

SCHOOL OF NURSING, MIDWIFERY & COMMUNITY HEALTH

EVALUATION OF THE NON-MEDICAL ENDOSCOPY WORKFORCE DEVELOPMENT PROJECT

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**Evaluation of the
Non-medical Endoscopy Workforce
Development Project**

Final Report

Funded by NHS Education for Scotland

June 2008

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Contents	Page
1.0 Executive Summary	3
2.0 Introduction	8
3.0 Aims of the study	9
4.0 Methods	
4.1 Design	9
4.2 Data collection	9
5.0 Sample	11
6.0 Ethical issues	12
7.0 Results:	
7.1 Audit of capacity & waiting times	13
7.2 Succession planning targets	15
7.3 Module evaluation	15
7.4 Practitioner & supervisor survey	16
7.5 Case site interviews	28
8.0 Summary of findings	30
9.0 Strengths and limitations of the evaluative audit study	32
10.0 Conclusions	32
11.0 Recommendations	33
Appendices	
1 Diagnostic collaborative audit tool for waiting times and capacity	35
2 Endoscopy practitioner questionnaire	36
3 Clinical supervisor questionnaire	40
4 Interview topic guide	43
5 Ethics committee approval	45
6 Participant information for survey	46
7 Interview information and consent letter	47
8 Lecture evaluation form	49
9 Project team & steering group membership	51

1.0 EXECUTIVE SUMMARY

This report presents the findings of an evaluative audit study of the NHS Education for Scotland funded non-medical endoscopy workforce development project, which commenced in 2005. The overarching objectives of the project were to support appropriate educational preparation of nurses (and other non-medical groups) to undertake a range of endoscopy procedures in order to increase service capacity and reduce patient waiting times, with the intention of addressing the increasing demand for endoscopy services within the NHS to meet diagnostic waiting time targets.

1.2 Study objectives

NHS Education for Scotland specified the following objectives for the evaluation study:

1. Generate measurable outcomes in terms of a clear description of the numbers and current role of non-medical endoscopists in Scotland.
2. Analyse the impact of non-medical endoscopists in reducing waiting times.
3. Elicit the views of practitioners and their supervisors on the strengths and limitations of the NES non-medical endoscopy workforce development project, based on the programme standards for training.
4. Determine how successful the NES funded 'Developing the endoscopy workforce in Scotland' programme has been in meeting its original overarching objectives.

1.3 Methodology

Adopting a criterion based evaluation methodology (Stake, 2004), the audit collected and analysed the following data strands:

- Strand 1: Audit of existing data around service capacity and waiting times, to be provided by the 12 NHS Boards who supported staff through the workforce development project,
- Strand 2: Postal survey of all endoscopy practitioners (n=23) and supervisors (n=20) who completed the educational programme between November 2005 and March 2007, regarding their experiences of the development project
- Strand 3: Follow up interviews with a representative sample of endoscopy practitioners and supervisors to explore issues raised by the survey

1.4.0 Findings

The findings in relation to the study objectives are summarised below:

1.4.1 Generate measurable outcomes in terms of a clear description of the numbers and current role of non-medical endoscopists in Scotland.

Based on the data provided by the responding NHS Boards (eight out of a possible twelve boards), between 2004 (prior to the commencement of the development project) and 2007:

- The number of non-medical endoscopists increased from 15 to 32 (113% increase)
- The overall number of staff (medical & non-medical) undertaking endoscopy increased from 115 to 146 (27% increase)
- The number of endoscopy procedures undertaken annually increased from 74,386 to 88,480 (19% increase)

Based on survey responses provided by 17 (75% response rate) non-medical endoscopy practitioners, current job titles and role activities are varied.

1.4.2 Analyse the impact of non-medical endoscopists in reducing waiting times:

Comparative data provided by NHS Boards in relation to waiting times is of varying reliability due to difficulties in obtaining accurate 2004 waiting time figures. However, trends indicate that

- Waiting times have fallen from an average of 24 weeks (range 9-50 weeks) to an average of 10 weeks (range of 5-14 weeks)
- Other initiatives besides the non-medical endoscopy workforce development project may have contributed to this fall e.g. small increase in the number of medical endoscopists, additional endoscopy facilities becoming available, new waiting list management practices.

Qualitative data provided by the questionnaire responses from both non-medical endoscopy practitioners and their clinical supervisors substantiates this evidence, as the opinion of both groups is that the new workforce has aided flexibility, improved capacity and reduced waiting times. Non-medical endoscopists have undoubtedly contributed to the reduction in waiting times, however, this is difficult to quantify accurately.

1.4.3 Elicit the views of practitