of public policy both within and outside the health service.8,9,10

4.2 Option appraisal

Option appraisal has been used for over 20 years in the planning of health care and other public services. It is the systematic examination of objectives and the alternative ways in which these objectives can be met. Typically, option appraisal would take the perspective of the health service, although it would be expected to consider those costs and benefits falling on groups other than those represented by the decision-makers.

The aim of option appraisal is to ensure that, before resources are committed to a particular course of action, decision-makers:

1. Clearly understand what the issue to be resolved is and what the objectives are;
2. Are aware of potential solutions and have considered their relative advantages and disadvantages; and
3. Used this information to identify the options that they think are the best use of the resources.

A full option appraisal can be thought of as having five stages:

1. The statement of the planning context. This stage should clearly highlight how the proposal for changes in the provision of care link to overall strategy.

In the context of this study it has been taken as read that this stage relates to the adoption of those evidence based practices recommended by NHS QIS.
2. Statement of objectives and outcome measures. The objectives of the proposed changes specified in Stage 1 should be set along with the criteria that they should satisfy any other factors that might help in the process of appraisal and selection.

In simple terms the objectives are to increase the adoption of the evidence based recommendations of the HTA for practice. More specifically, this relates to the extent to which practice has changed in line with the recommendations of the HTA and the extent to which the other recommendations (e.g. those concerning further research) have been met.

3. Devise options to meet the objectives of the option appraisal.

This stage would be met by addressing the questions relating to defining the current dissemination strategy and alternative strategies outlined under the Objective 1 (see Section 2.1).

4. Evaluate the options identified in Stage 3 above.

By addressing the remaining questions outlined under the four objectives described in Section 2.1 would provide information with which to begin to consider the merits of the current dissemination compared with alternative strategies.

5. Presentation of the results of the competing options and selection of the preferred option.

Given the remit of this study a full option appraisal has not been attempted. In particular, the study has, based on existing research evidence, only speculated about how alternative dissemination strategies might compare with the current strategy. Furthermore, the costs of current and alternative implementation strategies have not been considered. Nevertheless, the option appraisal approach has been used to organise the data available from the review of the documentation and the qualitative component in order that recommendations can be made.
4.3 Development of research questions and methods for the review of component

Outlined below are all the questions that may be posed relevant to each of the objectives presented in Section 2. Some of these questions could be addressed by data from only one of the data collection methods while for others both components contributed data.

4.3.1 Defining the current and potential alternative dissemination strategies

To provide a description of the current dissemination strategies NHS QIS was asked to provide the available documentation dealing with the commissioning and funding of the HTAs. Data were extracted on the planned dissemination strategy and on funding arrangements for the dissemination and implementation of research for both NHS QIS and the NHS in Scotland.

With respect to the description of the actual dissemination strategies, two questions that can be addressed by the review methodology were outlined:

1. What dissemination activities were there?
2. Which individuals were targeted?

For question (1), the available documentation relating to the dissemination activities were reviewed. As the HTAs were published at different times they were reviewed in chronological order in terms of start dates, consultation period, publication dates, and dissemination activities (e.g. flyers, launch event and press release). This approach allowed systematic examination of the dissemination process, and more importantly identification of changes in terms of the report document, dissemination strategy and the impact over time.

Documentation relating to the dissemination process was requested from the NHS QIS and also sought in a search of the NHS QIS website (Appendix 1).

The data obtained from the review of the planned dissemination documentation was used to compile a baseline description of the planned dissemination strategy. This was then compared with information relating to the dissemination activities, which were conducted. The planned and actual dissemination strategies were then placed into the taxonomy of approaches for behaviour change identified by the Cochrane Effective Practice and Organisation of Care Group (EPOC).11
Question (2) was addressed by identifying the choice of the target population for dissemination. Separately, a reference standard for targeting of the material was developed; this provided a description of the target population for an alternative strategy. This was achieved by identifying the relevant groups within the following broad categories for the dissemination of the HTA: national policy-makers and advisors; local policy makers and service providers at board and divisional level; and clinical specialists, service managers, and patient groups both at the local and national level.

Relevant groups were identified by the HERU information officer using her knowledge of the structure and organisation of the NHS in Scotland along with her knowledge of national organisations representing professional and patient groups relevant to each of the three selected HTAs. In addition, a web-based search and a search of relevant directories were conducted.

4.3.2 Evaluation of current and potential alternative dissemination strategies

It was beyond the remit of this study to collect new data comparing the planned, actual and potential alternative strategies. Nevertheless, evidence was sought on the extent to which the current dissemination strategy might compare to alternative strategies in terms of degree of behaviour change. This was performed by comparing the estimated change in behaviour of alternative dissemination and implementation strategies provided by a recent systematic review. More specifically, the planned and actual strategy adopted by NHS QIS (elicited using the methods described in Section 4.3.1 above) were qualitatively compared with available evidence from the literature on the effectiveness and efficiency of alternative dissemination and implementation strategies. From these two comparisons, recommendations were drawn as to how the dissemination of the HTAs might change in the future.

Even though there may be scope for NHS QIS to consider the adoption of alternative dissemination and implementation strategies there may be potential methods to improve the effectiveness of the current approach. Using the methods outlined in Section 4.3.1 the actual and a reference standard target group could be identified. By comparing these two groups an assessment was made as to whether the actual target group for dissemination included the ‘right’ people.
The second objective of the study, outlined in Section 2, related to whether the tailoring of recommendations for the specific groups of users could be improved. Box 4.1 outlines a number of questions relating to the tailoring of recommendations that were addressed.

**Box 4.1 Questions relating to the tailoring of the HTA recommendations for specific groups**

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can the documents be readily obtained?</td>
</tr>
<tr>
<td>Was the documentation clearly written?</td>
</tr>
<tr>
<td>Did it provide relevant information?</td>
</tr>
<tr>
<td>Were the recommendations relevant?</td>
</tr>
<tr>
<td>Were the recommendations easy to understand?</td>
</tr>
<tr>
<td>Did the number of recommendation limit the usefulness of the HTA?</td>
</tr>
<tr>
<td>Were the recommendations in any form of priority order?</td>
</tr>
</tbody>
</table>

A description of what steps are required to access both printed and electronic material describing the HTAs methods, results and recommendations was produced. The HTA documentation provided by NHS QIS was then read by a researcher (TG) and comments made on the accessibility, clarity and relevance of the documents. However, the primary issue was whether or not they were clear and accessible to the targeted groups. Therefore, these questions were primarily addressed using data from the interviews, the methods for which are outlined in Section 4.4. Data was abstracted from the HTA documentation on the number of recommendations that were made and on any guidance concerning their priority. Where guidance on priority had been provided, the documentation was assessed to determine the basis of the priority, e.g. safety, efficacy, effectiveness, efficiency or equity.

Although data were not be available on alternative strategies evidence was sought on the extent to which the actual dissemination strategies adopted by NHS QIS led to changes in health care behaviour (addressing Objective 3 described in Section 2). Box 4.2 outlines the questions which this study sought to address, although not all of these could be addressed using the review methodology. Indeed using the review methodology it was only possible to attempt to identify service developments and to critically appraise the budget impact assessments conducted as part of the HTAs.
Box 4.2 Questions relating to the identification of changes in targeted health care behaviour

Do relevant individuals or groups value the HTAs?
Do relevant individuals or groups believe the findings of the HTAs?
What resulting service developments can be identified?
What are the perceived barriers to change identified by relevant individuals or groups?
Do patients or patient groups think that the recommendations have been/are being met?
For those involved in planning services, were the budget impact assessments believable?

Relevant service developments were identified by from management protocols and patient information sheets where the recommendations of the HTA might be expected to be reflected. Protocols and patient information sheets were obtained by asking each interviewee to provide relevant management protocols and patient-related information. These were requested from the interviewees at the end of their interview. A standard form was created, detailing each of the summary recommendations from the HTA Advice (the document targeted at executives and health professionals)(Appendix 2). The protocols obtained were reviewed and their contents compared to the recommendations of the HTA.

Similarly, the content of patient information leaflets was identified and compared to the HTA recommendations for service. Criteria for identifying compliance to the HTA recommendation were extracted from the HTA Understanding our advice, the supporting document targeted for non-health professionals and people with little specialised knowledge on the particular area. Data abstracted included the general statement of the service, description of intervention/condition, the reason and timing of such intervention, assurance of quality and safety, provision of contact details for further information, and information on the source of evidence used as a basis of the information leaflet.

In order to determine the usefulness of the budget impact assessments reported in the HTAs information in the HTA documentation on the budget impact of the HTA recommendations were abstracted. These data were then critically appraised using standard methods for the critical appraisal of cost estimates in economic evaluation studies.13,14

In addition to changes in target behaviour it is possible that the HTA might have effected other related activities such as other related services and research activities (Objective 4). A
number of issues related to the changes in related services and further research can be outlined (Box 4.3). With respect to changes in related services relevant data sources were not readily available and hence the review methods were not able to provide information (although information was provided by the interview methodology described in Section 4.4 below).

**Box 4.3 Questions relating to changes in the use of other related services or the instigation of other research**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
</tr>
<tr>
<td>What were those services?</td>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
</tr>
<tr>
<td>How have those services changed?</td>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
</tr>
<tr>
<td>Have the HTAs prompted any further research at both local and national level?</td>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
</tr>
<tr>
<td>What is the nature of any further research?</td>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
</tr>
<tr>
<td>Does this further research address any of the areas for further research identified by the HTA?</td>
<td>Has the use of other related services changed as a result of the HTA recommendation?</td>
</tr>
</tbody>
</table>

Details of further research were identified from local R&D offices and annual reports as well as reviews of projects recorded on the National Research Register. Local R&D offices were asked to identify research projects relevant to the three HTAs from 12 months prior to the publication of the first HTA (Alcohol dependence which was published 2002) until 2005. Annual reports during the period were also requested.

Information in the public domain on medical research available on the National Research Register (www.update-software.com/National) was searched (by following the "Search the register" link, click on "Open access search" and enter phrases to see all the work involved). Keywords for each recommendation were identified and extracted (Appendix 3). Searches were performed according to the Register Quick Reference Card and refined by the keyword ‘Scotland’ (Further details provided in Appendix 4). A form was created and data on HTAs’ further research recommendations was extracted from the HTA Report. A list of recent projects was identified against the form. Examination of possible shift of theme/trend of research projects was attempted.
4.4 Methods for interview of health professionals and focus groups of patients

The interviews and focus groups were used to provide data on many of the questions outlined in Sections 3.3.1 and 3.3.2. Multi-centre ethical approval (05/MRE06/33) and approval from the local R&D offices in South Glasgow, Forth Valley and Grampian was obtained before the interviews and focus groups were arranged and conducted.

4.4.1 Interviews with Health Professionals

Both the individuals who were the recipients of the dissemination and the reference standard were used to create a list of possible interviewees to approach for the qualitative interviews. A purposive sampling technique was used to establish relevant health professionals to invite for interview. A scoping exercise to identify the extent of dissemination of the three chosen HTAs throughout Scotland was carried out by e-mail and telephone. An e-mail outlining the study, requesting information on HTA report distribution and willingness to be interviewed (Appendix 5) was sent to Senior Medical Officers, Heads of Service, Service Managers and senior staff in the three therapeutic areas under study. Where no response was received after two weeks, a follow-up telephone call was made to relevant secretaries to enquire as to whether the e-mail had been received and whether the recipient was the most appropriate person to contact. This yielded some further possible contacts who were then sent the e-mail request. As far as possible for each therapeutic area in each of the chosen health areas the Head of Service or equivalent, a service manager and one health professional who would be willing to be interviewed were identified. The Scottish Executive Health Department Senior Medical Officers with responsibility for each therapeutic area were also interviewed.

An interview schedule was developed following discussions with NHS QIS (including interviews with three staff from NHS QIS) and a review of the HTA Report and the report dissemination strategy (Appendix 6). Following this, an invitation letter and information sheet about the project was sent to each potential interviewee (Appendix 7). Suitable appointments were then agreed at the health professionals’ place of work. Interviews took place between 20th July and 6th October 2005.

At the time of interview, written informed consent was obtained, and the interviewee was asked for permission to record the interview. Interviews lasted between 25 - 50 minutes. Interviews and were semi-structured, using the interview schedule but allowing...
interviewees scope to expand on relevant issues. All interviews were carried out by the same researcher and transcribed verbatim.

4.4.2 Patient focus groups
For each of the HTAs, a single focus group was conducted. The methods used to identify the focus groups members varied between the different HTAs but the same methods were used to collect data.

For the Troponin HTA, a paragraph was posted on the national opportunities section of the Chest Heart and Stroke Scotland (CHSS) website describing the study. Interested and relevant members of the public living in Scotland were invited to contact one of the researchers with a view to participating in a focus group. The article also appeared in a leaflet sent out monthly to cardiac support groups across the UK.

The British Heart Foundation also works in collaboration with CHSS and is currently running a scheme called ‘hearty voices’ for patient and carer representatives. Letters were also sent out to those currently involved in this scheme inviting them to take part.

For the Ultrasound HTA, the leader of a local Mother and Baby group and the National Childbirth Trust (NCT) contact for each area was approached by phone and then letter asking for help in recruiting mothers who had given birth within the last two years. Letters for the mothers including reply tear off slips and pre paid return envelopes were then sent to the Leader who distributed these to relevant mothers. Interested mothers were asked to contact one of the researchers with a view to participation in the focus group.

For the Prevention of Relapse in Alcohol Dependence HTA, Alcohol Focus Scotland in Glasgow was approached to assess whether it would be possible to approach a number of interested alcohol rehabilitation clients in a user involvement project to participate in a focus group. Letters inviting clients to participate were distributed by the group leader who co-coordinated the group.

One patient focus group was conducted in each of the three selected HTAs. After discussions with NHS QIS and using the report recommendations, a standard structured interview schedule was developed (Appendix 6). As well as a letter of invitation to participate, each
potential participant also received an information sheet on the purpose of the group and the form that it would take, including recording of the groups and anonymisation of all participants (Appendix 7). Refreshments and expenses were provided as appropriate. At each focus group, written informed consent was obtained from each participant, ground rules were explained and the interviewees were asked again for permission to tape-record the focus group. Focus groups lasted between 1 to 1.5 hours. All focus groups followed the semi-structured interview schedule allowing scope for issues and ideas to develop within the time constraints available. Each focus group was facilitated by one researcher, with a second researcher taking notes. The audio-tapes were then transcribed verbatim. The same two researchers carried out all focus groups.

4.4.3 Data analysis

All interviews were analysed independently by two researchers to limit bias. Data were analysed by an iterative process using a content analysis framework developed to enable categorisation into relevant themes.\textsuperscript{15}
5 RESULTS OF THE REVIEW OF HTA DOCUMENTATION

Table 5.1 outlines the documentation reviewed relating to each HTA.

<table>
<thead>
<tr>
<th>Table 5.1 List of documentation obtained and reviewed</th>
<th>Alcohol HTA</th>
<th>Troponin HTA</th>
<th>Ultrasound HTA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch invitation list</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Launch attendance list</td>
<td>x</td>
<td>x</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Distribution list</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>HTA documents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>− HTA Report</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>− HTA Advice</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>− Understanding our advice</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>3</td>
</tr>
<tr>
<td>Clinical management protocol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included</td>
<td>0</td>
<td>3 (1†)</td>
<td>3 (2†; 1‡)</td>
<td>6</td>
</tr>
<tr>
<td>Excluded</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Patient information leaflet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included</td>
<td>2 (1†)</td>
<td>0</td>
<td>6 (2†; 2‡)</td>
<td>8</td>
</tr>
<tr>
<td>Excluded</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

† Date of publication preceded the HTA
‡ Date of publication unavailable

5.1 Defining the dissemination strategies

Records of related dissemination activities were available from the NHS QIS website. These include information on launch events, seminars, and the press release describing the launch of the HTA guidance and related events. Initial commissioning and funding arrangement records were not available for analysis. Therefore, it was not possible to comment on the funding arrangements earmarked for dissemination and implementation activities. Launch invitation lists (for all three HTAs) and attendance list (ultrasound HTA) were made available from NHS QIS (Table 5.1).

The supporting documents for the HTA launch (the slides used for the launch meeting and the press release) provided a clear and concise summary of the HTA. Based on the taxonomy of approaches outlined by the Effective Practice and Organisation of Care Review
Group of the Cochrane Collaboration\textsuperscript{11} the dissemination/implementation strategy adopted by NHS QIS can be broadly defined as a targeted dissemination of educational materials.

The target audience for potential alternative strategies was provided by the reference standard distribution list. In terms of broad categories of individuals the following groups were identified as being relevant to include in the dissemination of the HTA. A summary of broad groups in the reference standard are:
1. National policy-makers and advisers;
2. Local policy makers and service providers at Board and Divisional level;
3. Clinical specialists and service managers;
4. Patient groups at national and local level; and
5. National organisations representing professional and patient groups relevant to the selected HTA topics such as Royal Colleges and Non-government organisations (NGOs).

With respect to the actual targeting of the HTA documentation two distribution lists summarising the broad group who received the HTA documentation were obtained from NHS QIS (troponin and ultrasound HTAs). A similar list was not available for alcohol HTA and as a result of this, the identification of the target audience for the alcohol HTA could not be determined. The alcohol HTA launch list was provided but did not seem to be comprehensive, as few individuals were listed almost all of whom appeared to be health professionals. The approximate number of people in the distribution list for the dissemination for the troponin testing HTA was 750. The approximate number of people in the distribution list for the ultrasound scanning HTA was not given but this would not affect the conclusion made here. Overall, compared with the reference standard, the distribution lists that were available appeared to be comprehensive and covered all the broad groups as well as specific interest parties\textsuperscript{b} such as manufacturers and laboratories. Only one group, local level librarians, did not appear to be specified in the NHS QIS distribution lists although NHS education was included).

Box 5.1 describes potential alternative strategies to promote professional behaviour change. Many of these strategies can be used alone or as part of a multifaceted intervention, for

\textsuperscript{b} Relevant parties included GP committees, respective Royal Colleges and professionals from other relevant specialties
example an intervention might involve the distribution of materials and educational
meetings. In a recent review of implementations studies 71% of studies identified compared
a multifaceted intervention to a single intervention control or a multifaceted intervention
control.12

**Box 5.1 Outline of potential dissemination and implementation interventions**
*(taken from Grimshaw et al 2004)*12

| **Distribution of educational materials:** | distribution of published or printed recommendations for care including practice guidelines, audiovisual materials and electronic publications. The materials may be delivered individually or through mass mailings |
| **Educational meetings:** | health care providers participating in conferences, lectures, workshops or traineeships |
| **Local consensus process:** | inclusion of participating providers in discussion to ensure that the chosen clinical problem was important and the approach to managing the problem was appropriate |
| **Educational outreach visits:** | use of a trained person, who meets with providers in their practice setting to give information with the intent of changing the provider’s practice. The information given may have included feedback on the performance of the provider(s) |
| **Local opinion leaders:** | use of providers nominated by their colleagues as ‘educationally influential’ |
| **Patient-mediated intervention:** | new clinical information (not previously available) collected directly from patients and given to the provider |
| **Audit and feedback:** | any summary of clinical performance of healthcare over a specified period. The summary may include recommendations for clinical action. The information can come from medical records, computerised databases or observations from patients |
| **Reminders:** | patient or encounter specific information, provided verbally, on paper or on a computer screen, which is designed or intended to prompt a health professional to recall information. This might be attempted via their general education, in the medical records or through interaction with peers and so remind them to perform or avoid some action to aid individual care |
| **Marketing:** | use of personal interviewing, group discussions (i.e. focus groups), or a survey of targeted providers to identify barriers to change and subsequent design of an intervention that addresses the barriers identified |
| **Mass media:** | varied use of communication that reaches great numbers of people including television, radio, newspapers, posters, leaflets and booklets alone or in conjunction with other interventions; or targeted at the population level |
| **Other interventions:** | e.g. financial interventions, organisational interventions, structural interventions, or regulatory interventions |
5.2 Evaluation of alternative strategies

5.2.1 Evidence on the relative effectiveness and resource implications of alternative dissemination and implementation strategies

A recent systematic review attempted to summarise the effectiveness and cost implications of alternative guideline dissemination and implementations strategies. In this review effectiveness was estimated in terms of the absolute difference in target behaviour in comparison with a comparator and was described as small (≤ 5%), modest (> 5% and ≤ 10%), moderate (> 10% and ≤ 20%) or large (> 20%). Table 5.2 summarises the evidence on relative effectiveness. As this table shows the approach (dissemination of materials) adopted by NHS QIS would result in only modest changes in professional behaviour. Other potential interventions such as reminders and patient directed interventions are likely to be more effective although Grimshaw and colleagues identified no studies evaluating reminders conducted in the UK. For many of the other strategies considered the evidence was sparse but there was little apparent extra benefit compared with no intervention. The exceptions to this were the use of patient directed reminders and the combination of educational outreach and dissemination. Patient directed interventions are also likely to be more effective but such approaches may be difficult and costly for an organisation such as NHS QIS to actively pursue.

Grimshaw and colleagues reported that there was no evidence that effectiveness increased when the number of interventions included in a multi-factorial intervention increased.
<table>
<thead>
<tr>
<th>Experimental intervention</th>
<th>Control intervention</th>
<th>Effect size</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissemination of materials</td>
<td>No intervention</td>
<td>Modest</td>
<td>Sparse and poor data</td>
</tr>
<tr>
<td>Educational meetings</td>
<td>No intervention</td>
<td>Small if any effect</td>
<td></td>
</tr>
<tr>
<td>Audit and feedback</td>
<td>No intervention</td>
<td>Modest</td>
<td></td>
</tr>
<tr>
<td>Patient mediated interventions</td>
<td>No intervention</td>
<td>Moderate to large</td>
<td></td>
</tr>
<tr>
<td>Reminders</td>
<td>No intervention</td>
<td>Moderate</td>
<td>No UK studies</td>
</tr>
<tr>
<td>Educational outreach and dissemination of materials</td>
<td>No intervention</td>
<td>Small to modest</td>
<td></td>
</tr>
<tr>
<td>Educational outreach, meeting and dissemination of materials</td>
<td>No intervention</td>
<td>Modest to moderate</td>
<td></td>
</tr>
<tr>
<td>Meetings and dissemination of materials</td>
<td>No intervention</td>
<td>At best small effects</td>
<td>Sparse data</td>
</tr>
<tr>
<td>Dissemination of material and audit &amp; feedback</td>
<td>No intervention</td>
<td>Modest</td>
<td>Sparse data</td>
</tr>
<tr>
<td>Meetings and dissemination of materials and audit &amp; feedback</td>
<td>No intervention</td>
<td>At best small effects</td>
<td></td>
</tr>
<tr>
<td>Meetings and dissemination of materials and organisational interventions</td>
<td>No intervention</td>
<td>At best small effects</td>
<td>Sparse data</td>
</tr>
<tr>
<td>Dissemination of materials and reminders</td>
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<td>Experimental intervention more effective</td>
<td></td>
</tr>
<tr>
<td>Meetings and reminders</td>
<td>Dissemination of materials</td>
<td>Experimental intervention more effective</td>
<td></td>
</tr>
<tr>
<td>Dissemination of materials, meetings and reminders</td>
<td>Dissemination of materials &amp; meetings</td>
<td>Experimental intervention more effective</td>
<td></td>
</tr>
</tbody>
</table>

In addition to looking at effectiveness Grimshaw and colleagues were also interested in the cost and cost-effectiveness of alternative implementation strategies. Despite a rigorous search they found no evidence in the existing literature on the cost and cost-effectiveness of alternative dissemination and implementation strategies. They did, however conduct a semi-structured telephone survey of key informants in primary and secondary care settings. This survey attempted to assess the feasibility and resource requirements of alternative guideline dissemination and implementation strategies. In brief, seven informants were included in the survey and they were asked for views on factors that might influence the resource use of each intervention, how far they thought they were feasible within the current resources available in their setting, and their views on feasibility throughout the UK. The strategies considered were:
• The dissemination of educational materials either by:
  − A laminated single sheet of recommendations sent to all relevant practitioners with an introductory letter
  − Recommendations mailed to all members of relevant specialist society and consumer organisations
  − Educational video given to sites/specialists
• Educational meeting either by:
  − A series of lectures to relevant practitioners
  − Half day conference to relevant practitioners hosted by a local expert
  − Several intensive small group sessions
  − A didactic meeting for relevant practitioners with presentation from local experts and peers
• Educational outreach visits provided as one to one visits by practitioners trained as educators
• Local opinion leaders involving the nomination of practitioners at a local level as an opinion leader who then undergoes training.
• Audit and feedback either by
  − Regular, frequent electronic mail messages containing computer generated reports on compliance
  − Monthly paper reports on compliance
  − Monthly seminars with paper reports containing personal performance in complying with guidance
  − Quarterly departmental meetings where departmental compliance is presented
• Reminders either by
  − Stickers placed on medical records
  − Computer generated reports sent annually to practitioners
  − Computer generated alerts and messages

As part of the survey the informants were asked to indicate the resource requirements for each of the implementation strategies considered. From these summaries were produced for each of the strategies of the key categories of resource use (and hence cost drivers) associated with each strategy (Table 5.3).
### Table 5.3  Factors influencing resource requirements for each different implementation strategy

<table>
<thead>
<tr>
<th>Educational materials</th>
<th>Printed materials</th>
<th>Purchased educated videos</th>
<th>Local development of educational videos</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of pages distributed</td>
<td>Cost</td>
<td>Clinical expertise</td>
</tr>
<tr>
<td></td>
<td>Number of copies</td>
<td>Number required</td>
<td>Scripting expertise</td>
</tr>
<tr>
<td></td>
<td>Frequency of revision</td>
<td>Availability of audiovisual facilities</td>
<td>Filming expertise</td>
</tr>
<tr>
<td></td>
<td>Labour involved in dissemination</td>
<td>Opportunity cost of group viewing</td>
<td>Technical editing expertise</td>
</tr>
<tr>
<td></td>
<td>Opportunity cost of reading time</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost of professional production of materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational meeting</th>
<th>Location (in-house or external)</th>
<th>Distance from participants’ workplace</th>
<th>Cost of venue and refreshments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency of meetings</td>
<td>Expert speaker fee</td>
<td>Group facilitator fee</td>
</tr>
<tr>
<td></td>
<td>Length of meetings</td>
<td>Local availability of group facilitators</td>
<td>Administration costs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational outreach visits</th>
<th>Location (needs to be in practitioners own setting)</th>
<th>Frequency of visits</th>
<th>Length of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Whether delivered to a group or individual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Local opinion leaders</th>
<th>Number of opinion leaders required</th>
<th>Costs of identifying and training the opinion leaders</th>
<th>Payment of opinion leaders’ time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preparation time by opinion leaders</td>
<td>Cost of the educational strategies used by the opinion leaders</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audit and feedback</th>
<th>Cost of data abstraction</th>
<th>Cost of data preparation and handling</th>
<th>Costs of preparing feedback reports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency of reports</td>
<td>Additional associated activities e.g. meetings</td>
<td></td>
</tr>
</tbody>
</table>

| Reminders | Staff time to identify patients and placing stickers | Availability for staff | Training for administrative staff to identify patients |
Perhaps more useful than the description of factors influencing resource use is that Grimshaw and colleagues scored the different strategies in terms of how resource intensive they would be. Table 5.4 provides an interpretation of the results of this analysis (Grimshaw and colleagues reported the results by informant and these have been visually compared and then summarised to provide a composite ranking).12

Table 5.4  Scoring of how resource intensive the different implementation strategies would be along with evidence on effectiveness (1 = most intensive, 6 = least resource intensive)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Score</th>
<th>Effectiveness*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution of educational materials</td>
<td>6</td>
<td>Modest</td>
</tr>
<tr>
<td>Educational meetings</td>
<td>4</td>
<td>Small</td>
</tr>
<tr>
<td>Educational outreach visits</td>
<td>1</td>
<td>Small to modest</td>
</tr>
<tr>
<td>Local opinion leaders</td>
<td>2</td>
<td>None to small†</td>
</tr>
<tr>
<td>Audit and feedback</td>
<td>4</td>
<td>Modest</td>
</tr>
<tr>
<td>Reminders</td>
<td>5**</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

* see Table 5.3; ** scored as 1 where appropriate computerised systems did not already exist. † as suggested by Grimshaw et al (2004) from comparisons with educational materials12

While a formal economic evaluation has not been conducted it appears that, in terms of cost-effectiveness, increased effectiveness at the price of increased cost can be obtained by moving from dissemination to reminders. It is unclear whether the magnitude of any additional change in behaviour would be worth the increased costs but such a decision would also depend upon the consideration of the costs and consequences of not changing behaviour.

5.2.2 Targeting of the dissemination

With reference to the broad categories identified in the reference standard distribution list, it was found that the NHS QIS summary lists for HTAs on troponin and ultrasound HTAs were very comprehensive. The summary distribution list for alcohol HTA was not available.

However, it was unclear whether NHS Board and Divisional Clinical Audit/Effectiveness/Governance and Managers had received the documentation. It was also unclear whether NHS Trust libraries had received the documentation, although NHS Education Scotland was included in the distribution lists.
The tailoring of the HTA recommendations to the target audience was assessed relative to the following factors: Accessibility, readability, relevance of the documentation and priority ordering of the recommendations.

### 5.2.3 Accessibility
Based on intermediate levels of computing skills and knowledge of the reviewer about the Scottish Health Systems all the HTA documentation was readily accessible electronically. Information was freely available and documents could be obtained directly from the NHS QIS website. Electronic documents were available in Acrobat pdf and MS Word formats, useful for different users. Alternative formats were also available on request.

However, the main and supporting documents were listed using similar title headings and were not clearly sign-posted on the NHS QIS website. Thus the individual documents were not clearly labelled for whom they were intended. A further method of obtaining the documentation was attempted by using an external search engine such as that provided by Google and by typing the relevant key words of the HTA. It was relatively easy to access to the documentation (see Appendix 8 for further details).

### 5.3.4 Readability
A research assistant who had English as a second language, but who holds a medical degree and postgraduate qualification in health management performed the assessment of readability and clarity. Overall the documentation was clearly written and easy to read.

The information for non-health professionals and patients (Understanding our advice) was also clear, concise and readable. The documentation targeted at NHS executives and health professionals (the HTA Advice) was clearly written and well referenced to the full scientific report. The full scientific document (HTA Report) was well structured in terms of the presentation of the evidence and making the case for the recommendations. The text of the HTA Report started with an introduction to the background and current services, then provided evidence of new medical research and also research on patient opinion. However, as is normal with such documents, the full scientific documents were lengthy, technical and took substantial time to read and assimilate the information they contain. As such they are not readily understandable by the majority of people.
On considering the HTAs in chronological order it appeared that the presentation of the HTA Report had improved in terms of clarity of information and readability. Although this perception may in part be due to the increased familiarisation with the structure and style adopted by NHS QIS. Nonetheless, changes to the layout and presentation of the HTA Report (from double to single columns, and the use of a larger font) made the later reports easier to read.

5.2.5 Relevance
The reviewer could not ascertain the relevance of the HTAs to the target population through the review of the documentation. However, the HTA would provide a discussion of the evidence base for making the recommendations and should serve to inform the planning and implementation of services.

5.2.6 Priority order of recommendation
In none of the HTAs were the recommendations listed in any form of priority order. They were discussed according to the flow of the report, reviewing current practice, followed by clinical evidence and patient issues, and organisation of services. No specific explicit explanation about the priority order of recommendations was provided. However, the HTA objectives clearly spelled out the clinical effectiveness and delivery of intervention.

The HTA Reports have a longer list of recommendations, whereas the HTA Advice documents provide a concise summary of all recommendations, with specific reference to the full report in the explanatory text. It was clear that a shorter summary of the recommendations was presented on the basis of relevance to particular user groups. For a more detailed understanding for the purpose planning of services, there were clear references to the HTA Report.

Overall, it was concluded that the number of recommendations did not limit their usefulness. However, given the limited resources available to the NHS and the resource implications of the recommendations, a priority order in terms of implementation of the recommendations would be useful for the local decision-makers. For example, by using resources to meet one recommendation means that the opportunity to use these resources to meet other recommendations is forgone.
5.2.7 The impact of recommendations on national and local health policy makers and on patients

Identification of changes in management

The identification of service developments and changes in practice following the publication of the HTA recommendations was based on the review of local management protocols and patient information leaflets. It was not the objective of this study to validate the relevant clinical management protocols but rather to identify their conformity to the recommendations of the HTA. Overall, most of the protocols obtained were produced prior to the publication of the HTAs (Table 5.1).

The review of protocols was complicated because the HTA recommendations were not prioritised and few protocols provided reference sources. Furthermore, the HTAs covered only a specific part of the management of a particular condition. As a result the HTA would only be expected to influence part of a protocol for managing the target conditions. Nevertheless, the whole protocol was reviewed and aspects of the protocol were matched with the HTA recommendations to provide an estimate of the adherence to the recommendations. The results of these assessments are provided in Appendix 9 and 10.

Publication dates were unknown for three of eight patient information leaflets included in the analysis. These leaflets were assumed to be the ones in current use. However the reviewer could not ascertain whether they were produced before the HTA or influenced by the recommendation of the HTA. The adherence of the information leaflets to their respective HTA recommendation is reported in Appendix 11 and 12.
Results specific to the alcohol HTA

No clinical or management protocols were obtained for the HTA on the prevention of relapse in alcohol dependence despite making requests to relevant health professionals and organisations. The HTA, which was published in December 2002 recommended that information regarding the condition and management should be made available to the patients and their carers and two local information leaflets were identified (Appendix 11). These leaflets were targeted at GPs, patients and carers. The date of publication for one was unknown and for the other it was after the launch of the HTA. Both the leaflets provided information on specific types of therapy relevant to the HTA. However, there was no mention made of other types of therapy available.

Results specific to the troponin HTA

Three local protocols were identified relevant to troponin testing in acute coronary syndromes, one from each region under study (Appendix 9). It was clear that troponin testing should be provided to all patients with suspected cardiac-related chest pain, within 12 hours after onset of well-defined symptoms or 12 hours after admission as a surrogate for this. These protocols were produced after the publication of the HTA, although the date of one protocol was unavailable. The protocols generally agree with each other. They were clearly written and provide a useful reference during the clinical encounter.

For the troponin testing in acute coronary care HTA two information leaflets were obtained but neither was relevant to the HTA. Thus specific patient information was not available for this HTA. In part the lack of information might be caused by the lack of patient involvement in decision-making in treatment. Nonetheless, it can be argued that information should be available explaining the diagnosis and subsequent treatment options.

Results specific to the ultrasound HTA

Three local protocols were identified relevant to the HTA on routine ultrasound screening before 24 weeks of pregnancy, one from each region under study (Appendix 10). Two of the protocols preceded the HTA, which was published in February 2004, while no details of the publication date were available for the third protocol. Although these protocols are updated regularly, there was no information about when these protocols would next be reviewed. When such updates are available it would be interesting to note whether informed consent,
which is one of the recommendations, has been incorporated. None of the current protocols identified included this recommendation.

For topic areas related to this HTA six different information leaflets were identified (Appendix 12). The target audience for these leaflets was primary care professionals involved in antenatal care and patients. The publication dates for two of the leaflets were unknown and a further two were published before the HTA was launched and assumed to still be in current use. Each of the information leaflets covered a specific condition, which may be encountered following ultrasound scanning. Generally they clearly stated the purpose and timing of such scanning, interpretation of such findings and further investigation, and sources for further information and support. One of the recommendations of the HTA was the need for written patient consent before ultrasound screening. This was not mentioned in any of the leaflets.

**Budget impact assessment**

Implementation of the HTAs recommendations would require additional funding and have an effect on the overall budget to the NHSScotland and local service providers. This section deals with the assessment of the budget impact by adapting standard critical appraisal methods for economic evaluation studies.\(^{13,14}\) When conducting the budget impact assessments various aspects deemed important for the implementation were considered such as: geographical variation; type of hospital; and epidemiology. Resources/costs additional to those required to provide existing services were also considered.

The costing methodology used by the HTAs captured most of the aspects which might be expected to be significant components of the overall additional cost. The resource implications of the HTAs differed, as would be expected, due to the different type of intervention, epidemiology of the disease, settings, anticipated demand, and the organisation of current services.

The financial impact as a result of implementation of recommendation from each HTA was reported in the chapter on Organisational issues, under the section on estimated resource implications for NHSScotland in the *HTA Report*. A summary of this was also cited in the *HTA Advice* (full details of budget impact assessment for each HTA in Appendix 13).
The objectives and economic importance of the budget impact were clearly defined. Dates and price year used were stated in the economic evaluation section of the HTA. As these estimates were linked to the economic evaluation it was clear what sources of data were used. In addition, the methods of estimating costs and any assumptions made were clearly stated and justified where necessary.

Overall the budget impact assessments provided no indication to help prioritise the implementation of specific recommendations of the HTAs. However, the phasing of implementation of the HTA recommendations into initial set-up and subsequent operating costs would aid planning and allocation of resources.

In all of the HTAs sensitivity analysis was performed to explore the importance of the assumptions underpinning the estimates of budget impact. Where reliable data were unavailable, expert opinion and advice from the ‘Topic Specific Group’ were obtained. Univariate sensitivity analysis was used to address uncertainty but such an approach may fail to capture the interaction between different parameters used in the analysis. To more fully address uncertainty a more comprehensive and sophisticated sensitivity analysis would be required.

The costs of development of practice protocols and patient information leaflets were included in the HTAs but there were no sensitivity analysis around these costs and it was not clear how these costs were derived. The methods for including the cost of developing the protocol and information leaflets varied between the HTAs. One HTA just included a cost for development with no explanation provided as to what this involved while another provided a more detailed consideration of the cost of producing these materials. It was also unclear whether the costs of the information leaflet related to a standardised leaflet prepared centrally or locally produced information.

Although only three HTAs were considered, there appeared to be a trend towards increasing sophistication of the economic modelling and analysis of resource implications. Overall, the budget impacts highlighted the main cost drivers and attempted to justify (even if they did not fully question) their assumptions.
Further research

Searches from the National Research Register identified a limited number of research projects in Scotland directly related to the further research recommendation made in the HTAs. Whether these projects were initiated as a result of the HTAs recommendations could not be determined. Nevertheless, there were some research projects, which may be relevant to the research agendas identified by the HTAs. The trend of research questions after the publication of the HTA was noticeably different for each of the HTAs, as discussed below.

Specific results for the alcohol HTA

For the prevention of relapse in alcohol dependence HTA published in 2002 six research projects were identified (Appendix 4). The research questions were considered broadly related to the HTA recommendations. For example, Section 1.7.9 of the HTA Advice recommended that: ‘An improved information system collection system is required. The National Alcohol Information and Resource (NAIR) has now been developed by ISD Alcohol Information Scotland (http://www.alcoholinformation.isdscotland.org). ISD is currently developing the NAIR for use by those who plan and provide services. This should help facilitate local audit. Local services are expected to liaise with ISD regarding methods of recording and collecting information’. ISD NAIR has been proactive in liasing with local areas, having visited every alcohol action team in Scotland, presented at local conferences and seminars, and provided ad hoc information requests and other services. It could be concluded that NAIR has enhanced the reporting of alcohol information in Scotland (Personal communication, Dr Marion Bain, Medical Director, ISD, 2005).

Specific results for the troponin HTA

No research projects were identified relevant to the troponin testing in acute coronary syndromes HTA published in December 2003 (Appendix 4). Those research projects conducted in Scotland relevant to this HTA preceded its publication. No more recent research related to the further research recommendation from the HTA was identified.

One of the recommendations of the HTA was that ‘audit data should be routinely collected from all patients with suspected and diagnosed acute coronary syndrome to allow thorough evaluation of the clinical and economic value of troponin’. A national dataset and data collection tools for acute coronary syndrome and other aspects of heart disease has been
developed and data collection was set to be implemented in the autumn 2005 (Personal communication, Dr Adam Redpath, CHD & Stroke Programme Principal, ISD, 2005).

Specific results for the ultrasound HTA
No projects were identified relevant to the recommendations for further research from the HTA on routine ultrasound screening before 24 weeks of pregnancy, which was published February 2004 (Appendix 4). One study relevant to the HTA (The role of sonoembrology and maternal serum biochemistry in assessing the first trimester foetus at risk from chromosomal abnormalities (Jan-Aug 2003)) was identified but this study was completed before the HTA was published.

5.3 Key findings of the review of the documentation

Nature of the implementation strategy
- The implementation strategy adopted by NHS QIS can be defined as “dissemination of educational materials”.

- Although a low cost strategy, dissemination of materials is likely to achieve only modest changes in targeted behaviour.

- Alternative implementation strategies might be considered and although some of these, such as the use of reminders or educational outreach visits, may be a more effective method of achieving behaviour change they are likely to be more costly.

Targeting and tailoring of the HTA recommendations
- In general the distribution of materials to health care professionals appeared to be comprehensive. Although no data were available to assess the dissemination of the alcohol HTA. One group that may not have been adequately targeted by the dissemination strategy were NHS libraries.

- The HTA documentation was readily accessible via the Internet. However, it was not clear who the target audience were for each document without accessing the documents on the NHS QIS website.
• The documentation was judged to be clearly written and the reports well constructed. It was also clear that when considered in chronological order the HTA Report had improved in terms of clarity of information and readability.

• None of the HTAs listed their recommendations in priority order. Nonetheless, it was concluded that this did not effect their usefulness but given the limited resources available for service developments a priority order might be useful for decision-makers.

Impact of HTAs on services
• From the review of documents it was difficult to identify whether the HTAs had had any effect on the delivery of services.

• The incorporation of recommendations into local management protocols was mixed. Troponin testing was clearly mentioned in relevant protocols. No relevant protocols were obtained for the alcohol HTA and those protocols obtained for the ultrasound HTA appeared to predate the publication of the HTA.

• With respect to information leaflets the results were also mixed. Leaflets relevant to the recommendations of the alcohol HTA and ultrasound HTAs were identified. However, none of the ultrasound leaflets mentioned the need for patient consent before an ultrasound scan. No patient specific information relevant to the troponin HTA was identified.

• Overall, there was a trend towards increasing sophistication of the budget impact assessments which would aid the planning and allocation of resources. However, the budget impact assessments presented would not aid the prioritisation of the HTAs recommendations.

Secondary effects of the HTAs on research
The impact of the research recommendations made by the HTAs on promoting research is varied. For the alcohol HTA (the first of the three HTAs considered launched) six research studies were identified. However no research studies relevant to the ultrasound or troponin HTAs were identified.
6 RESULTS OF THE INTERVIEWS AND FOCUS GROUPS

6.1 Alcohol HTA

This section presents findings from interviews with national and local policy makers and care providers including clinicians and health professionals on the HTA ‘Prevention of Relapse in Alcohol Dependence’. It also presents the findings of a focus group with patients with previous alcohol dependence.

6.1.1 Description of the sample and prior involvement with the HTAs

The sample comprised 8 health professionals (one senior medical officer; three managers, two consultants and two senior nurses) and one research officer. All of the interviewees except one service manager had heard of HTA’s with more than half recalling that they had attended the launch of the Alcohol HTA in December 2002. One or two interviewees recalled attending a follow up meeting in February 2004 and found this a useful refresher.

All health professionals and one service manager had past clinical experience of working specifically in the treatment of alcohol problems. Their input into the report varied from involvement in the Topic Specific Expert Group to providing clinical input from interventions used in their unit and commenting on the draft report. One or two of the health professionals could not remember if they had had any input into the HTA. One Service Manager in post prior to the discussions and early report formulation had not been involved specifically in the HTA in any way.

6.1.2 Effectiveness of dissemination and the tailoring of the documentation

Strategy and targeting of dissemination

Interviewees were asked a series of questions about the dissemination; whether they felt that the right people had been targeted, the process of internal dissemination in place in their own area and if they felt there were alternative strategies for more effective dissemination. Generally it was felt that the correct people had received copies of the report although one service manager stated,

“I suppose in the NHS where alcohol has an impact across the whole spectrum of services, so maybe the specialist clinicians involved in addictions might have been more aware of it, but there’s no way to know whether or not, you know, a clinician or a nurse in A&E would have picked up the document and looked at how they could have had an impact or…GI boards or clinics and things like that…” (Interview 26, SM, Area C)
In terms of internal dissemination in their own areas, service managers and senior consultants reported that the documents were cascaded in the usual way through general management and access to the report was generally easy with copies in department libraries or in a known room or area. Most interviewees were also aware of web access to the report. The majority of interviewees believed the dissemination strategy had been good. Most felt that the documentation was useful although one health professional felt that there was possibly too much information and one of the managers suggested that the summary document was more useful for health professionals. An alternative method of dissemination suggested was sending the documents via e-mail but most agreed that they would use a paper copy more readily. Other means of dissemination suggested were by word of mouth and particularly through presentations of the findings locally. One interviewee felt however that more general awareness was required,

“I think maybe a brief statement, of just what an HTA (is) – but maybe more publicly available …” (Interview 31, RO, Area A)

And went on to explain,

“I suppose there’s a level of dissemination: just knowing that its there, and then there’s also knowing what’s in it, and knowing what is relevant to their particular practice, so there’s at least three different levels of dissemination” (Interview 31, RO, Area A)

**Accessibility**

All interviewees (except one service manager who had no knowledge of the HTA) had received a copy of the full report around the time of the launch and were aware of the summary document. Most had received a personal copy of the report sent to their department or at the launch. One or two received copies from their line manager. One interviewee reported they had obtained a copy from the Internet in the relatively recent past. Only one manager who had been closely involved in the HTA had received and read the patient advice, ‘Understanding our advice’ produced for non-professionals. None of the other interviewees and similarly none of the participants in the patient focus group had heard of, or seen this document. One patient said in response,

“Who was it issued to? So, in effect, maybe every alcohol agency should have one?” (FG 2, Participant B, Area A)

**Readability**

The consensus was that the documents were very clearly written and easy to read although one interviewee felt there was lack of clarity about one of the therapy recommendations,
“I certainly read the document two or three times and read some other document to work out whether the recommendation was that we should use family therapy or systemic family therapy as it exists, or does family therapy mean something else in its context? Does it mean support for the family; involving the family?” (Interview 22, SM, Area B)

**Priority order of recommendations**

Interviewees were asked if the recommendations should be in any order of priority. Most felt that they should not and highlighted that the recommendations were all interlinked. They suggested that it was important that the recommendations were used appropriately for individual patients,

“…from the recommendations, they’re probably all just as important….depending, I suppose, on maybe the background and things like that, you know….I mean, I was always sort of taught from moving into alcohol, you know, that realistic attitude to relapse so I don’t think you can separate it” (Interview 29, HP, Area A)

Similarly,

“…what it does say though, is that these approaches should be offered and if one is not effective, then another one should be offered but, as I’ve said, its not always as clear cut as that. No, prioritisation is not helpful.” (Interview 31, HP, Area A)

6.1.3 The impact of recommendations on national and local health policy makers and on patients

The impact of the recommendations on practice and whether the HTA had prompted any research was also examined during the interviews.

**Identification of change in services**

Organisation of services differ greatly for alcohol services and this has had an impact on how each area has reacted to the HTA. Nevertheless, at the time of the interviews, all areas, had for some time before the launch of the HTA, been using recommended drug therapies when appropriate and been practising ‘talking therapies’ to some degree (coping skills training, behavioural training and motivational training) although these were not generally given the same ‘labels’ as in the HTA recommendations,

“…the nurses will say we are doing motivational enhancement therapy or we are looking at people to develop living skills or domestic skills…social skills or coping skills… Certainly motivational interviewing is an integral part of the work that the alcohol team do but we probably use and always have used each of these interventions but maybe in a modified way” (Interview 22, SM, Area B)
None of the Units studied offered family therapy as recommended by the HTA. One of the reasons suggested for this was that family therapy is very specific and requires lengthy training.

With respect to changes in services it has been observed that,

“There has been some development of alcohol and drug services but it has been very small compared with the development of other mental health services. I think the in-reach into primary care is very limited and yet an awful lot of people with alcohol problems, their main source of advice and help will be in primary care and I think we have to look to Community Health Partnerships, looking at their remit in a rather broader way because they are going to be, in due course, the local commissioners of services…” (Interview 28, SMO)

One area, however, has developed its services quite radically since the launch of the HTA by introducing a clinical psychology lead to the service. Clinical psychologists have designed and are implementing multi-disciplinary staff training for a structured coping skills course. A comprehensive manual, to be used alongside the course, is being developed and rolled out across the whole health area as a direct result of the HTA. The interviewee responsible had this comment,

“Personally, I think its been hugely beneficial, the whole Assessment (HTA), and there’s nothing more encouraging than to be already embarked on an approach and have that verified and consolidated….it did seem as if coping skills training was an effective intervention and to have that validated by (NHS QIS) was quite empowering” (Interview 31, HP, Area A)

They are also evaluating the training course they provide. This evolution of the alcohol rehabilitation service has been aided by an accompanying service reorganisation, which started about two years ago.

Community Health Partnerships have resulted in a change in the way of working with patients dependent on alcohol to include social work services (notably within Area C) and voluntary sector agencies such as Alcohol Focus Scotland and the Alcohol Counselling Service. Traditional medical and nursing roles are changing and clinical psychologists as mentioned above, have also become more involved in supporting clinical teams particularly with psychosocial therapies. Community based units are being set up and with the development of SIGN guidelines, General Practitioners are becoming more involved in referring and in some areas prescribing for, patients with alcohol dependence,
“I think there’s great skills overlaps but I still think there’s core skills that we retain by training. I think psychologists hold on to the psychosocial intervention that many workers across the service use, but clearly psychologists have a fundamental understanding of a whole range of approaches, theoretical, underpinning and all the rest of it, and that’s their expertise and skill” (Interview 31, HP, Area A)

However, it was felt among many service managers that although the HTA had moved the service along there was still some way to go and one interviewee lamented the process of implementation of recommendations of the alcohol dependence HTA has been painfully slow,

“I have been ‘bumping my gums’ for many years now both at the old Alcohol Action Team and currently at the Joint Alcohol and Drugs Action Team to try and do some implementation of the findings (of the HTA) and we are beginning to get a bit of support from that now, but its only happening now…”(Interview 21, UM, Area C)

Patient Information

There was no standardisation of patient information describing alcohol rehabilitation options across the three NHS areas. One unit had no patient information sheet. Most, however, had general patient information packs, which introduced patients to the service and what they could expect.

“…a couple of years ago we redesigned our patient information and we tried to incorporate the HTA recommendations. So we have a patient information leaflet but that basically introduces them to the alcohol service. It briefly kind of mentions the therapies but then we have other specific information” (Interview 22, SM, Area B)

Only Area A, had designed a more specific patient information sheet tailored to the therapy group.

“It’s very important that patients know exactly what it (coping-skills) is: for example that it’s very different from an AA group (Alcoholics Anonymous). It’s very much a structured focus group, the issues that we’re looking at…so that’s explained in the leaflet and we explain that.” (Interview 31, HP, Area A)

Patient Consent

Only one Alcohol Unit obtains formal written patient consent and patients there enter a contract for the whole package of therapy. None of the other units obtained consent from patients nor offered any views on the appropriateness of patient consent in this therapeutic area.
Constraints around implementation of HTA guidelines

There was great enthusiasm among the interviewees about moving forward with the recommendations of the HTA but they suggested there were resource constraints including funding, staffing and time.

Funding

Managers in general suggested a major constraint was lack of funding to help implementation,

“I mean (our area) has a deficit …so any significant investment for re-design of services has to work within those constraints and services that are to some extent a little bit overwhelmed in relation to the specialist alcohol work they do would find it very difficult to find the capacity to make change…” (Interview 26, SM, Area C)

One senior manager expanded further,

“…I suspect it is the same with this sort of guidance, it doesn’t go out usually with additional cash, or if it does it’s a pump priming amount” (Interview 28, SMO)

Staffing and Staff Training

Across all areas service managers pointed out that recruiting appropriately trained staff was difficult and the time required to release staff for training, whether new training or on-going professional development was a constraint for them,

“…because of the capacity of the service and because of the pressures that are on the service it is not always possible to release people to do in-depth training” (Interview 22, SM, Area B)

Loss of trained personnel was another constraint because this has implications on the training budget:

“We did have a psychologist we managed to start on training …Unfortunately she left. It was very expensive training…..” (Interview 31, HP, Area C)

Others felt that constraints in staffing came from the multi-disciplinary nature and joint working in the alcohol misuse service. They reported that not all staff involved in alcohol rehabilitation were trained in the same way. One clinician felt that there were some difficulties for staff from different professional backgrounds,

“I think it’s been easier for psychologists to integrate. …I think that leap has been easier for them than medical staff to make. But its coming, you know-…..Perhaps moved a bit more slowly, I think, for medical staff, and I think part of that’s historical” (Interview 31, HP, Area A)
and suggested that including social care staff in the training programme had been difficult,

“Any training we offer and incorporating other staff is multi-disciplinary, although it has been difficult to engage social care staff (in producing the manual). They haven’t managed to become involved” (Interview 31, HP, Area A)

People, too are bringing existing workloads with them and these need to be absorbed into any new system. As one interviewee pointed out,

“…with this service starting up, you know, it wasn’t as if it was a brand new service. People came with existing workloads, almost two years and it’s the thing that people were busy with their case loads...’oh right, you do a lot of things that I do; here’s some of the things that we do...well that’s what differentiates us. We’re slightly different, you know (but) there’s that generic bit in the middle in the psycho-social intervention. That’s the part the whole team are familiar with” (Interview 29, HP, Area A)

More recently money has been made available to alcohol services and the areas studied have used this in part to create new staff posts, as these managers explained,

“…there is new money coming in, five new posts have been created, including probably one nursing post and a couple of care management posts. We are seeking to get them posted here because we have now got the physical capacity, we have got the extra space that we can put people in and we think that makes sense...there is not too many organisations engage with people while they are drunk…” (Interview 21, UM, Area C)

and,

“I have never really been able to look at developing a skill mix or grade mix within the service but now with the additional alcohol money we have been given resources to be able to introduce two staff forces” (Interview 22, SM, Area B)

Availability of equipment and facilities

Random development of service was also seen as a barrier because physical space may not be purpose built and therefore it was sometimes difficult to integrate accommodation. For example:

“The GP Contract should cross-reference to something like the HTA. The national strategy and alcohol should cross reference...because they are all being managed within different budgets and different departments ...or if prescribing and social care services are to operate together then it is moving things around a bit, that does take time and that does take resource” (Interview 26, SM, Area C)

Status of the HTA

Many suggested that the non-mandatory status of HTAs was a barrier. They felt that because the HTAs are not mandatory there was no clear direction or strategy for the documentation.

“I think the fact that it’s not substantially adopted by the Scottish Executive in terms of implementation is a disadvantage to the document...its only useful if it can be implemented within a context and a recognition of a culture.” (Interview 26, SM, Area C)
Standardisation of practice

All of the interviewees agreed that there were barriers to a full equitable service being rolled out across Scotland. In addition to concerns about resources and trained staff, one further main barrier was seen as the need to change the work culture as a result of the creation of the Community Health Partnership,

“…(to) try and set up some sort of structure that would allow us to start making changes to what’s delivered but it’s all done by consensus and winning hearts and minds. I don’t think it’s as clear cut as, you know, ‘we’ve got a set of recommendations and therefore these will be implemented’” (Interview 26, SM, Area C)

There seemed to be a number of staff issues around changing professional roles. These ranged from some Consultant Psychiatrists losing their previous role with alcohol problems yet still being required for in-patient back up, GPs who were increasingly involved in intervention and prescribing for alcohol, to increased workload for social work staff and nursing staff in completely new roles. For example:

“We’ve had good, not so good and sometimes bad relationships with the Consultant. You know, a bit of resistance there”
Interviewer “what do you think causes that sort of resistance?”
“Being so used to doing the same for so long. Change is scary” (Interview 29, HP, Area A)

Patients believed that the main barrier for them was the lack of equity in the service due to areas, even within the same health board, working differently. This meant that the same services were not accessible to everyone,

“a lot of the services are actually only accessible by people who live in the area and they are not free to everyone...because it’s not so much the Community Alcohol Teams, its more the services themselves that are (not) available. The CAT’s teams, okay, they deal with their own areas, but the services...what happens is that most of the services only deal with residents from that area.” (FG 2, Participant C, Area A)

Effect on Patients’ outcomes

Professional viewpoint

In general, interviewees were positive and realistic about patient outcomes for those that were involved in the rehabilitation programmes,

“I think it rather depends, it’s not just what we want (for the patient) it’s what the client wants...There are the people who move in ...because they physically can’t take any more alcohol. So they are simply coming in to have a quick fix, they have no intention of dealing with anything else related to their problem .......
The second group of people...are probably physically in a bad state but also need to deal with a range of other issues which they recognise...they would stay with us for two or three months and they would address those issues...Their drinking might not go back to the way it was prior to coming in. But they weren’t looking to make major changes in their lifestyle.
The third group of people who have come to the view that they need to change their lifestyle and are prepared to engage with us to do that….You have got three broad sections of the population who are looking for quite different outcomes.” (Interview 21, UM, Area C)

People who drop out of the programme are followed up and given the option of another appointment. One health professional explained,

“Even if you do get to see someone, I mean there’s only so much you can do to change someone’s mind and there’s only so many ways you can put the same thing. You know, people make their own choices whether they are logical or not …” (Interview 30, HP, Area B)

There was concern, however about the number of patients who were being missed or defaulted through having to wait for initial appointments with the service,

“it is resource. I mean you can’t physically do it any quicker….I would say there is probably a significantly higher initial drop-out rate. I don’t think the end one has changed. But there’s an initial default rate for the initial assessments. And I think it’s all down to time lag” (Interview 30, HP, Area B)

It was also suggested by several interviewees that alcohol problems impinge on other areas of the health service and cause significant other morbidity. At present there is no mechanism for hospital departments to link with the alcohol services. One interviewee expressed concern about the magnitude of the alcohol problem, which contributes to other therapeutic areas of medicine as much is undetected or shows up in mortality/morbidity figures as other causes,

“I suspect though that people who aren’t sort of getting out of the bit, are dying because of their drink problems but it’s because the vulnerabilities that they have are very considerable…but the majority of people that turn to drink are able to get on top of that if you like. They are able to work with that once they become aware that there is an issue”” (Interview 9, HP, Area C)

Not all units audit patient outcomes but one area keeps records on what therapies clients receive and the outcome is positive for most patients.

Patient viewpoint

Patients however had a different perspective and suggested the outcome for them had not always been positive,

“ I didn’t feel I was treated the way I should have been. I was told to go and get my finger out and find a course or a job. Now if that was somebody that wasn’t ready to do that, they would have went right back out and drank again” (FG 2, Participant C, Area A)
There was also patient concern about maintaining rehabilitation treatment,

“I can only say through my own experience of it. And the reality was, it wasn’t long after it, I went back on drink again, I find that’s still a problem that people are struggling with. There’s very little Health Boards or other funded Agencies or whatever, that can provide maintenance and stimulus for people to continue their rehabilitation” (FG 2, Participant B, Area A)

All participants agreed that the impetus to stop drinking had to come from themselves. They had differing experiences of help or knowledge about what was available from their GP whom they saw as their first port of call. All agreed that they had had to make contact with the agencies or help lines themselves.

6.1.4  Secondary effects on research and other related services

Changes in other related services

Some interviewees did not think there had been any particular change to previous service and suggested that the HTA had evolved rather than changed the service,

“What has it displaced in a sense? I don’t think it’s displaced anything. It may have caused some of those that work closely with us to look at the groups they run” (Interview 31, HP, Area A)

Others, though felt that there had been changes to the service and these seemed mostly positive,

“Like where services in the past depended on where you lived, what service you got was very much a bit of a lottery, so it is now where if you move from here to the west end of the city, and then to the south, you should be given the same service” (Interview 29, HP, Area A)

Further research prompted by the HTA

None of the sites across the three NHS areas were aware of any research that had been prompted by the HTA although two sites had submitted research proposals to a national body but not received funding. Some of the alcohol dependence services were collecting data for internal audit but others reported that they were still struggling to bring their computer systems into line.

6.2  Troponin HTA

This section presents the findings from interviews with clinical managers at national and local level and service providers in the major cardiovascular units in each of the three NHS areas in Scotland on the Health Technology Assessment (HTA) ‘The organisation of Troponin Testing services in Acute Coronary Syndromes’. It also presents findings of a focus group with patients with experience of being hospitalised for acute coronary syndrome.
6.2.1 Description of the sample and prior involvement with the HTAs

The sample comprised 10 health professionals (one senior medical officer; three managers, three consultants, a specialist registrar and two senior nurses). The majority of the interviewees (with the notable exception of one service manager) had heard of HTA’s, more specifically the Troponin HTA. Input into the HTA varied: three interviewees were part of the Expert Group, one commented on the draft report and one was asked by a colleague to comment on a document relating to this HTA. About fifty percent of those interviewed, however, had had no input into the report.

6.2.2 Effectiveness of dissemination and the tailoring of the documentation

Strategy and targeting of dissemination

Questions were asked about views on the dissemination of the report, whether the interviewees felt the appropriate people had been targeted with the documentation and if they had any suggestions for a more effective method of dissemination. Most health professionals seemed to think that the right people had been targeted or assumed that anyone managing acute cardiology, clinically, including nurses and paramedical staff would have received the report. Service managers thought the documentation should have come to them and were more critical,

“I think it’s important that whilst the clinicians are aware of the developments that are coming out of that, the service management and the operational management team find out that this is a development because one of the risks is the clinicians adopting this type of technology without assessing the financial impact and identifying whether in fact it is a priority” (Interview 8, SM, Area C)

Overall, the majority of interviewees believed the dissemination strategy had been good. Several however identified potential problems with the breadth of dissemination especially as the management of particular conditions affects many parts of the health service. For example, it was thought that the recommendations should be available to other departments, in particular, Accident & Emergency and general medicine as patients with acute coronary syndrome may enter the hospital system through these departments. Many suggested that dissemination should be to the Chief Executive and cascaded down through Acute and Community sectors from there. Other clinicians suggested that the full report should be sent to Head of Departments with a summary and awareness of report to others or that NHS QIS should be responsible for disseminating to all because a key person may not disseminate it to everyone.
In terms of internal dissemination of the documentation within their own hospitals, service managers and senior consultants reported that the documents were cascaded in the usual way through general management and access to the report was easy with copies available in departments or on the web.

**Accessibility**

Only five interviewees received the report, two couldn’t remember whether they had received it or not and two service managers and a consultant did not receive a copy of the report, although they had received a copy of the summary. Two of those receiving the report had also received the summary and patient advice information and one further health professional had no knowledge whatsoever of any of these documents. Similarly none of the participants in the patient focus group had heard of, or seen the patient advice document. Interviewees who had received the documentation reported receiving it in a variety of ways including personally by post, via other colleagues (including those previously in post at the hospital), or from the Royal Colleges.

**Readability**

The consensus was that the documents were clearly written and easy to read. This is summed up by one cardiologist when he said,

“...it is very useful to have a summary of recommendations because we are all busy...“I think it was lucid … a very evidence based, clear document with reference to the published evidence with appropriate summaries and conclusions” (Interview 20, HP, Area C)

**Priority order of recommendations**

None of the interviewees believed there was a need to have the recommendations in any order of priority.

**6.2.3 The impact of recommendations on national and local health policy makers and on patients**

The interview schedule also explored the impact of the recommendations on practice and whether the HTA had prompted any research.
Identification of change in services

Most of the health professionals agreed that practice had changed but this was as a result of the implementation of troponin testing and not especially because of the HTA launch. All three areas investigated have been offering troponin testing for varying lengths of time before the HTA was launched but it was generally felt that the troponin service had developed further since the launch of the HTA with testing technology now much improved. A Senior Officer commented,

“It (the HTA) was widely circulated, it was formally launched, lots of people knew it was coming and were waiting for it, ………people simply found ways of getting on and doing it…I’m sure there are protocols and patient pathways in place now that may not have been in place before or may have only been in gestation before and this will give a further impetus…” (Interview 18, SMO)

In all three NHS areas studied it was evident that service developments had resulted from the implementation of the recommendations. In two of the areas, funding has come from managed clinical networks and other sources to allow further service and staff development. For example one area has seen the implementation of a specialist nurse-led rapid access chest pain service and another area has seen the introduction of an additional troponin service in an outlying district hospital as a result of the HTA.

Although one service manager suggested that the implementation of the HTA guidelines may have been premature the general feeling was that the use of troponin has led to a better risk stratification of patients,

“I think troponin has absolutely transformed our ability to manage patients with acute heart disease better, we make the diagnosis reproducibly, reliably, accurately … patients are being managed more efficiently, they are going home with the right diagnosis earlier, they are having an intervention more appropriately” (Interview 20, HP, Area C)

Patient Information

Almost all health professionals agreed that informing patients was very important and explained that most patients are informed face-to-face rather than by information sheet because of the emergency nature of most patients’ hospitalisation,

“that they’ve had a test which has ruled out cardiac damage … Patients should know what we’re doing and why we’re doing it.” (Interview 24, HP, Area A)

One area uses an information sheet developed with the help of patients and another is developing information leaflets in a number of other languages.
Some patients in the focus group suggested that there was perhaps a need for written information to be provided even after the tests had been done,

“Well if they let us know verbally lots of it can go over your head at that point in time but if you got it in writing you can digest it better” (FG 1, Participant A, Area A)

Patient Consent
The need for written consent from patients was not seen as an issue (and indeed was not a recommendation of the HTA) as troponin is a blood test and patients have many blood tests anyway when they come in to hospital with acute coronary syndrome. One consultant commented,

“By coming into hospital they have consented to the investigation.” “What a bizarre question!” (Interview 24, HP, Area A)

and a senior manager suggested,

“…in this sort of context, you are dealing with people who are worried about having heart attacks, foisting bits of paper under their nose, however well written, explaining trials and the significance of tests and positive cryptic values (and) however how carefully you word it, whatever plain English tests you pass, I don’t know that people are able to actively absorb information in that setting” (Interview 18, SMO)

Similarly patients in the focus group believed that written consent was not required for a blood test, and this included troponin, as one patient commented,

“As far as the consent is concerned for people being admitted or going to hospital with chest pain, I would hope that most people would have confidence in the people who are actually treating them at that particular time that if they weren’t doing anything intrusive that they would let them carry on and do it without ever actually consenting” (FG 1, Participant B, Area A)

However, two health professionals did feel that consent, which is not taken at the moment, should be required for the treadmill exercise test, which follows a negative troponin test.

Constraints around implementation of HTA guidelines
In all three areas there were similar constraints identified to the implementation of the recommendations.

Funding
Although funding did not seem to be a particular problem to implement the troponin service, many interviewees acknowledged that more money would be helpful to allow the service to develop fully. One senior manager commented that although audit was a very
important part of a new service, funding audit was often more difficult than finding the funding to implement the service.

Staffing and Staff Training
For some areas there were implications regarding staffing issues and resources, as one service manager explained,

“national shortages in key staffing groups ... You need the staff and you need the infrastructure and there is very little point in having the money ... you can roll troponin out but if we receive every case that is query positive troponin are we just creating another problem for ourselves, and what value for money is actually giving us by rolling out troponin? ... There would need to be a real clear benefit.” (Interview 8, SM, Area C)

Others felt that there was a need for more training in interpretation of the results of troponin tests.

Availability of equipment and facilities
A major constraint for troponin testing was identified as the availability of laboratory services. Several health professionals who did not have access to a 24-hour laboratory service felt that batch testing as was being undertaken by their laboratories was unsatisfactory because it meant patients waiting around or being kept in hospital unnecessarily,

“We’re now trying to extend the hours that the troponin testing is available from the laboratories because the 12-hour rule really restricts the amount of people we can send home ... the bloods have been taken anyway, that have been sent to the lab ... it’s just... when they put them through the machine and when they turn the machine off.” (Interview 16, SM, Area A)

Random development of service was also seen as a barrier because physical space may not be purpose built and health professionals suggested this made it difficult to accommodate some of the recommendations,

“we should be working in there with our own treadmill...there’s no facility there for us....would be much better if we had a room ..that we could examine our patients, they could go next door to have the exercise test, come back in, that would be much better...” (Interview 15, HP, Area A)

Managing change
One service manager summed up the main barrier as change, which she felt was never easy,

“The biggest issue is exactly the same as introducing any change, about people and their attitudes; their fears of change, their fears of role change, their fears of losing the ability .. any kind of protocol some clinicians are not happy with ‘cause they think it will remove their freedom to act when it doesn’t at all” (Interview 16, SM, Area A)
Standardisation of practice

Interviewees agreed that there were barriers to a full equitable service being rolled out Scotland wide. These were mainly seen to be related to standardisation of practice and limited resources. At the time of data collection two types of troponin testing were in use (troponin I and troponin T) and it was generally felt among clinicians that there should be standard use of one troponin test,

“We need some clever group of biochemists to go off and find out which is the best” (Interview 19, HP, Area B)

Effect on Patients Outcomes

Professional Viewpoint

Service managers and health professionals valued and believed the findings of the HTA and suggested that patient outcome as a result of the HTA recommendations had been very positive. They suggested that patients were now receiving a more accurate test and a better service where they were being treated more quickly and more appropriately. One service manager explained,

“one of the key roles that we want the nurses to do was to make sure that people who had a negative troponin clearly understood what that meant and were appropriately followed up as well, because the positives were a bit more straightforward.”

(Interview 16, SM, Area A)

Patient Viewpoint

Only one patient had been aware of troponin testing and this was because she had relatives in the medical field. In general, patients felt that they had been offered the most appropriate treatment and had been very satisfied with the care that they had received.

6.2.4 Secondary effects on research and other related services

Changes in other related services

From the interviews it is apparent that the HTA has had an effect on other services. Some other laboratory tests used in the management of acute coronary syndrome, such as creatine kinase can now be initially avoided. It was noted however that this particular test still has value for some patients but is now done at a later stage. This has helped free up funding to implement troponin testing in some areas. All areas also reported that angioplasty services had developed as a direct result of more accurate diagnosis using troponin.
Almost all interviewees reported an increase in workload particularly on the electrocardiography and angiography services, laboratories and pharmacy to provide more drugs. The service managers, in particular reported that there was a potential knock on effect on other services and budget. One health professional explained how there has been an impact on cardiac rehabilitation,

“Got assistants to take on the admin work that nurses used to do for themselves “so really they (nurses) are becoming specialists in their own right…”(Interview 12 HP, Area B)

Further research prompted by the HTA

None of the interviewees were aware of any research resulting from the HTA. All of the cardiac services sites were auditing troponin test rate and results but for their own information base and not directly as a result of the implementation of the HTA. One site suggested that there was now a large patient database for research use and the evaluation of evidence had been very useful,

“…we would never have time to do that kind of ground work on our own and so it is very useful for them to do the sort of review by experts and obviously with the collaboration of wider clinicians” (Interview 12, HP, Area B).

6.3 Ultrasound HTA

This section presents the findings from interviews with clinical managers and service providers at national and local level in the major ultrasound units in each of the three NHS areas in Scotland in relation to the HTA ‘Routine Ultrasound scanning before 24 weeks of pregnancy’. It also presents findings of a focus group with patients with previous experience of pregnancy.

6.3.1 Description of the sample and prior involvement with the HTAs

The sample comprised 10 health professionals (one senior medical officer; three managers, three consultants, two senior nurses and a radiographer). All of the clinicians had heard of HTA’s with about half recalling that they had attended the launch of this Ultrasound HTA in February 2004. Input into the HTA varied. Different individuals reported either being part of the Topic Specific Expert Group, being involved in making comments on the draft report, or having no direct involvement in the production of the report.
6.3.2 Effectiveness of dissemination and the tailoring of the documentation

Strategy and targeting of dissemination

Interviewees were asked a series of questions about the dissemination; whether they felt that the right people had been targeted with the documentation, what process of internal dissemination was in place in their own area and if they felt there were alternative strategies of dissemination that might have been more effective. In general it was felt the most appropriate people had been sent copies of the report, as one service manager reported,

“Em, well I don’t know exactly who did get it to be fair but certainly the people that needed it could access it very easily once they knew it was out and there were numerous copies lying around and they were able to share that if somebody hadn’t seen one so I think there was a good…, I mean obstetricians got copies and heads of midwifery did, directors of nursing did. I think it was quite a good spread of them going out” (Interview 6, SM, Area C)

Overall the majority of interviewees believed the dissemination strategy had been good and had no suggestions for improvements. There were mixed preferences, however on the format of the documentation. Many appreciated a paper copy to save them having to print off a whole document. Others liked access to the documents on the web as they were often inundated with paper documents, as one service manager commented,

“I think the web based stuff is good. I mean you don’t always need to see the whole report, it is horrendous reading. I mean it is accessible on the web…. You can pull it up as and when you require it to refresh your memory” (Interview 6, SM, Area C)

In terms of internal dissemination of the documentation within their own hospitals, service managers and senior consultants reported that the documents were disseminated via the “normal routes” and believed access to the report was generally easy with copies in the departmental libraries or day wards. Interviewees again emphasised that staff could also easily access them on the web.

Accessibility

All of the interviewees had received a copy of the full report and were aware of the summary document. They had received the documents around the time of the launch or shortly afterwards by mail. One interviewee reported downloading the documentation from the HTA website as they had not been sent the documents directly. However, no interviewee was aware of the non-professional booklet, ‘Understanding Our Advice’ or recalled receiving a copy. Similarly none of the participants in the patient focus group had heard of, or seen this document.
Readability

The consensus among the interviewees was that the documents were very clearly written, easy to understand and easy to read. Many commented that the full report was well indexed which meant they could easily access the parts that were relevant to them,

“It’s maybe like… the community midwives might not be interested in the financial side of things of the scanning departments but they might want to know why we are wanting to give the translucency scanning or things like that. You could easily dip in to it and find that part, as opposed to just trawling through it. I think it is quite readable” (Interview 4, HP, Area C)

Only one interviewee suggested that there was perhaps too much extra information about background research in the document although she recognised such information was perhaps necessary evidence in documents such as these.

Priority order of recommendations

None of the interviewees believed there was a need to have the recommendations in any order of priority.

6.3.3 The impact of recommendations on national and local health policy makers and on patients

Identification of change in services

None of the areas could say that their practice reflected all of the recommendations but it was felt among all those interviewed that the HTA was a valued and relevant part of maternity care. Information from all of the three NHS areas in the study suggested that service developments had resulted from the implementation of the HTA. One example of this is the reported reorganisation of one area, where an ultrasound scanning service is being introduced in one of the district hospitals to ensure equity of access.

None of the areas have implemented a nuchal translucency scanning service as routine practice as recommended. However one service manager highlighted how they had created another scanning room in preparation for offering nuchal translucency scans and that this scan was now going to be offered routinely to all women with a multiple pregnancy. At present one consultant in this NHS area offers a private nuchal translucency scanning service.

Otherwise, interviewees suggested that routine ultrasound practice and schedules were already compliant with the HTA and no recommendations have been implemented since the
launch of the HTA in February 2004. It was generally felt that there had been an overall increase in the number of ultrasound scans as a result of the HTA. In one area a services manager commented,

“We have certainly seen a marked increase in the use of ultrasound and some of that is possibly because it’s (the HTA) there” (Interview 27, SM, Area A)

There was a desire among health professionals and service managers to fully implement the recommendations but they generally recognised that more money, more physical space, better equipment and more staff would be required. One health professional explained,

“So I think service development in a way if we had more people there are a lot of things we could do. I could provide reassurance scans for women who have had previous miscarriages which I can’t do now, I could provide better counselling and they could think about it and come back, you know have the luxury of time when people aren’t so rushed” (Interview 11, HP, Area B)

**Patient Information**

Most units had patient information packs written locally by staff sometimes with patient input. A few used national information sheets and customised them for their local area. Information packs were usually given early in pregnancy, at the booking visit, but great care was taken to discuss the information sheets again with the patients before the actual scheduled scanning procedures. This view is typified by the following,

“Now they (midwives) would not go in to detail about every abnormality but they certainly would discuss that it is done to look for abnormalities” (Interview 4, HP, Area C)

Nonetheless most obstetric professionals had concerns that despite being given this information some women arrived for their scans unaware that they were optional or of their purpose. For example,

“Normally at the beginning of the anomaly scan I say to them….’and you know why you are having a scan today’ and they are like, ‘ oh to see the baby’ and they think it is just a social scan or it is just because it is my twenty week scan you know, and I say,’ and do you know what we are looking for?’ So they don’t know” (Interview 11, HP, Area B)

A common feeling among the health professionals was that women saw the scan as an opportunity to get a picture of the baby. This was confirmed by some of the women in the focus group. Although they were aware that the detailed scan was looking for abnormalities, women saw it as another chance to see the baby. One woman said,

“I think a lot of people go along to the twenty week scan just thinking ‘ oh I will get another nice picture of the baby’ but I mean… I think second time around pregnancy being much more aware that this could be showing us that there are things wrong” (FG 3, Participant C, Area C)
Focus group participants stated that they had received an information leaflet about the detailed scan at the booking appointment. They suggested, however, that although the first trimester scan was mentioned by the midwife at the booking appointment they did not recall receiving any written information leaflets about it and believed there was an assumption among health professionals that women would have this scan. They suggested that for some women such information was perhaps necessary, for example,

“You might think, ‘oh my gosh why am I having to be scanned’, you know you might worry about having to be scanned rather than thinking it is actually just so you can get a more accurate date of when you are due. Yeah I think it probably is a good idea to explain the reasoning for doing it” (FG 3, Participant B, Area C)

**Patient Consent**

The need for consent was a specific recommendation of the Ultrasound HTA. Despite this recommendation none of the ultrasound units in this study currently ask for written consent from patients. Although some of the service managers and health professionals reported that they were discussing this issue at the moment, in particular for invasive procedures, others believed that because the scan was optional that it was not necessary practice, for example,

“They never have (asked for consent). So, I mean, in lots of other screening tests they do, but this one we still go along the line if they turn up they are consenting” (Interview 6, SM, Area C)

Some suggested that by implementing this recommendation of asking patients’ for written consent there would be knock-on effects on the service, as one service manager identified,

“The other thing that is does is it consumes more time, like the health professionals time getting them to sign things because they do again stop and go through things in a bit more detail before they actually sign the paper” (Interview 6, SM, Area C)

Patients were also asked for their views on patient consent. Again the consensus was that by attending the scanning appointment they were consenting to having the scan and felt that because the scans were optional, written informed consent was really not necessary.

“I suppose by going you are giving your consent aren’t you” (FG 3, Participant B, Area C)

These patients also indicated that what was more important than written consent was that they were well informed and that they understood their right to withdraw,

“I suppose the worst thing could be if somebody were to find out something they perhaps didn’t want to know and then saying well I didn’t know I had the option not to attend” (FG 3, Participant C, Area C)
**Constraints around implementation of HTA guidelines**

**Funding**

Amongst all of the interviewees there was great enthusiasm about moving forward with fully implementing the recommendations but all identified the similar constraint of limited resources. As one health professional remarked:

“At the minute it’s really down to cost. It’s a vast increase in costing for the labs as well as ourselves because it would be staffing and staff training, it would be machinery” (Interview 4, HP, Area C)

**Staffing and Staff Training**

Across all areas service managers suggested that recruiting and retaining appropriately trained staff to perform the more advanced screening tests was difficult and that the time required to release staff for training created problems in the scanning departments, for example,

“It is a problem. There is always a problem if you send people on training and they are not at their desk or they are not at the scanning machine doing their job, then yes you have to backfill it” (Interview 27, SM, Area A)

One service manager however, went on to add that although staff training was a constraint, it was something that they worked around in order to provide an acceptable service,

“Certainly there is a time issue but the philosophy of the unit is that if we are not training then we are not keeping the standards high enough....So if there is training to happen then they will work out a process for that to happen and sometimes that does mean that a scan room might be taken out of use” (Interview 6, SM, Area A)

Some also suggested that the increase in scanning time required would have a knock-on effect on the capacity of the department and staff time. In all areas, service managers and health professionals spoke about the possible need to extend the working day in order to deal with this increased capacity, as one midwife suggested,

“Now this is maybe one of the things that we would have to look at if we start doing the nuchals because the time of the scan is going to be extended and it could be that we are looking at some staff starting at half past eight til five...some staff maybe working ten til six or whatever but to do that it’s not just having a couple of scanners in to do that, you need a receptionist and all the rest of it” (Interview 4, HP, Area C)

**Availability of equipment and facilities**

Within the ultrasound service interviewees identified maintaining the equipment required as a major constraint to further implementation, particularly around ensuring that equipment was up to date enough to deal with the extra detail required by the scans. As one service manager commented,
“There was also an issue about the capability of the scan machines to cope with the fine details of the scan. In this area we are reasonably ok with capability of most of the scanners but I mean the department reckoned that we probably needed to pull forward the replacement by a year or two, so again that was a resource implication further down the line” (Interview 6, SM, Area C)

Status of the HTA

The non-mandatory status of the HTA was also seen as a barrier, for example,

“QIS…..put out a guideline which is not automatic policy. (It) is a guideline – it is guidance…So up until now, guidelines have sort of come out from SIGN or from Colleges as guidelines and professionally you tend to adopt them. Now with QIS, there has been almost a QIS understanding, because QIS is part of the health service, this is policy. So what needed to happen was the guidelines come from QIS, come to the policy directorate here, who look at the evidence…and make a policy decision” (Interview 17, SMO)

Standardisation of practice

Most interviewees believed that the recommendations were relevant in leading the way to harmonising practice across Scotland in ultrasound services and in suggesting that this was the best service that could be offered, for example as one service manager commented,

“I don’t think there are barriers clinically because people are signed up to and wish to achieve and exceed those standards so I don’t think there are clinical barriers or people barriers” (Interview 27, SM, Area A)

And went on to explain,

“I think in the discussions I have had with the lead clinician they are relevant because that is the way that services need to go in the future, so that is the direction of travel. So the frequency of scanning, the issues in terms of the information that’s available, the consent issues, the development of nuchal translucency, they are all things that the clinicians are signed up to and think that we need to work towards” (Interview 27, SM, Area A)

Effect on patients’ outcomes

Professional Viewpoint

The majority of service managers and health professionals were positive about patient outcome as a result of HTA recommendations. In one area where the detailed scan has been offered routinely for many years, it was suggested that the outcomes for patients had been very positive in terms of increased patient satisfaction and more reassurance for the women finding out earlier if there was anything wrong with their baby. As one service manager commented,

“I mean the process of delivering a baby that is abnormal at 18, 20 weeks is fairly significant for the women and if you can make that physically easier for the woman by doing that earlier. That has to have a benefit I’m sure” (Interview 6, SM, Area C)
On a more negative note one consultant suggested that as a result of the recommendations there had been conflict among patients due to the inequity in the ultrasound services that were offered across different areas in Scotland,

“Exactly it’s totally inconsistent across Area A and inequitable…..So it is definitely not equitable and there is conflict with the patients” (Interview 23, HP, Area A)

Patient Viewpoint

One of the participants in the focus group had opted to have the nuchal translucency scan done privately but all of the women agreed that they felt it was important that women were offered this scan. As one woman explained,

“And if you can have it earlier because by the time I had the results from the blood test I was feeling movement…and it just kind of put a whole new perspective on getting the blood test results back. So I think…well if you have got the option to find out… the sooner the better rather than wait until seventeen weeks where you actually feel like you are quite far on in the pregnancy” (FG 3, Participant A, Area C)

6.3.4 Secondary effects on research and other related services

Changes in other related services

All of the interviewees reported an increase in workload as a result of the HTA. Some midwives suggested that the pressures on staff time had resulted in less consultant contact with patients and perhaps compromised the quality of the service that they were able to offer patients. One midwife explained,

“I know from my own friends who have gone for booking scans…..they feel that there you go…, there is the baby…, there is the heart beat…, that’s fine off you go” (Interview 11, HP, Area B)

From the interviews it is evident that the HTA has had an effect on the whole service. Some interviewees suggested that if they were to implement the nuchal translucency screening there might not be the requirement for the 16-week serum screening blood test. It was believed unlikely however that this would be replaced altogether, for example,

“Not totally, it couldn’t replace it totally cause if someone came up and they were, their dates were uncertain or wrong and then they would be too late for the first trimester, you know the nuchal measurements” (Interview 14, HP, Area A)

Further research prompted by the HTA

None of the interviewees knew of any research that had been prompted by the HTA, although it was reported that regular audits were carried out as part of routine practice.
Other issues

Determining gender of baby

One emerging theme from the focus group and interviews was around reporting the sex of the baby from ultrasound scans. Focus group participants suggested that they believed that a scan which could tell them the sex of the baby would be very popular among women as it allowed women to start bonding with the foetus. One service manager, however commented that was not the goal of the scans and she believed that by offering women the opportunity to find out the sex of the baby further pressures on the staff and the ultrasound service would be created,

“It only came up with us because we had a complaint of recent times and it was about the fact that the midwife couldn’t see what sex the baby was and the people were getting quite stroppy about it and you know…that’s not the purpose of the scan and that’s my bugbear” (Interview 25, SM, Area B)

6.4 Key findings from the interviews and focus groups

Quality of the dissemination strategy adopted

• Amongst professionals the dissemination to the target professional groups of the HTA Report and HTA Advice was felt to be good. Copies of the documentation were readily available, although preferences over format varied.

• The perception was that the HTAs should be rolled out to other health professionals. Which groups this might affect was dependent upon the topic of the HTA although GPs were mentioned in particular, as they are often the first point of contact.

• Dissemination of the patient document Understanding our advice was very poor with few health care professionals and no patients being aware of the documents.

• Dissemination within NHS organisations was felt to be accomplished by cascading documentation through the organisation from senior management in the usual ways. Such an approach works best where there are clearly defined and existing specialty networks.

The review of HTA documentation reported in Chapter 5 suggests that this may already being achieved.
• Documents were clearly written although there was some concern about the meaning and definition of named therapies recommended in the alcohol HTA.

• Health professionals felt there was no need to prioritise the HTA recommendations and for the alcohol HTA it was noted that the recommendations were interlinked. In practice, however, recommendations are prioritised due to lack of funding and the priorities set may not be consistent across Scotland.

Impact of the HTAs on Services

Change in services

• Many recommendations of the HTA appeared to be adopted before the launch of the HTA.

• The HTAs facilitate the harmonisation of practice between areas and where recommendations are not currently being implemented.

• Where recommendations have not been currently met discussions are being held to consider how best to implement recommendations.

• There are differences between the technologies studied that reflect differences in rates of individual service development towards achieving HTA recommendations. Ultrasound and troponin testing started at a higher baseline as services were virtually in place before the HTAs were launched. For alcohol rehabilitation, the services appeared less well established at baseline and are still evolving. The alcohol rehabilitation services are also more complex as they involve multi-agency working (including the voluntary sector) and some of the non-medical professional groups might not be familiar with the principles of HTA.
Information and consent

- Overall, no informed consent is sought for any of the tests or treatments recommended by the three HTAs studied. However, the reasons appear to vary between HTAs e.g. consent to troponin testing may be difficult for patients in an emergency situation; for ultrasound scanning the scanning recommendations were adopted before the launch of the HTA. Alcohol patients consent (or perhaps more appropriately ‘contract’) to a care package.

- Patients understanding of the HTA recommendations is limited. Patients felt that there was often a need for more information about what the recommendations are and what services to expect. In particular, for ultrasound scanning there may be a lack of patient understanding about the reason for the scan and the implications of the detailed scan findings.

- Related to the above point there are issues about whether standardised patient information should be provided which could be customised for local areas.

Constraints around the implementation of the HTA recommendations

- Interviewees felt that the non-mandatory nature of the HTAs meant they were less likely to be implemented in full. This is especially the case when the recommendations made are competing for scarce funds with other priorities.

- Managing the changes recommended by HTAs is challenging and costly. The limited funds and resource constraints that exist, limit organisations capacity to change. Key features identified were:
  - Difficulty of funding staff training.
  - Difficulty in maintaining capacity due to scarcity of skilled staff, and their retention.
  - Lack of appropriate infrastructure.
  - Handling the knock on effects of troponin testing and ultrasound scanning on subsequent services.
  - Non-mandatory nature of the HTAs.
**Impact on patient outcomes**

- Health professionals believed the adoption of the HTA recommendations achieved improved outcomes for patients, although there was less consensus for the alcohol HTA. The reason for this relates to the complexity of the alcohol services themselves compared with the other two services. There appeared to be complexity in: patient pathways; multi-agency working; issues around timeliness of response and sustainability of support and programmes.

- Differences in prior organisation and differential implementation mean inequality of access to services is still a problem.

- The satisfaction of patients varied. This may be influenced by the nature of the service considered e.g. acute and emergency (troponin) vs. chronic and multi-agency (alcohol). Furthermore patients' knowledge of recommendations was poor and hence they may not be fully informed about what services to expect.

**Impact of HTA on other related services**

- Interviewees indicated that adopting the HTA recommendation has increased workload of the health care professionals involved. For example, some concerns were expressed that the ultrasound HTA may have had the effect of reducing patient/doctor consultations and that this may reduce the overall quality of care.

- The effect on other related services was mixed. For alcohol, the HTA has helped evolve rather than change services. For the other two reviews the HTAs have prompted changes in the use of other tests and services. In the case of the troponin HTA, it was suggested that this has helped to release funds for other service developments.

**Impact of the HTA on research**

- Overall, the recommendations for further research identified by the HTA were not pursued. Although research proposals relevant to the alcohol HTA were submitted, these were not funded. Only some internal audit was reported as completed or underway.
7 DISCUSSION

7.1 Main results

This study has attempted to use the framework provided by option appraisal to structure the consideration of the impact of the dissemination of the HTAs conducted by NHS QIS and its predecessor HTBS. As stated earlier in the report the completion of a full option appraisal was beyond the remit of this project, as the relative costs and cost-effectiveness of changing the dissemination strategy has not been considered.

Nonetheless it has described the current dissemination strategy used and provides information on the effectiveness of that approach in getting the NHS within Scotland to adopt the recommendations made by the HTAs. Furthermore, the study has been able to describe the relative effectiveness of other potential strategies for the implementation of the HTA recommendations, as well as outline their resource implications.

The study considered only three of the HTAs produced by NHS QIS and used two complementary approaches to provide evidence: a review of existing documentation and qualitative research involving interviews with health professionals and focus groups of patients. Looking across the findings of both approaches a series of common themes emerge.

Based on the review of documentation the targeted dissemination of materials would be expected to be a relatively low cost strategy but such an approach is likely to have only modest effects on behaviour. Other implementation strategies are likely to be more effective but more costly. Although there are multiple reasons why all the HTA recommendations have not been more widely adopted, further implementation strategies that might be considered are the use of reminders or educational outreach meetings might be incorporated into the implementation strategy. Patient mediated interventions are likely to be more effective but such approaches may be difficult and costly to actively pursue.

With respect to targeting and tailoring of the HTA material to health professionals the evidence presented here indicates that it has been generally successful. This is especially the case for the HTAs that made recommendations relevant to tightly defined professional groups (i.e. the troponin and ultrasound HTAs). However, for HTAs that cut across professional boundaries, such as the alcohol HTA, material may need to be tailored in different ways to reflect the involvement of other agencies such as social work and the
voluntary sector. From the evidence available for this study it can be concluded that dissemination may also be usefully widened to other groups such as NHS libraries, other health professionals. The type of health professionals relevant for this would vary by the HTA topic area but one common group might be GPs, as they are often the first point of contact for patients with health services.

There was little awareness of patient documents produced as part of the HTA process. Although for the ultrasound and troponin HTAs some of the recommendations were reflected in local patient information leaflets there may be a role for the provision and dissemination of standardised patient information.

In none of the HTAs were any of the recommendations listed in priority order. This was not identified as a problem by any of the interviewees. Indeed for the alcohol HTA it was suggested that as the recommendations were interlinked, prioritisation might not be sensible. Nevertheless, the funding available for service developments is limited and there were concerns raised about inequality of access to services, which in part may indicate different priorities for service developments across Scotland. To help guide decision-makers an indication about prioritisation of recommendations and their budget implications may be useful.

The interviewees suggested that many of the HTA recommendations had been adopted before the HTA launch. Little objective evidence was obtained from the review of management protocols, although troponin testing was clearly mentioned in protocols produced after the launch of the HTA and we do not have access to protocols in use prior to the launch of the HTA. Indeed many of those interviewed were involved in some way in production of the HTA. It is possible that the HTAs might be best viewed as part of the process of embedding and standardising best practice. What is clear is that there was a perception that the HTAs have helped the development of practice.

Differences were observed between how the HTAs had influenced the development of services in the different NHS areas considered. These were most marked for the alcohol HTA. This is because alcohol rehabilitation services were less homogeneous to start with and are evolving at different rates in the different NHS areas. In part, this reflects the more
complex nature of these services, which include the involvement of multiple agencies and professional groups.

It was also suggested that the HTAs may have helped to codify practice and as such may help reduce variability in care provided to patients. No evidence was found from the review of documentation to support this. However, in a recently published study investigating the effect of the dissemination of a clinical guideline in the area of obstetrics care there was a suggestion that although dissemination may not have led to an increased adherence to guideline recommendations that the patient care was less variable.\textsuperscript{16}

On the whole interviewees believed that the HTAs had led to improved outcomes for patients. The exception to this was the alcohol services, which as mentioned above, were representative of a much more complex service. Similarly the extent of patient satisfaction with services varied. Even where patients did say they were satisfied they had little knowledge about the recommendations of the HTA and so may not have been well informed about what services to expect.

The interviews and focus groups also provided information about constraints around the implementation of recommendations. One issue raised was that the recommendations of the HTA were non-mandatory. This was perceived as a problem because there are other agencies (e.g. NICE, NHS HTA, professional organisations, etc) that may also provide guidance and recommendations relating to a particular HTA topic. The other main constraint identified related to the availability of resources and funding. In particular difficulties were identified: in funding staff training and in recruiting and retaining skilled staff; the availability of suitable infrastructure; and handling the knock on effects of testing (for ultrasound scanning and troponin testing) on subsequent services.

The secondary effects of the HTAs on other services were difficult to identify and evidence was only obtained from the interviews. The adoption of the HTA recommendations was believed to have increased the workload of health care professionals. The effect of the HTA on the provision of other services varied. For alcohol services it has felt that the HTA helped the evolution of the service rather than changed it. For the other HTAs there was a belief they had prompted changes in the use of other tests and services. Another secondary effect considered was whether the HTAs had prompted further research. There was no evidence
of any relevant research for either the ultrasound or the troponin HTAs. For the alcohol HTA, the first of the HTAs launched, a small number of relevant research projects were identified.

The research conducted has identified several areas where the dissemination and implementation of future HTA might be developed, although it is recognised that not all of these could be directly influenced by NHS QIS. In particular, NHS QIS is unlikely to be able to make available additional funds to finance service developments. There are however a number of approaches that might be considered to improve dissemination and implementation of future HTAs:

- Widening dissemination to other relevant groups such as GPs, NHS libraries and, depending upon the topic of the HTA, practitioners from other specialties and agencies.
- Improving dissemination of information to patients and patient representative groups. This may require the development of materials that can be used as templates for local patient information sheets.
- Investigating the value of facilitating the use of more active strategies such as reminders and educational outreach meetings. However, before such strategies are adopted for a given HTA, consideration should be given to the level of adherence to HTA recommendations.
- For HTAs that cut across professional boundaries and involve multi-agency working more sophisticated approaches may be required to engage professionals groups which might not be familiar with the principles of HTA. This may involve the identification of barriers and facilitators of behaviour change for these groups so that the development of tailored interventions can be informed.
- Prioritising HTA recommendations including the development of the budget impact assessments to reflect this prioritisation.
- Identifying options for the facilitation of relevant training courses.
- Considering the desirability of changing the status of the HTA within the NHS.

7.2 Strengths and limitations
This study has considered only three of the HTAs conducted by NHS QIS and its predecessor, the HTBS. It has also only considered their impact for three areas in Scotland...
(South Glasgow, Forth Valley and Grampian). Clearly there are limits to the extent that these findings may be generalisable to other HTAs and NHS areas. For example, at the time of the launch of the ultrasound HTA NHS QIS estimated that approximately 50% of Scottish women would be offered more than one scan during their pregnancy (rather than the two offered in at least two of the three health areas chosen for this study (personal communication Joyce Craig, NHS QIS 2006). However, the HTAs were chosen as representative of broad areas in which future HTAs may be conducted (screening and prevention, rehabilitation and diagnosis and treatment in acute settings). In addition the troponin and ultrasound HTAs represented what are predominantly single agency and specialty HTAs, whereas the alcohol HTA represents a multi-agency and specialty HTA.

The NHS areas were likewise chosen as they should enable findings to be generalised to other areas in Scotland. Indeed the quality of dissemination and the impact on services appeared to be far more influenced by the nature of the HTA than the NHS area. Where differences between areas existed they related more to the way services were evolving in the different areas. This was most clear for the alcohol HTA, which was perhaps the least homogeneous service across the three NHS areas considered.

To achieve the aims and objectives of this study a combination of systematic review and qualitative methods were used. Alternative methods may have been used to address, at least, part of the objectives of this study. For example, an experimental research design might have been adopted to address whether the dissemination strategy was an effective method of changing practice. Given that the study reported here is retrospective the most applicable experimental research design would have been an interrupted time series analysis. Such an approach would rely on there being routinely collected data relevant to the behaviour(s) recommended by the HTAs. Furthermore such analyses would be research intensive and hence costly. An interrupted time series would typically only provide an estimate of the extent of behaviour change. Therefore, such an approach would not readily provide information on the extent of behaviour change. Therefore, such an approach would not readily provide information on the effect of the HTAs on patients, other services or on research.

The results from the review of existing documentation were limited. This is despite the efforts made to identify relevant documents. Likewise the results of the interviews and focus groups were based on a limited evidence base as only a relatively small number of interviews and focus groups were conducted. While care was taken to identify relevant
interviewees and patient groups the coverage was far from comprehensive. Nonetheless, a number of consistent themes emerged from the interviews and focus groups that were in general accordance with those from the documents reviewed.

One of the findings of the study is that many of the recommendations appeared to be in place before the launch of the HTAs. Documentary evidence to support this is limited and as mentioned above this finding may not be generalisable to other health areas in Scotland. However, if this was indeed the case it would be unlikely that any evaluation of the dissemination of the HTAs would be able demonstrate a change in practice. One similar previous example was the case for the NHS HTA programme funded study of the implementation of guidelines for the prophylaxis of deep vein thrombosis. This study was abandoned after a feasibility stage showed that the targeted recommendation had been widely adopted and that it would not be possible to identify any change in behaviour.

The suggestion that many of the recommendations of the HTAs appear to be implemented before their launch can lead to questions about the value of the HTA process itself. However, the synthesis of evidence conducted at part of the HTA would still have been needed to confirm that current practice was evidence based. Furthermore, as mentioned above, the interviewees valued the provision of explicit recommendations by the HTAs as this was believed to facilitate the harmonisation of practice.
8 CONCLUSIONS
This study has shown that although the dissemination strategy adopted is generally good there are possible ways in which it can be improved by NHS QIS. The research has also shown that although many of the recommendations of the HTAs had been implemented before the launch of the HTA, not all of them had been. Furthermore, some recommendations remain unimplemented subsequently. There are numerous reasons for this, many of which are beyond the power of NHS QIS to influence.Outlined below are potential areas for NHS QIS to consider to improve the dissemination and impact of the HTAs that they conduct:

- Widening dissemination to other relevant groups such as to NHS libraries.
- Improving dissemination of information to patients and patient representative groups. This may require the development of materials that can be used as templates for developing local patient information sheets.
- Investigating the value of facilitating the use of more active strategies such as reminders and educational outreach meetings. However, before such strategies are adopted for a given HTA consideration should be given to the level of adherence to HTA recommendations.
- For HTAs that cut across professional boundaries and involve multi-agency working more sophisticated approaches may be required to engage professionals groups which might not be familiar with the principles of HTA. This may involve the identification of barriers and facilitators of behaviour change for these groups so that the development of tailored interventions can be informed.
- Prioritising HTA recommendations including the development of the budget impact assessments to reflect this prioritisation.
- Identifying of options for the facilitation of relevant training courses.
- Considering the desirability of changing the status of the HTA within the NHS.
9 REFERENCES

5. Scottish Executive Health Department. Alcohol problems support and treatment services framework. 5th September 2002.
7. health dept letters 2001


## APPENDICES

*List of appendices*

1. List of Documentation requested and obtained
2. List of Health Professional/Patient information documentation obtained
3. Keywords for further research searches
4. Further research forms
5. Example of initial contact email
6. Interview schedule used for the interviews and focus groups
7. Information letters, information sheets and consent forms for both interviews and focus groups
8. Appraisal of accessibility of HTA documentation
9. Troponin testing – Review of management protocols
12. Routine ultrasound scanning – Review of patient information leaflets
13. Summary of HTA Budget Impact Assessment
Appendix 1  HTA Impact Assessment – List of Documents

List of documentation requested* (for each HTA):
1. Generic dissemination strategy plan
2. Financial report of HTA
3. Meeting and consultation minutes
4. Distribution and mailing lists
5. Meeting and seminar invitation and attendance list
6. Press release

Documents available and used for initial analysis
Prevention of relapse in alcohol dependence
1. HTA Advice 3
2. HTBS Understanding Our Advice
3. HTA Report 3
4. Alcohol HTA Report distribution – Summary List
5. Mailing list
6. Project timelines
7. Press release – launch event, seminar
8. Launch list (221102) – name, organisation, address
9. Launch event presentation slides
10. SIGN guidelines on the management of harmful drinking and alcohol dependence in primary care Sep 2003

The use of troponin testing in acute coronary syndromes
1. HTA Advice 4
2. HTA Understanding our advice Dec 2003
3. HTA Report 4
4. Troponin HTA Report distribution – Summary List
5. Mailing list – individuals, organisations
6. Project timelines
7. Launch project timelines
8. Launch event presentation slides
9. Press release – launch

Routine ultrasound scanning before 24 weeks of pregnancy
1. HTA Advice 5
2. HTA Understanding our advice Feb 2004
3. HTA Report 5
4. Ultrasound HTA distribution – Summary List
5. Mailing list – individuals, organisations
6. Project timelines
7. Consultation project timelines
8. Launch event presentation slides
9. Launch invitation list (050104) – name, organisation, address
10. Launch attendance list – name, organisation, address
11. Press release – launch event, past events

*Through liaison with information officer of QIS
Appendix 2  List of Protocol and Patient Information Leaflets

Prevention of alcohol dependence relapse (December 2002)

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<th>Title</th>
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**Patient info leaflets**

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<td>NHS Forth Valley</td>
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<td></td>
<td>Community Alcohol and Drug Service – Breaking the habit: Coming off</td>
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<td></td>
<td>Community Alcohol and Drug Service – Alcohol Service Information for Service Users†</td>
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<td>NHS Greater Glasgow</td>
<td>Taking control: Coping skills training course (leaflet)</td>
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<td></td>
<td>Glasgow Addiction Services (general information)†</td>
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<td>Glasgow Addiction Services – Information for GPs†</td>
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Troponin testing for acute coronary syndrome (December 2003)

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<td>South Glasgow University Hospitals Division</td>
<td>Chest pain Service Protocols</td>
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**Patient info leaflets**

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<td>Living with heart failure – a guide for patients†</td>
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<td></td>
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<td>Don’t lose heart – Information for Patients, and Information for Carer†</td>
<td>1997</td>
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<tr>
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## Routine ultrasound scanning before 24 weeks of pregnancy (February 2004)

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<td>Forth Valley Acute Hospitals NHS Trust</td>
<td>Obstetric Ultrasound – Guidelines for Working Practice</td>
<td>Being updated</td>
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* Precedes date of HTA publication
† Not related to specific HTA topic area
### Appendix 3  Keywords for Further Research Searches

#### Prevention of relapse in alcohol dependence

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### Routine ultrasound screening before 24 weeks of pregnancy

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Appendix 4 Further Research

Prevention of relapse in alcohol dependence
Section 9.2 Need for further research
Section 2.5 Further research (HTA Advice 3 Dec 2002)

<table>
<thead>
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<th>Recommendations</th>
<th>Research project</th>
<th>Grant awarding body/organisation</th>
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<tr>
<td>1. Access to complete clinical life-event histories collected on a patient-by-patient basis for the Scottish population. This would permit direct assessment of the interactions between different disease states associated with alcohol and the effects which current alcohol treatment have on these states.</td>
<td>N0417129833 An investigation of coexistence of alcohol dependence and antidepressant medication (Jun 2003). N0411120544 Self-attribution in patients admitted to general hospital with alcohol-related problems: implications for assessment and treatment (Feb 2003).</td>
<td>Preceded HTA N0396126309 Alcohol related brain damage: estimating prevalence and severity, and predicting future service needs in Glasgow’s homeless hostel population aged 35 years and above (Oct 2002). M0006100395 The effects of a 6-month community rehabilitation programme on social inclusion of alcohol dependent people and the relationship of this to their alcohol consumption (Jun 2001).</td>
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| 2. Benefits of different settings for psychosocial interventions in order to determine the most effective and efficient approach to delivering the interventions  
Group vs. individual therapy  
Inpatient vs. outpatient vs. day unit. | N0396127830  
N0396163648  
Development, implementation and evaluation of a pilot project to deliver intervention alcohol issues in community pharmacies (Apr 2005).  
N0396135451  
A mapping exercise and training needs assessment of drug and alcohol training issues for generic health and social work staff (Feb 2004).  
N0396126319  
A qualitative study of community nurses’ education and training needs in relation to brief alcohol interventions for patients who drink hazardous (Apr 2003). | Preceded HTA  
N0396114619  
Study of the relapse prevention treatment preferences of individuals who have experienced alcohol dependence (Apr 2002). |
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<td>3. Correlation between the effectiveness of intervention and the length, frequency or intensity of treatment, in particular the impact on effectiveness of multiple psychosocial treatments for one individual</td>
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4. Acamprosate (and naltrexone) have shown variable effects in specialist settings require corroboration by prospective studies, extrapolation to use in primary care requires new clinical trials evidence of effectiveness. | x |

5. Supervised oral disulfiram – whether its effect on reduction in drinking would result in an increased likelihood of ongoing abstinence or controlled drinking. | x |

6. National Alcohol Information and Resource (NAIR) development by ISD and analysis of disease related costs – forecast savings to NHSScotland of avoiding relapse in alcohol dependence. | Alcohol Information Scotland Website http://www.alcoholinformation.isdscotland.org | NAIR is not a data collection audit but serve as information service. |

**Comment:** Six research projects identified broadly related to the HTA further research recommendations, in the topic area.
**Troponin testing in acute coronary syndrome**

Section 8.2  Need for further research

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<td>1. Analysis of the national cardiac dataset (QIS and ISD) and other registry-base data on unselected chest pain patient to resolve uncertainty surround the prognostic impact of small troponin rises in these patients.</td>
<td>N0394121859 A comparison of ECG determined size of myocardial infarction with an estimate based on Troponin I (2003).</td>
<td>preceded HTA.</td>
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<tr>
<td>2. Identify organisational settings that have reduced admissions and length of stay through using troponin tests.</td>
<td>N0518139183 NHS QIS Health Technology Assessment: The organisation of troponin testing services in acute coronary syndrome (2003).</td>
<td>preceded HTA.</td>
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<td>3. Standardisation of troponin I analysers enable comparison of troponin results across hospitals.</td>
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<tr>
<td>4. Analysis of updated survey data updated for this HTA enable NHS QIS to monitor compliance with the recommendations of this HTA. It helps to identify where changes in clinical and laboratory working practices have occurred, such as reduced turnaround times or the introduction of early morning troponin testing services</td>
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5. Interaction between troponin level and treatment with glycoprotein inhibitors such as tirofiban or eptifibatide – should estimate the effectiveness of using a troponin test to select patients for glycoprotein IIb/IIIa inhibition. | x |
6. To investigate the effect of replacing any biochemical marker by troponin is desirable in scoring systems such as TIMI and GRACE scores. | x |
7. To confirm finding of delay in treatment in PCI is associated with a worse outcome (Neumann 2003) in a larger and more clinical relevant setting. | x |
8. RCT to compare a protocol in which continuous clinical decision making using troponin is available with standard practice. Alternative comparator would be to use a threshold for PCI, which would be based on a scoring system that included troponin. Primary outcome measurements would be incidence of adverse cardiac events. | x |
9. RCT comparing rapid troponin-based chest pain assessment methods using well defined protocols with existing assessment protocols – the trial should assess long term safety and use rigorous follow-up methods. | x |
10. Research on registry data of unselected populations is desirable to determine the absolute risk associated with troponin rises in low-risk patients, since it may be that a higher cut-off is needed to select patients with substantial risks. | x | N0405128522 The prognostic value of serial bio-markers and echocardiology for left ventricular hypertrophy in acute coronary syndrome (2003). preceded HTA. |

**Comment:** None identified. Research projects related to troponin testing preceded the HTA.
### Recommendations

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<td>1. Use of ultrasound soft markers detected at the second trimester as an assessment tool for chromosomal abnormalities, alone or in combination with other screening tests – prospective observational studies and development of validated models.</td>
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<tr>
<td>2. Effectiveness of an increased NT measurement for detecting abnormalities other than chromosomal abnormalities – prospective observational studies.</td>
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<tr>
<td>3. To determine the most appropriate content and format of information on risks and benefits of ultrasound scanning, and also to establish the most effective process of conveying this information to pregnant women.</td>
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<tr>
<td>4. Innovative methods of service provision such as teleultrasound may be explored in the future to facilitate the provision of routine ultrasound scanning services in remote areas – full evaluation of the Aberdeen project.</td>
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**Comment:** None identified.
Appendix 5  Example of Initial Contact Email

Along with colleagues from Aberdeen University, we have been commissioned by NHS QIS (NHS Quality Improvement Scotland) to assess the impact of Health Technology Assessments (HTAs) in Scotland. NHS QIS are particularly interested in the dissemination of the related information.

One of the three HTAs we have chosen to assess is << Insert name of HTA here >> and we will be assessing the impact of the related dissemination in Grampian, Glasgow (South) and Forth Valley NHS Trusts. Ethical approval and relevant R&D approval have been received.

To get some idea of the success of dissemination by NHS QIS and whether this has targeted the right individuals, we need to ascertain whether managers, clinicians and patients received the appropriate documentation.

I would be grateful if you could respond by e-mail reply to the following few questions which will only take a minute of your time.

Prior to this contact, had you heard of HTAs?

Is << Insert name of HTA here >> carried out in your Trust?

Did you receive documentation from NHS QIS about << Insert name of HTA here >>?

If so, was this DIRECT FROM QIS or through the DEPARTMENT WHERE YOU WORK?

Have you read

- the full report? ‘Health Technology Assessment << Insert name of HTA here >>
- the summary? ‘Health Technology Assessment Advice - << Insert name of HTA here >>
- information for non-professionals? ‘Understanding our advice: << Insert name of HTA here >>

If you have received but not read the documentation, it would be helpful for us to know why.

In a second phase we would like to individually interview a number of managers and clinicians to explore the dissemination process and whether and how this can be improved to maximise uptake nationwide.

If required, would you be willing to be interviewed?

THANK YOU VERY MUCH FOR YOUR TIME.
Appendix 6  Interview Schedule Used for the Interviews and Focus Groups

Interview topics - professionals
Topics likely to be included will be:
Receipt of information
- when and how?
- was supporting documentation received?
- were right people targeted?
- remember receiving information?

Disseminated within local area/among colleagues
- can readily obtained?
- alternative strategies?

Clarity and understanding of the information
- document clearly written?
- information easy to understand?

Effect on practice
- perceived relevance
- perceived success
- patient information
- patient outcome
- secondary effects

Change of change of health care behaviour have recommendations been met?
- do they value the HTAs?
- believe the findings of the HTAs?
- what service developments can be identified?
- perceived barriers to change?

Have HTAs changed service use at both local and national level
- has the use of other related services changed?
- what were those services?
- how have these services changed?

Have HTAs prompted any further research?

Version 1 April 2005
**Interview topics - patients**

Topics likely to be included will be:

**Experience of Treatment**

**Receipt of information**
- when and how?
- any supporting documentation received?
- remember receiving information?

**Clarity and understanding of the information**
- clearly written?
- information easy to understand?
- information relevant?

**Effect on treatment**
- perceived relevance
- perceived success
- patient outcome
- secondary effects

**Change of change of health care behaviour**
- is this a good thing?
- do they value the treatments?
- how has service changed?
- perceived barriers to change?
- do think use of other related services changed?
- what has been outcome for you?

Do patients think that the recommendations have been/are being met?

---

Version 1 April 2005
Appendix 7  Information Letters, Information Sheets and Consent Forms for Both Interviews and Focus Groups

Letter to Professionals
June 2005

Dear

We have been commissioned by NHS Quality Improvement Scotland (NHS QIS) to carry out a research project which will assess the impact of three of the five Health Technology Assessments (HTAs) in Scotland. Health Technology Assessment is a recognised tool used by those working in health services to promote health, prevent and treat disease and improve rehabilitation and long term care. The chosen HTAs are Troponin Testing, Ultrasound Scanning and Prevention of relapse in alcohol dependence. National or local policy makers and clinicians who have some knowledge of at least one of the HTAs under study have been identified following a review of the dissemination records held by NHS QIS. We believe that one or more of these HTAs may be relevant to you and we are interested in your views on accessibility, clarity and relevance of the documentation. We are also interested in your views about the effectiveness of its dissemination and whether practice has been influenced. We plan to conduct approximately 30 interviews and would like to invite you to be interviewed by a member of our research team at a time and place convenient to you. Interviews will last between 40-60 minutes. Unless we hear from you to the contrary we will telephone in the near future to arrange a convenient appointment.

As is our usual practice, we will preserve the anonymity of all interviewees and all information you provide will be treated as strictly confidential and held securely in line with Data Protection regulations. NHS QIS will use the findings to highlight the strengths and limitations of the approaches used and define alternative approaches to dissemination the recommendation of similar HTAs.

At the conclusion of this study we will circulate a final summary report of the findings to all participants. We hope you will consider taking part in this important national study: we value your knowledge and experience.

An information sheet including researchers’ details is enclosed. Please do not hesitate to get in touch with Jan Caldow on 01224 553180 (email: j.l.caldow@abdn.ac.uk) if you would like further information.

Yours sincerely

Luke Vale  Jan Caldow
Principal Investigator  Research Fellow

Version 2 June 2005
Letter to Patient Support Groups
June 2005

Dear

We have been commissioned by NHS Quality Improvement Scotland (NHS QIS) to carry out a research project, which will assess the impact of Health Technology Assessments (HTAs) in Scotland. Health Technology Assessment is a recognised tool used by those working in health services to promote health, prevent and treat disease and improve rehabilitation and long term care. We would like to invite some patient members of your (Acute Heart Attack / Mother and Baby / Alcohol Rehabilitation) Patient Association Group to attend a focus group. We are interested in patients’ experiences and views of their treatment and care, their present state of health and whether they think medical practice has been influenced.

The focus group will be held (location) on a date to suit most people and will last about an hour. Two of our researchers will be present at the group meeting, which will be tape-recorded with the permission of all participants. The discussion will be confidential and any information provided will be treated as strictly confidential and held securely in line with Data Protection regulations and accessible only to the researchers. Patients will not be named or able to be identified in any way in any report or future publication of the research. Tea and coffee will be provided and travel expenses of £10 per person will be available. The findings will be used by NHS QIS to identify how they can ensure that people receive appropriate care.

We would be grateful if you could forward the enclosed patient invitation letters to members of your group, inviting them to participate in the patient focus group. We would also appreciate it if you could let us know of a suitable local venue where the group could meet. I, or my colleague Jenny Reid, will contact you by telephone in the near future to discuss the best way forward. In the meantime, if you require any further information or have any queries, please do not hesitate to contact Jan Caldow on 01224 553961.

Yours sincerely,

Luke Vale                Jan Caldow                Jennifer Reid
Principal Investigator   Research Fellow          Research Assistant

Version 2 June 2005
Patient Invitation Letter

June 2005

Dear

We have been commissioned by NHS Quality Improvement Scotland (NHS QIS) to carry out a research project, which will assess the impact of Health Technology Assessments (HTAs) in Scotland. Health Technology Assessment is a recognised tool used by those working in health services to promote health, prevent and treat disease and improve rehabilitation and long term care. (Patient Association) has identified you as someone who has undergone treatment or care relating to (Acute Heart Attack troponin Testing/Ultrasound Scanning during pregnancy/Alcohol Rehabilitation programme.) We are interested in your views of your experiences of your treatment and care and (your/you and your baby’s) present state of health and whether you think medical practice has been influenced.

We would, therefore, like to invite you to attend a focus group, which will be like a “guided discussion”, along with several other people (maximum of 10 people) also identified by your (Patient Association) who have experienced similar treatment. The focus group will be held (location) and if you are willing to attend, we would be grateful if you could indicate on the attached tear-off slip the days and times that suit you best so that we can arrange the most suitable date for everyone. **A pre-paid envelope is enclosed which requires no stamp.**

Two of our researchers will be present at the group meeting. **The focus group will last about an hour and will be tape-recorded with the permission of all participants.** The discussion will be confidential and any information you provide will be treated as strictly confidential and held securely in line with Data Protection regulations and accessible only to the researchers. You will not be named or able to be identified in any way in any report or future publication of the research. Tea and coffee will be provided and travel expenses of £10 per person will be available

The findings will be used by NHS QIS to identify how they can ensure that people receive appropriate care. At the end of the study we will circulate a final summary report of the findings to all participants. We hope you will consider taking part in this important national study: we value your knowledge and experience.

An information sheet including researchers’ details is enclosed. **Please do not hesitate to get in touch if you would like further information**

Yours sincerely

Luke Vale  
Principal Investigator

Jan Caldow  
Research Fellow

Jennifer Reid  
Research Assistant

Version 2 June 2005
HEALTH TECHNOLOGY ASSESSMENTS STUDY

NAME-----------------------------------------------------TELEPHONE------------------------
(including code)

I am interested in taking part in the patient focus group  yes ☐  no ☐

The best day of the week for me is
Monday ☐
Tuesday ☐
Wednesday ☐
Thursday ☐
Friday ☐

The best time for me is
morning ☐
afternoon ☐
evening ☐

PLEASE RETURN IN ENCLOSED PREPAID ENVELOPE
If you would like to discuss the project, please contact:

Mrs Jan Caldow
Research Fellow, Department of General Practice and Primary Care,
Foresterhill Health Centre, University of Aberdeen,
Westburn Road, Aberdeen AB25 2AY
Tel. (01224) 553961
j.l.caldow@abdn.ac.uk

Miss Jennifer Reid
Research Assistant, Dugald Baird Centre,
Department of Obstetrics and Gynaecology,
University of Aberdeen, Cornhill Road, Aberdeen, AB25 2ZL
Tel. (01224) 553923
jennifer.reid@abdn.ac.uk

RESEARCH PROJECT
The Impact Assessment of Health Technology Assessments in Scotland

PROFESSIONALS’ INFORMATION SHEET

Health Economics Research Unit
Polwarth Building
University of Aberdeen,
Forsterhill,
Aberdeen,
AB25 2ZD

Version 2 June 2005
What is this research project about?
This research project aims to examine how NHS Quality Improvement Scotland can improve the impact of Health Technology Assessment (HTA) on policy by increasing the adoption of their evidence-based recommendations. We aim to learn from national and local policy makers, clinicians and patients who have experience of at least one HTA what difference has been made to practice and outcomes and how the recommendations and their subsequent dissemination could be improved. The findings will inform and support the development of other HTA programmes throughout Scotland.

What will you be asked to do?
We would like to interview you regarding the implementation of (troponin testing/ultrasound scanning/ rehabilitation) in your local area. This interview will take between 45 minutes and one hour and will be tailored according to your particular time constraints. The interviews will focus on understanding and dissemination of information, and effect on practice in your location.

Why were you selected?
We are interested in representing the use of specific HTA’s throughout Scotland. Your location has been chosen to help make the findings of the work applicable throughout Scotland. You have been chosen following a review of the dissemination record held by NHS QIS.

What will happen to the information?
The information gathered from the interviews will be used to identify the impact of HTAs on usual practice.

What will happen next?
We will contact you to seek your consent and to arrange a suitable time and date for interview. A report will be prepared and final summaries will be circulated to all participants. The data gathered may also be used to generate publications in academic journals.

Who is funding the study?
The research project is funded by NHS Quality Improvement Scotland (NHS QIS). The project will be carried out by staff from the University of Aberdeen. It will include staff from the Health Economics Research Unit, the Department of General Practice and Primary Care, the Dugald Baird Centre and the Centre for Advanced Studies in Nursing.

Who are the Project Researchers?
The project team are all based at the University of Aberdeen and consists of: Mr Luke Vale (Health Economics Research Unit), Dr Alice Kiger (Centre for Advanced Studies in Nursing), Dr Janet Tucker (Dugald Baird Centre), Mrs Jan Caldow (Department of General Practice and Primary Care), Miss Jenny Reid (Dugald Baird Centre).

If you would like to find out more....
If you have any questions about the research project, please contact Mrs Jan Caldow on 01224 553961 (j.l.caldow@abdn.ac.uk) or Miss Jennifer Reid on 01224 553923 (jennifer.reid@abdn.ac.uk). The project is due to be completed in December 2005 when a summary of the findings will be sent to all participants.

Finally....
We hope you will take part in the research project. Thank you for taking the time to read this information.
Patient Information Sheet

If you would like to discuss the project, please contact:

Mrs Jan Caldow
Research Fellow, Department of General Practice and Primary Care,
Foresterhill Health Centre, University of Aberdeen,
Westburn Road, Aberdeen AB25 2AY
Tel. (01224) 553961
j.l.caldow@abdn.ac.uk

Miss Jennifer Reid
Research Assistant, Dugald Baird Centre,
Department of Obstetrics and Gynaecology,
University of Aberdeen, Cornhill Road, Aberdeen, AB25 2ZL
Tel. (01224) 553923
jennifer.reid@abdn.ac.uk

The project team also involves:
Mr Luke Vale, Health Economics Research Unit,
Dr Alice Kiger, Centre for Advanced Studies in Nursing
Dr Janet Tucker, Dugald Baird Centre
University of Aberdeen

RESEARCH PROJECT
The Impact Assessment of Health Technology Assessments in Scotland

INFORMATION SHEET

Health Economics Research Unit
Polwarth Building
University of Aberdeen,
Foresterhill,
Aberdeen,
AB25 2ZD

Version 1 April 2005
What is this research project about?
This research project aims to examine how Health Technology Assessments (HTAs) produced by NHS Quality Information Scotland have changed health care in three specific areas. We aim to learn from policy makers, clinicians and patients who have experience of at least one HTA if HTAs have made a difference to medical practice and patient outcomes and whether this could be improved. The findings will inform and support the development of other HTA programmes throughout Scotland.

What will you be asked to do?
We would like to invite you to participate in a focus group to discuss your experiences regarding your recent medical care. The focus group will last about one hour and will be held at a location convenient for you. Travel expenses and tea and coffee will be provided at no cost to you. The discussion will involve other patients who have had similar medical treatment and will be facilitated by two researchers. Your participation is entirely voluntary and you will not be forced to participate, however your contribution will be very valuable and we hope you will feel able to discuss your experiences in the confidential group setting.

Why were you selected?
Your name has been given to us from the (Patient Support Group) as one who has had experience of one of the specific HTAs that we are researching throughout Scotland.

What will happen to the information?
The information gathered from the interviews will be used to inform the impact of existing HTAs on usual medical practice.

What will happen next?
We will contact you to seek your consent and to arrange a suitable time and date for the focus group. A report will be prepared and final summaries will be circulated to all participants. The data gathered may also be used to generate publications in academic journals. As the reports will be anonymised, you will not be able to be identified in any publication.

Who is funding the study?
The research project is funded by NHS Quality Improvement Scotland (NHS QIS). The project will be carried out by staff from the University of Aberdeen. It will include staff from the Health Economics Research Unit, the Department of General Practice and Primary Care, the Dugald Baird Centre and the Centre for Advanced Studies in Nursing.

If you would like to find out more....
If you have any questions about the research project, please contact Mrs Jan Caldow on 01224 553961 or Miss Jennifer Reid on 01224 553923. The project is due to be completed in December 2005 when a summary of the findings will be sent to all participants.

Finally....
We hope you will take part in the research project. Thank you for taking the time to read this information.
PROFESSIONALS’ CONSENT FORM

THE IMPACT ASSESSMENT OF HEALTH TECHNOLOGY ASSESSMENTS IN SCOTLAND

Please initial box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

3. I understand that the interview will be recorded on audio-tape then transcribed. The tape will be stored securely and will be destroyed once the project is completed.

4. I agree to take part in the above project.

________________________________  _____________  __________________
Name of Participant                   Date                  Signature

________________________________  _____________  __________________
Name of Researcher                    Date                  Signature

1 copy for Participant; 1 copy for Researcher
Version 1 April 2005
PATIENT CONSENT FORM

THE IMPACT ASSESSMENT OF HEALTH TECHNOLOGY ASSESSMENTS IN SCOTLAND

Please initial box

1. I confirm that I have read and understand the information sheet for the above project and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

3. I understand that the focus group will be recorded on audio-tape then transcribed. The tape will be stored securely and will be destroyed once the project is completed.

4. I agree not to divulge to others what is said in the focus group meeting.

5. I agree to take part in the above project.

___________________ _____________ _______________
Name of Participant Date Signature

___________________ _____________ _______________
Name of Researcher Date Signature

1 copy for Participant; 1 copy for Researcher
Version 2 June 2005
## Appendix 8: Appraisal of Accessibility to HTA Documentation

### Prevention of relapse in alcohol dependence

<table>
<thead>
<tr>
<th>Question</th>
<th>Findings</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Whether the documents can be readily obtained?</td>
<td>Yes ☑ No ☐</td>
<td>Document can be obtained directly from the NHS QIS website. Electronic document available in Acrobat pdf and MS Word formats which are useful for different users. Alternative formats are also available on request.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This actually relates to the user-friendly environment of the NHS QIS website. Clear direction adds to the ease of obtaining the documents. This was also in line with the Freedom of Information Act Scotland 2002.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>However, the main and supporting document were listed similar title ‘Prevention of relapse in alcohol dependence’, not clearly sign-posted which is which, and for whom?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consultation assessment could not be obtained compared to other 2 HTA reports.</td>
</tr>
<tr>
<td>2. What steps are required to access both printed and electronic material describing the HTA methods, results and recommendations?</td>
<td>Website: <a href="http://www.nhshealthquality.org">http://www.nhshealthquality.org</a>&lt;br&gt;&lt;Publications QuickFind&gt;&lt;br&gt;&lt;HTA Report&gt;&lt;br&gt;&lt;Publication Search Results&gt;&lt;br&gt;or&lt;br&gt;Type ‘alcohol dependence’ in &lt;Search&gt;&lt;br&gt;or&lt;br&gt;&lt;Our Findings and Advice&gt;&lt;br&gt;&lt;Substance Misuse&gt;&lt;br&gt;Could not open archived document&lt;br&gt;Prevention of relapse in alcohol dependence: Consultation assessment report (PDF, 295 pages, external website) also was not listed under&lt;br&gt;&lt;Our projects&gt;&lt;br&gt;&lt;Projects archive&gt;&lt;br&gt;&lt;HTA Report&gt;&lt;br&gt;External website: Google &lt;Search&gt;&lt;br&gt;Type ‘relapse in alcohol dependence’</td>
<td></td>
</tr>
</tbody>
</table>
Troponin testing in acute coronary syndrome

<table>
<thead>
<tr>
<th>Question</th>
<th>Findings</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Whether the documents can be readily obtained? If so,</td>
<td>Yes ☑ No ☐</td>
<td>Document can be obtained directly from the NHS QIS website. Electronic document available in Acrobat pdf and MS Word formats which are useful for different users. Alternative formats are also available on requested.</td>
</tr>
<tr>
<td>2. What steps are required to access both printed and electronic material describing the HTA methods, results and recommendations?</td>
<td>Website: <a href="http://www.nhshealthquality.org">http://www.nhshealthquality.org</a> &lt;Publications QuickFind&gt; &lt;HTA Report&gt; &lt;Publication Search Results&gt; or Type ‘troponin testing’ in &lt;Search&gt; or &lt;Our Findings and Advice&gt; &lt;Medicines&gt; Listed under &lt;Our projects&gt; &lt;Projects archive&gt; &lt;HTA Report&gt; However, no links to the final report External website: Google &lt;Search&gt; Type ‘troponin testing scotland’</td>
<td>This actually related to the user-friendly environment of the NHS QIS website. Clear direction adds to the ease of obtaining the documents. This was also in line with the Freedom of Information Act Scotland 2002. However, the main and supporting document were listed similar title ‘Prevention of relapse in alcohol dependence’, not clearly sign-posted which is which, and for whom?</td>
</tr>
</tbody>
</table>
**Routine ultrasound scanning before 24 weeks of pregnancy**

<table>
<thead>
<tr>
<th>Question</th>
<th>Findings</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.  Whether the documents can be readily obtained?</td>
<td>Yes ☑ No ☐</td>
<td>Document can be obtained directly from the NHS QIS website. Electronic document available in Acrobat pdf and MS Word formats which are useful for different users. Alternative formats are also available on requested.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 2.  What steps are required to access both printed and electronic material describing the HTA methods, results and recommendations? | Website: http://www.nhshealthquality.org  
<Publications QuickFind>  
<HTA Report>  
<Publication Search Results>  

or

Type ‘routine ultrasound scanning’ in <Search>  

or under <Our Findings and Advice>  
<Screening> or  
<Women’s Health>  
<Maternity Services>  

or Listed under  
<Our projects>  
<Projects archive>  
<HTA Report>  
However, no links to the final report  
External website:  
Google <Search>  
Type ‘routine ultrasound scanning Scotland’ | This actually related to the user-friendly environment of the NHS QIS website. Clear direction adds to the ease of obtaining the documents. This was also in line with the Freedom of Information Act Scotland 2002.  

However, the main and supporting document were listed similar title ‘Routine ultrasound scanning before 24 weeks of pregnancy’, not clearly sign-posted which is which, and for whom?  
Not listed under the heading  
<Our Findings and Advice>  
<Maternity Services>  
and also not listed in <Child’s Health>  

First link to the <News> Launch event on the 13-02-04.  
This page has clearly sign-posted links to each of the three documents. |

Form: Assessment of Clinical Management Protocol 1

Health Technology Assessment Advice December 2003: The organisation of troponin testing in acute coronary syndromes

Protocol  Acute Coronary Management
Region       Grampian
Date         30 Jan 2004
Target       CCU SHO, staff nurse

Summary of recommendation

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Troponin testing should be available in all hospitals receiving patients with suspected acute coronary syndromes (ACS).</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. Troponin should be used in conjunction with clinical and electrocardiogram risk markers to inform diagnostic decisions and to assess risk and suitability for medical or invasive treatment in patients with suspected or diagnosed ACS.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. Both the timing and diagnostic value of troponin testing depend on clinical characteristics of patients. The timing of troponin testing should be in accordance with the criteria defined within this Advice.</td>
<td>✓</td>
<td>Although not clearly mentioned in the text but in a ACS algorithm.</td>
</tr>
<tr>
<td>4. A troponin testing service should meet the needs of local clinical decision-making. A troponin testing service may be laboratory based or provided at the point of care. The decision on the type of service offered will depend on local hospital requirements.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>5. All sites undertaking troponin testing should have the infrastructure for quality assurance and training.</td>
<td>✓</td>
<td>Audit form in place. Continuous audit on coronary care practice. SHO supervised by named registrar and consultant to ensures consistency in management.</td>
</tr>
<tr>
<td>6. New protocols should be developed and existing protocols updated to take account of this Advice to ensure the appropriate and optimal use of troponin testing. All protocol use should be monitored.</td>
<td>x</td>
<td>No details on next review or update.</td>
</tr>
<tr>
<td></td>
<td>Further research</td>
<td>NA</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>8.</td>
<td>Health professionals should offer to discuss with patients their diagnosis and how it was made, treatment options, what may happen next and what to do if symptoms recur. Health professionals should check that patients and carers understand the information they have received.</td>
<td>x</td>
</tr>
<tr>
<td>9.</td>
<td>Health professionals should provide patients and carers with written information to reinforce oral communication and use the same clinical terms for the diagnosis throughout the patient’s journey of care, including in primary care.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Consensus on the definition of myocardial infarction is urgently required.</td>
<td>NA</td>
</tr>
<tr>
<td>12.</td>
<td>Reference to HTA.</td>
<td>x</td>
</tr>
</tbody>
</table>

NA – not applicable

**Comments:** Clinical protocol specific for CCU. HTA recommendations have specific focus on the use of troponin testing which form part of the initial diagnosis, whereas this protocol encompasses the whole management of ACS.
Form: Assessment of Clinical Management Protocol

Health Technology Assessment Advice December 2003: The organisation of troponin testing in acute coronary syndromes

Protocol: Acute Coronary Management
Region: Forth Valley
Date: NA
Target: SHO, Nurse

Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NHS Quality Improvement Scotland recommends that troponin testing should be available in all hospitals receiving patients with suspected acute coronary syndromes (ACS).</td>
<td></td>
<td>Not mentioned if troponin is offered to all patients with suspected ACS.</td>
</tr>
<tr>
<td>2. Troponin should be used in conjunction with clinical and electrocardiogram risk markers to inform diagnostic decisions and to assess risk and suitability for medical or invasive treatment in patients with suspected or diagnosed ACS.</td>
<td>✓</td>
<td>Admit to CCU/MICU and check troponin 12 hours post onset.</td>
</tr>
<tr>
<td>3. Both the timing and diagnostic value of troponin testing depend on clinical characteristics of patients. The timing of troponin testing should be in accordance with the criteria defined within this Advice: - 12 hours after onset of well-defined symptoms or 12 hours after admission as surrogate.</td>
<td>✓</td>
<td>Admit to CCU/MICU and check troponin 12 hours post onset.</td>
</tr>
<tr>
<td>4. A troponin testing service should meet the needs of local clinical decision-making. A troponin testing service may be laboratory based or provided at the point of care. The decision on the type of service offered will depend on local hospital requirements.</td>
<td></td>
<td>Not mentioned.</td>
</tr>
<tr>
<td>5. All sites undertaking troponin testing should have the infrastructure for quality assurance and training.</td>
<td></td>
<td>Not mentioned.</td>
</tr>
<tr>
<td>6. New protocols should be developed and existing protocols updated to take account of this Advice to ensure the appropriate and optimal use of troponin testing. All protocol use should be monitored.</td>
<td></td>
<td>HTA not mentioned review or referenced.</td>
</tr>
<tr>
<td></td>
<td>Further research: To investigate the effect of replacing ‘any biochemical marker’ by troponin in existing scoring systems, and to estimate the interaction between troponin level and the treatment with small molecule glycoprotein inhibitors licensed for use in the medical management of patients with NSTE ACS.</td>
<td>NA</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>8.</td>
<td>Health professionals should offer to discuss with patients their diagnosis and how it was made, treatment options, what may happen next and what to do if symptoms recur. Health professionals should check that patients and carers understand the information they have received.</td>
<td>Not mentioned.</td>
</tr>
<tr>
<td>9.</td>
<td>Health professionals should provide patients and carers with written information to reinforce oral communication and use the same clinical terms for the diagnosis throughout the patient’s journey of care, including in primary care.</td>
<td>Not mentioned.</td>
</tr>
<tr>
<td>10.</td>
<td>Consensus on the definition of myocardial infarction is urgently required.</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Comments:** Clinical protocol presented in the form of algorithms. Chest pain admission pathway – depict the pathways of ST-elevation and Non-ST-elevation ACS.
**Summary**

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NHS Quality Improvement Scotland recommends that troponin testing should be available in all hospitals receiving patients with suspected acute coronary syndromes (ACS).</td>
<td>✓</td>
<td>Mentioned in Draft Troponin I Measurements in NHS Greater Glasgow. Troponin I is offered to all patients with suspected acute coronary syndrome.</td>
</tr>
<tr>
<td>2. Troponin should be used in conjunction with clinical and electrocardiogram risk markers to inform diagnostic decisions and to assess risk and suitability for medical or invasive treatment in patients with suspected or diagnosed ACS.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. Both the timing and diagnostic value of troponin testing depend on clinical characteristics of patients. The timing of troponin testing should be in accordance with the criteria defined within this Advice: - 12 hours after onset of well-defined symptoms or 12 hours after admission as surrogate.</td>
<td>✓</td>
<td>Troponin to be taken between 12 – 24 hours post onset according to local protocols regarding samples collection.</td>
</tr>
<tr>
<td>4. A troponin testing service should meet the needs of local clinical decision-making. A troponin testing service may be laboratory based or provided at the point of care. The decision on the type of service offered will depend on local hospital requirements.</td>
<td>✓</td>
<td>Sample collection and interpretation of troponin results depend on local levels.</td>
</tr>
<tr>
<td>5. All sites undertaking troponin testing should have the infrastructure for quality assurance and training.</td>
<td></td>
<td>Not mention.</td>
</tr>
</tbody>
</table>
6. New protocols should be developed and existing protocols updated to take account of this Advice to ensure the appropriate and optimal use of troponin testing. All protocol use should be monitored. | ✓ | No mention of HTA but SIGN guideline (2001) referenced. Next review noted.

7. Further research: To investigate the effect of replacing ‘any biochemical marker’ by troponin in existing scoring systems, and to estimate the interaction between troponin level and the treatment with small molecule glycoprotein inhibitors licensed for use in the medical management of patients with NSTE ACS. | | NA

8. Health professionals should offer to discuss with patients their diagnosis and how it was made, treatment options, what may happen next and what to do if symptoms recur. Health professionals should check that patients and carers understand the information they have received. | | Not mentioned.

9. Health professionals should provide patients and carers with written information to reinforce oral communication and use the same clinical terms for the diagnosis throughout the patient’s journey of care, including in primary care. | x | Not mentioned.

10. Consensus on the definition of myocardial infarction is urgently required. | | NA

**Comment:** Simple algorithm of service protocol. No mention of information to be given to patients. No mention on data recording and audit.
Appendix 10 Routine Ultrasound Scanning – Review of Management Protocols

Form: Assessment of Clinical Management Protocol

Health Technology Assessment Advice 5: Routine ultrasound scanning before 24 weeks of pregnancy
February 2004

Protocol Ultrasound
Radiography, South Glasgow Hospital
Region Southern Glasgow
Date ?
Target Sonographers’ protocol

### Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women in Scotland should be offered both a first and second trimester ultrasound scan.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>2. Patient information – Appropriate written patient information should be available, with time for the pregnant woman to consider and discuss this information with a health professional prior to attending for an ultrasound examination. This information should include details of the conditions which may and may not be detected by ultrasound and the rate of detection of these conditions, together with the risks associated with follow-up procedures.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>3. Consent – Ultrasound scanning is part of a programme of antenatal screening. Women who decide to participate in all or part of the screening programme should provide written informed consent.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>4. First trimester scan – The first trimester scan should be offered between 10 and 13 completed weeks’ gestation for confirmation of fetal viability, assessment of gestational age and determination of multiple pregnancies.</td>
<td>No mention on timing of scan. Details on scan parameters.</td>
<td></td>
</tr>
<tr>
<td>5. Screening for chromosomal abnormalities – The results of nuchal translucency measurement during the first trimester scan and maternal serum screening should be combined with gestational age at the time of scanning and maternal age to generate an assessment of the risk of chromosomal abnormalities.</td>
<td>x</td>
<td>No mention of NT measurement.</td>
</tr>
</tbody>
</table>
6. Late presentation – Women who present after 13 completed weeks’ gestation should be offered an ultrasound scan for assessment of gestational age at the time of presentation and second trimester serum screening for chromosomal abnormalities.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NA</td>
</tr>
</tbody>
</table>

7. Second trimester scan – The second trimester anomaly screening scan is to exclude or detect where possible identifiable common fetal abnormalities and should be performed between 18 and 22 weeks’ gestation, targeted for 20 weeks’ gestation. This scan should not include the detection of soft markers to assess risk of chromosomal abnormalities.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NA</td>
</tr>
</tbody>
</table>

No mention about which abnormalities to scan for.

8. Service requirements – The recommended programme of scanning and screening should be performed by formally trained staff with suitable scanning equipment. There should be consistent record keeping in maternity services to facilitate internal and external quality assurance and audit.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

No mention of recording.

**Comment:** This is a technical protocol aimed at sonographers for early pregnancy assessment. No mention on giving information or written consent from patients.
### Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women in Scotland should be offered both a first and second trimester ultrasound scan.</td>
<td>x</td>
<td>Not mentioned.</td>
</tr>
<tr>
<td>2. Patient information – Appropriate written patient information should be available, with time for the pregnant woman to consider and discuss this information with a health professional prior to attending for an ultrasound examination. This information should include details of the conditions which may and may not be detected by ultrasound and the rate of detection of these conditions, together with the risks associated with follow-up procedures.</td>
<td>x</td>
<td>No mention of information to be given to patient.</td>
</tr>
<tr>
<td>3. Consent – Ultrasound scanning is part of a programme of antenatal screening. Women who decide to participate in all or part of the screening programme should provide written informed consent.</td>
<td>x</td>
<td>No mention of obtaining written consent from patient.</td>
</tr>
<tr>
<td>4. First trimester scan – The first trimester scan should be offered between 10 and 13 completed weeks’ gestation for confirmation of fetal viability, assessment of gestational age and determination of multiple pregnancies.</td>
<td>x</td>
<td>Booking scan to be performed before 15 weeks.</td>
</tr>
<tr>
<td>5. Screening for chromosomal abnormalities – The results of nuchal translucency measurement during the first trimester scan and maternal serum screening should be combined with gestational age at the time of scanning and maternal age to generate an assessment of the risk of chromosomal abnormalities.</td>
<td>x</td>
<td>No mention of NT measurement and serum tests.</td>
</tr>
<tr>
<td>6. Late presentation – Women who present after 13 completed weeks’ gestation should be offered an ultrasound scan for assessment of gestational age at the time of presentation and second trimester serum screening for chromosomal abnormalities.</td>
<td>x</td>
<td>&gt;13 weeks parameters mentioned. No mention of second trimester serum tests.</td>
</tr>
</tbody>
</table>
7. Second trimester scan – The second trimester anomaly screening scan is to exclude or detect where possible identifiable common fetal abnormalities and should be performed between 18 and 22 weeks’ gestation, targeted for 20 weeks’ gestation. This scan should not include the detection of soft markers to assess risk of chromosomal abnormalities.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7.</strong> Second trimester scan – The second trimester anomaly screening scan is to exclude or detect where possible identifiable common fetal abnormalities and should be performed between 18 and 22 weeks’ gestation, targeted for 20 weeks’ gestation. This scan should not include the detection of soft markers to assess risk of chromosomal abnormalities.</td>
<td>x No mention of the timing of anomaly scan. Certain soft markers included.</td>
</tr>
</tbody>
</table>

8. Service requirements – The recommended programme of scanning and screening should be performed by formally trained staff with suitable scanning equipment. There should be consistent record keeping in maternity services to facilitate internal and external quality assurance and audit.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8.</strong> Service requirements – The recommended programme of scanning and screening should be performed by formally trained staff with suitable scanning equipment. There should be consistent record keeping in maternity services to facilitate internal and external quality assurance and audit.</td>
<td>x Parameters mentioned. No mention of training or equipment requirement.</td>
</tr>
</tbody>
</table>

**Comment:** Work practice protocol with technical details. No mention on information for patient, and on when referral to consultant obstetrician is required.
# Health Technology Assessment Advice 5: Routine ultrasound scanning before 24 weeks of pregnancy

**Protocol Department Guidelines for All Scans**  
**Aberdeen Royal**

**Region**  
**Grampian**

**Date**  
April 2000; Reviewed: 2003

**Target**  
Sonographers, Nurse, Technician

## Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women in Scotland should be offered both a first and second trimester ultrasound scan.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. Patient information – Appropriate written patient information should be available, with time for the pregnant woman to consider and discuss this information with a health professional prior to attending for an ultrasound examination. This information should include details of the conditions which may and may not be detected by ultrasound and the rate of detection of these conditions, together with the risks associated with follow-up procedures.</td>
<td>✓</td>
<td>Booklet available.</td>
</tr>
<tr>
<td>3. Consent – Ultrasound scanning is part of a programme of antenatal screening. Women who decide to participate in all or part of the screening programme should provide written informed consent.</td>
<td>✗</td>
<td>No mention of written consent from patients.</td>
</tr>
<tr>
<td>4. First trimester scan – The first trimester scan should be offered between 10 and 13 completed weeks’ gestation for confirmation of fetal viability, assessment of gestational age and determination of multiple pregnancies.</td>
<td>✗</td>
<td>Between 11-14 weeks.</td>
</tr>
<tr>
<td>5. Screening for chromosomal abnormalities – The results of nuchal translucency measurement during the first trimester scan and maternal serum screening should be combined with gestational age at the time of scanning and maternal age to generate an assessment of the risk of chromosomal abnormalities.</td>
<td>✗</td>
<td>No mention of NT measurement and serum tests.</td>
</tr>
</tbody>
</table>
6. **Late presentation** – Women who present after 13 completed weeks’ gestation should be offered an ultrasound scan for assessment of gestational age at the time of presentation and second trimester serum screening for chromosomal abnormalities.

7. **Second trimester scan** – The second trimester anomaly screening scan is to exclude or detect where possible identifiable common fetal abnormalities and should be performed between 18 and 22 weeks’ gestation, targeted for 20 weeks’ gestation. This scan should not include the detection of soft markers to assess risk of chromosomal abnormalities.

8. **Service requirements** – The recommended programme of scanning and screening should be performed by formally trained staff with suitable scanning equipment. There should be consistent record keeping in maternity services to facilitate internal and external quality assurance and audit.

<table>
<thead>
<tr>
<th>6. Late presentation – Women who present after 13 completed weeks’ gestation should be offered an ultrasound scan for assessment of gestational age at the time of presentation and second trimester serum screening for chromosomal abnormalities.</th>
<th>Women who had antenatal care in community discuss 16 weeks serum test and detailed anomaly scan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. <strong>Second trimester scan</strong> – The second trimester anomaly screening scan is to exclude or detect where possible identifiable common fetal abnormalities and should be performed between 18 and 22 weeks’ gestation, targeted for 20 weeks’ gestation. This scan should not include the detection of soft markers to assess risk of chromosomal abnormalities.</td>
<td>✓</td>
</tr>
<tr>
<td>8. <strong>Service requirements</strong> – The recommended programme of scanning and screening should be performed by formally trained staff with suitable scanning equipment. There should be consistent record keeping in maternity services to facilitate internal and external quality assurance and audit.</td>
<td>✓ No mention of staff training and equipment requirement.</td>
</tr>
</tbody>
</table>

**Comment:** Clear and concise protocol for sonographers. No mention on first trimester serum tests but was noted under instructions for specific anomalies.
Appendix 11 Prevention of Relapse in Alcohol Dependence – Review of Patient Information Leaflets

Form: Assessment of Patient Information Leaflet 1

Understanding HTBS advice December 2002: Prevention of relapse in alcohol dependence

<table>
<thead>
<tr>
<th>Leaflet</th>
<th>Keeping Going</th>
</tr>
</thead>
<tbody>
<tr>
<td>Published by</td>
<td>Community Alcohol and Drug Service, NHS Scotland</td>
</tr>
<tr>
<td>Region</td>
<td>NHS Forth Valley</td>
</tr>
<tr>
<td>Date</td>
<td>2003</td>
</tr>
<tr>
<td>Target</td>
<td>Service users - patients</td>
</tr>
</tbody>
</table>

### Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. HTBS has advised that the following talking therapies are of best value and should be made available to people with alcohol dependence and provided by trained professionals: Coping/Social Skills Training (CS); Behavioural Self Control Training (BSCT); Motivational Enhancement Therapy (MET); and Marital/Family Therapy.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. Attendance at Alcoholics Anonymous has also been shown to help many people with alcohol dependence</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4. HTBS recommends medicines as options for use along with talking therapies – acamprosate (Campral) and disulfiram (Antabuse).</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5. Acamprosate appears to reduce a person’s urge to drink. Disulfiram is a deterrent which causes the person to experience unpleasant symptoms if they drink. Supervised disulfiram with a partner is strongly recommended.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>6. HTBS has not recommended naltrexone.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Different people might benefit from different types of treatment depending on their circumstances and expectations. HTBS recommends that the patients and their doctors should discuss the different types of treatment before agreeing which is the most suitable.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>8. Treatments can be given in a range of different settings, depending on the needs, preferences and circumstances of the individual.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9. Sources of support and information.</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:** Covers general statement of the service, description of intervention, reason and timing of the intervention, and provided contact details for further information. Reference for source of evidence unavailable.

This booklet is provided together with leaflets on Alcohol Service – Information for Service Users by Forth Valley Primary Care NHS Trust on service information and contact details.

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**Form: Assessment of Patient Information Leaflet  2**

*Understanding HTBS advice December 2002: Prevention of relapse in alcohol dependence*

Leaflet  Taking Control: Coping skills training course leaflet  
Published by  NHS Greater Glasgow  
Region  NHS Greater Glasgow  
Date  ?  
Target  Patients

<table>
<thead>
<tr>
<th>Summary</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td><strong>Included</strong></td>
<td><strong>Note</strong></td>
</tr>
<tr>
<td>2. HTBS has advised that the following talking therapies are of best value and should be made available to people with alcohol dependence and provided by trained professionals: Coping/Social Skills Training (CS); Behavioural Self Control Training (BSCT); Motivational Enhancement Therapy (MET); and Marital/Family Therapy.</td>
<td>✓</td>
<td>This booklet explains about the Coping/Social Skills Training course.</td>
</tr>
<tr>
<td>3. Attendance at Alcoholics Anonymous has also been shown to help many people with alcohol dependence.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. HTBS recommends medicines as options for use along with talking therapies – acamprosate (Campral) and disulfiram (Antabuse).</td>
<td>NA - specific on coping skills.</td>
<td></td>
</tr>
<tr>
<td>5. Acamprosate appears to reduce a person’s urge to drink. Disulfiram is a deterrent which causes the person to experience unpleasant symptoms if they drink. Supervised disulfiram with a partner is strongly recommended.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>6. HTBS has not recommended naltrexone.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>7. Different people might benefit from different types of treatment depending on their circumstances and expectations. HTBS recommends that the patients and their doctors should discuss the different types of treatment before agreeing which is the most suitable.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>8. Treatments can be given in a range of different settings, depending on the needs, preferences and circumstances of the individual.</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>9. Sources of support and information.</td>
<td>Not included. One would expect support information to be useful for the patient.</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:** Specific booklet on Coping skills for those who have successfully changed their initial drinking behaviours. Detailed analysis of situations and how patient could cope with these ‘high-risk situations’.
## Appendix 12 Routine Ultrasound Scanning – Review of Patient Information Leaflets

### Form: Assessment of Patient Information Leaflet 1

**Understanding our advice February 2004: Routine ultrasound scanning before 24 weeks of pregnancy**

| Leaflet | Information for Parents: The 20 Week (Detailed) Scan - Your Choice
| Publish | Grampian University Hospitals
| Region | Scanning Department Aberdeen Maternity Hospital
| Date | April 2000
| Target | Pregnant women

### Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women should be offered two routine ultrasound scans in the first 24 weeks of pregnancy.</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>2. What is ultrasound scanning? Why?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. First trimester scanning – size, date, development, multiple pregnancies, Down’s syndrome (nuchal translucency measurement).</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>4. Follow-up test if found higher chance of having a baby with suspected conditions.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7. Ultrasound scanning will not pick up every problem.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>8. Pregnant women should be told exactly what ultrasound can and cannot detect so that they can make an informed decision.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9. They should be provided with appropriate written information and given opportunity to discuss issues.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>10. Those who decide to take part will be asked to provide written consent for some tests.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Ensure scanning as safe as possible.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>13. Contact for further information and support.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>14. Definition or glossary on medical terms.</td>
<td></td>
<td>No clear explanation of condition.</td>
</tr>
</tbody>
</table>

**Comments:** Timing and objectives of scan similar to HTA recommendation as second trimester ‘anomaly scan’ 18-22 week, aim at 20 week
Form: Assessment of Patient Information Leaflet  2

Understanding our advice February 2004: Routine ultrasound scanning before 24 weeks of pregnancy

Leaflet  A Guide to the Screening Test for Spina Bifida and Down’s Syndrome
  – A blood test you can choose to have during your pregnancy
Published  Health Scotland
Region  All
Date  2004 Edition
Target  Pregnant women

Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women should be offered two routine ultrasound scans in the first 24 weeks of pregnancy.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. What is ultrasound scanning? Why?</td>
<td>✓</td>
<td>As one of follow-up tests.</td>
</tr>
<tr>
<td>3. First trimester scanning – size, date, development, multiple pregnancies.</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>4. Follow-up test if found higher chance of having a baby with suspected condition.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5. Second trimester scanning – ‘anomaly scan’ for heart defects and spina bifida.</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>6. First trimester blood test – ‘serum screen’.</td>
<td>✓</td>
<td>15-16 weeks AFP and hCG.</td>
</tr>
<tr>
<td>7. Ultrasound scanning will not pick up every problem.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>8. Pregnant women should be told exactly what ultrasound can and cannot detect so that they can make an informed decision.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9. They should be provided with appropriate written information and given opportunity to discuss issues.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>10. Those who decide to take part will be asked to provide written consent for some tests.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>11. Ensure scanning as safe as possible.</td>
<td>✓</td>
<td>Stated ‘no known harmful effects to the baby from ultrasound.</td>
</tr>
<tr>
<td>12. Evidence used and reference.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Contact for further information and support.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>14. Definition or glossary of medical terms.</td>
<td>✓</td>
<td>Explains clearly the medical terms used in the text.</td>
</tr>
</tbody>
</table>

Comments: Specific booklet on blood screening test for both conditions. Timing and tests differs from the HTA recommendation for first trimester (10-13 weeks PAPP-A, hCG), but similar test to that of presenting after 13 weeks for second trimester screening. Otherwise clearly written and concise with all essential information.
Form: Assessment of Patient Information Leaflet  3 & 4

Understanding our advice February 2004: Routine ultrasound scanning before 24 weeks of pregnancy

Leaflet  The Booking Ultrasound Scan – Information for Patients [3]
          The Detailed Ultrasound Scan – Information for Patients [4]
Publish Obstetrics & Gynaecology, Southern General Hospital
Region Glasgow
Date 
Target Pregnant women

Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women should be offered two routine ultrasound scans in the first 24 weeks of pregnancy.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. What is ultrasound scanning? Why?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. First trimester scanning – size, date, development, multiple pregnancies, Down’s syndrome (nuchal translucency measurement).</td>
<td>✓</td>
<td>Booking scan between 11-14 weeks.</td>
</tr>
<tr>
<td>4. Follow-up test if found higher chance of having a baby with suspected conditions.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7. Ultrasound scanning will not pick up every problem.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>8. Pregnant women should be told exactly what ultrasound can and cannot detect so that they can make an informed decision.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9. They should be provided with appropriate written information and given opportunity to discuss issues.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>10. Those who decide to take part will be asked to provide written consent for some tests.</td>
<td></td>
<td>No mentioned of written consent.</td>
</tr>
<tr>
<td>11. Ensure scanning as safe as possible.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>13. Contact for further information and support.</td>
<td></td>
<td>Not mentioned. Note to discuss with doctor or midwife.</td>
</tr>
<tr>
<td>14. Definition or glossary on medical terms.</td>
<td></td>
<td>No clear explanation on condition.</td>
</tr>
</tbody>
</table>

Comments: Timing and objectives of scan similar to HTA recommendation first trimester and second trimester ‘anomaly scan’. Clear explanation on what the scan can and cannot do.
**Form: Assessment of Patient Information Leaflet  5 & 6**

*Understanding our advice February 2004: Routine ultrasound scanning before 24 weeks of pregnancy*

**Leaflet**  Ante Natal Ultrasound Service [5]  
Anomaly Scans – An Information Booklet [6]

**Publish**  Women & Children’s Unit, NHS

**Region**  Forth Valley

**Date**  07 Jun 2005 [5]  
July 2002 [6]

**Target**  Pregnant women

**Summary**

<table>
<thead>
<tr>
<th>Description</th>
<th>Included</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All pregnant women should be offered two routine ultrasound scans in the first 24 weeks of pregnancy.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. What is ultrasound scanning? Why?</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. First trimester scanning – size, date, development, multiple pregnancies, Down’s syndrome (nuchal translucency measurement).</td>
<td>✓</td>
<td>Booking scan between 12 weeks.</td>
</tr>
<tr>
<td>4. Follow-up test if found higher chance of having a baby with suspected conditions.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>7. Ultrasound scanning will not pick up every problem.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>8. Pregnant women should be told exactly what ultrasound can and cannot detect so that they can make an informed decision.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>9. They should be provided with appropriate written information and given opportunity to discuss issues.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>10. Those who decide to take part will be asked to provide written consent for some tests.</td>
<td></td>
<td>No mention of written consent.</td>
</tr>
<tr>
<td>11. Ensure scanning as safe as possible.</td>
<td>✓</td>
<td>Mention of procedure and comfort of patient.</td>
</tr>
<tr>
<td>13. Contact for further information and support.</td>
<td></td>
<td>Not mentioned. Note to discuss with doctor or midwife.</td>
</tr>
<tr>
<td>14. Definition or glossary on medical terms.</td>
<td></td>
<td>No clear explanation on condition.</td>
</tr>
</tbody>
</table>

**Comments:** Timing and objectives of scan similar to HTA recommendation first trimester and second trimester ‘anomaly scan’. Clear explanation on what the scan can and cannot do i.e. likelihood of problems identified. However, no clear explanation on conditions mentioned.
Identification of the baby’s sex not part of HTA recommendations.
### Appendix 13 Summary of HTA Budget Impact Assessment

<table>
<thead>
<tr>
<th>Section</th>
<th>Chapter 8 Organisational Issues, focusing on Section 8.9 Potential resource impact for NHSScotland.</th>
<th>Chapter 7 Organisational issues, focusing on Section 7.5 Resource Implications for NHSScotland.</th>
<th>Chapter 7 Modelling costs and benefits, focusing on Section 7.8 Estimated resource implications for NHSScotland.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research question</td>
<td>Total and additional costs requirement to implement the recommendations.</td>
<td>Additional costs of the recommendations which were appropriate to different hospital settings 1. Community hospitals 2. DGHs and tertiary centres.</td>
<td>1. Additional capital and operating costs, phased assuming a three-year implementation 2. Additional annual costs of steady state operation.</td>
</tr>
<tr>
<td>4. Perspective</td>
<td>Health services – NHSScotland.</td>
<td>Health services – NHSScotland</td>
<td>Health services – NHSScotland.</td>
</tr>
<tr>
<td>5. Health technology</td>
<td>Psychosocial therapy; pharmacologic treatment.</td>
<td>Troponin T and I testing.</td>
<td>Ultrasound scanning, mainly transabdominal scan, before 24 weeks of pregnancy.</td>
</tr>
<tr>
<td>8. Economic study type</td>
<td>Cost analysis  Broad assumptions were made as noted by the authors due to absence of quality baseline information and variation in the cost of provision.</td>
<td>Cost analysis  Conclusions derived from the cost-effectiveness/consequences analysis of 8 scenarios reported in Chapter 5 of the <em>HTA Report</em> Economic evaluation and modelling Section 5.4 Economic model approach of using point-of-care and laboratory tests.</td>
<td>Cost analysis  Conclusions derived from the modelling for cost-consequences analysis conducted using a Discrete event simulation constructed using R programming language.</td>
</tr>
<tr>
<td></td>
<td>Study population</td>
<td>Setting</td>
<td>Dates (Price year)</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>9.</td>
<td>Patient with alcohol dependence in Scotland.</td>
<td>Specialist setting – secondary care, report cautioned on the extrapolation to primary care which was available from the SIGN guidelines. However, the report also suggested tier 3 and 4 involved community, specialist, and residential care if necessary.</td>
<td>Not clearly reported but may refer to elsewhere in the text. Price year used was May 2002.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Community hospital</td>
<td>Clearly stated 2003 prices. Also refer to the data used in cost-effectiveness analysis in earlier section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>District general hospital</td>
<td></td>
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<td></td>
<td></td>
<td>Tertiary centres.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Pregnant women &lt;24 weeks of gestation in Scotland.</td>
<td>Various settings</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maternity midwife-led unit – rural</td>
<td></td>
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<td></td>
<td></td>
<td>Consultant-led units – urban</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>District hospital</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Estimates from existing data from two PCTs, combined with estimates of prevalence of people with alcohol dependence in Scotland to derive the estimate additional interventions that may be required to meet the demand. Justification for selection of the two PCTs was given. Estimates of prevalence – the epidemiological evidence of demand were well referenced.</td>
<td>Estimates and exclusion criteria were clearly defined and discussed in later section.</td>
<td>Simulated pregnancies of 50,000, approximately annual number of births in Scotland. Assumptions and exclusion criteria were clearly defined.</td>
</tr>
<tr>
<td>13. Cost</td>
<td>Health services costs. Comprehensive costs categories considered.</td>
<td>Health services costs. Comprehensive costs categories considered. HTA unable to estimate certain variables due to lack of data.</td>
<td>Health services costs.</td>
</tr>
<tr>
<td>---</td>
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</tr>
</tbody>
</table>
| **a. Direct costs** | - Psychosocial therapy  
- Pharmacologic therapy  
- NHS and non-NHS specialist alcohol services  
- Continuing care  
- Recording and collection of information  
- Screening, audit, research and quality assurance  
- Staff training and continuing development  
- Patient leaflets  
- Core services for prevention of relapse in alcohol dependence. | Main costs drivers  
- Providing and operating quality-assured troponin testing service  
- Training test operators and clinicians  
- Developing, implementing and monitoring relevant protocols  
- Changing discharge procedures to include stress test Community hospitals  
Set-up costs:  
- Equipment  
- Training  
- Protocols  
Steady state annual operating costs  
- Equipment  
- Test per annum  
- Sample collection, record results, refresher training  
DGH and tertiary centres – considering 3 scenarios:  
- Option 1 – 12hrs after admission, STEMI, laboratory testing  
- Option 2a – admission and 12hrs later (first test negative) suspected ACS, clinical diagnostic uncertainty, point of care  
- Option 2b – 12hrs after onset suspected ACS, point of care | Cost data used from Section 7.3.5  
Model input: costs, which took into account the following:  
- Geographical setting  
- Staff costs  
- Overheads  
- Travel costs  
- National audit  
- Informed consent  
- Ultrasound scans  
- Serum tests  
- Genetic tests  
- Termination of pregnancy.  
Final costs implications:  
3 year implementation programme - Upgrading costs  
- Additional staff  
- Staff training  
- Equipment  
- Accommodation  
- National audit.  
Additional annual operating costs  
- Additional staff  
- Training  
- Accommodation  
- Audit  
- Equipment (annualised). |
- Revising local protocols and guidelines, updating information in MCNs
- Costs of additional stress-tests in low-risk patients.
- Patient information leaflet (for DGH and tertiary centre patients only).

<table>
<thead>
<tr>
<th>b. Indirect costs</th>
<th>NA</th>
<th>NA</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>c. Validity of cost estimate</td>
<td>Mean and total additional costs were reported, except the range. Mean quantities were reported elsewhere in the text. Methods used to estimate costs were comprehensive, although certain cost estimates not clearly referenced.</td>
<td>Main costs drivers listed were reasonable.</td>
<td>As stated, HTA recommendations phased in depend on availability of funding, staff training and recruitment. This was assumed a three years implementation phase and annual operating phase. Details of costing well discussed in previous section on Modelling, taking into account the difference between rural and urban setting. Also included were detection rates, acceptance rates, adjustment for spontaneous fetal loss. Cost of providing patient information leaflets was not included in the HTA as HTA stated that this is required regardless of the HTA.</td>
</tr>
<tr>
<td>14. Outcome</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>NA</td>
<td>Indirect savings and benefit to the society and healthcare service were not calculated but was thought to be substantial by the authors.</td>
<td>Considered under cost-effectiveness modelling</td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td>• Turn around time</td>
<td></td>
<td></td>
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<tr>
<td>NA</td>
<td>• Accurate diagnosis of STEMI, ACS</td>
<td></td>
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<tr>
<td>NA</td>
<td>• Bed days saved due to early discharge.</td>
<td></td>
<td></td>
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<tr>
<td>NA</td>
<td>Benefit of troponin testing in community hospital not modelled explicitly due to lack of data.</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>15. Time horizon</th>
<th>No mention (cf. 20 years in economic evaluation modelling).</th>
<th>Set up costs Steady state annual operating costs.</th>
<th>Initial three-year implementation programme Annual costs of operating recommended services.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Discount rate</td>
<td>Capital discount rate 6%</td>
<td>Annual capital charge 3.5%</td>
<td>Annual capital charge 3.5%</td>
</tr>
</tbody>
</table>

| 17. Assumptions | Assumptions made were reasonable and acceptable, based on epidemiological and hospital data, expert opinion and price lists from manufacturers. (Refer HTA Report Appendix 13). | Assumptions made were reasonable and acceptable. Model based on assumptions: 1. Number of women wishing a diagnostic test would accept chorionic villus sampling CVS (50%) while others accepting amniocentesis. 2. Detection rate and False positive rate (FHR) which might influence the outcome mentioned above. (NSC detection rate 75% and FPR <3%). |
### 3. Sensitivity analysis

<table>
<thead>
<tr>
<th>a. Approach</th>
<th>Not stated. (Sensitivity analysis was considered in earlier section modelling in economic evaluation).</th>
<th>Univariate sensitivity analysis.</th>
<th>Not stated (Measurement of costs derived from earlier modelling on costs and benefits).</th>
</tr>
</thead>
</table>
| b. Variables | *For Community hospitals*  
• Number of community hospitals likely to risk stratify patients with suspected ACS  
• Number of troponin tests performed each week  
*For DGHs and tertiary centres*  
Scenario 1  
• Cost of laboratory test  
• Number of tests  
Scenario 2  
• Number of point-of-care tests ±20%  
Scenario 3  
• Number of cardiac-related medical admissions.  
Tests, costs and savings from early discharge were explored. | | |

### 4. Conclusion follows questions?

| Yes | Yes | Yes |
| 5. Implication of study | Despite the difficulties of providing a precise figure, the estimated cost of implementing the HTA recommendations in the order of £2.5 million per annum. This comprised of £0.94 million for additional psychosocial interventions, £0.9 million for continuing care, £0.4 million for additional staff training audit and quality assurance and patient information, and £0.21 million for additional pharmacotherapy. | The set-up costs for 45 Community hospitals would be £0.17 million with annual operating costs at £0.12 million. Annual costs £0.28 - £0.35 million DGH and tertiary centres. In addition one-off set-up costs of altering existing protocols £16000 and further £9500 on protocol for managing patient with suspected ACS. Substantial reduction of costs could be expected if higher levels of contract with manufacturers to increase the discounts from manufacturers. | The total budget required to upgrade the service in order to implement the HTA recommendations would be £5.4 million, spread over the implementation period. Following implementation of the HTA recommendations, the annual costs were estimated to increase from £6.3 to £9.6 million per annum, a 52% increase. Research problem Paucity of clinical data especially on the False Positive Rates (FPRs) which would affect the number of follow-up investigations and total cost of the programme. |
| Comments - Believable Credible Realistic | Yes. There was a possibility that not all categories of cost relevant to the study were included. The direct costs derived from hospital charge information did not reflect the full economic costs since charges were used to proxy the prices. Indirect costs were not included in the analysis although this was unlikely to affect the authors’ conclusions. The authors made appropriate comparisons of their findings with those from other studies. The issue of generalisability to other settings was adequately addressed. The authors appeared to have presented their result selectively. Audit and quality assurance due to the introduction of recommendation, which might require additional costs, were satisfactorily addressed. | Yes. The results are generalisable. Uncertainties were adequately dealt with. No significant variables missed out except the following two where no details on the precision of estimation were provided (not mentioned in HTA) • Costs of the updating, disseminating/implementing new protocols • Cost of patient information leaflets. Due to lack of data, some variables were unable to be explored but these were unlikely to affect the overall results significantly. | Yes. 10 years life for equipment was questionable but discussed earlier that certain equipment allows upgrades. Training course with a three year life seems reasonable. Not mentioned but assumed that all staff were retained after training. No reference for cost of staff training: scanning course (£1200), counselling course (£225), and GP information pack (£2). Mentioned “a cost-effective way of informing GPs would be to send out information pack” for dissemination of information of the recommendations. No reference provided and evidence base is limited. Reorganisation of existing staff resources may release additional staff time but not considered in the HTA as mentioned this was the matter of individual Health Board. HTA highlighted the limitation due to paucity of clinical data, particularly FPRs would have significant effects on the number of follow-up investigation, hence the total cost of the programmes. |
Comment:
Methods of estimation depend on the type of intervention and data available. Despite lack of precise clinical and epidemiological data, budget impact was estimated in the form of additional costs required to implement the HTAs recommendations. There was a trend of increasing sophistication of economic modelling and analysis of resource implications. Main costs drivers identified and assumptions made were justified. References for cost variables were provided or referred to previous section on economic evaluation. Where unit cost was not available, expert opinion and advice from TSG were sorted. However, precision of measurement for certain unit costs were questionable but overall comprehensive and well-referenced.
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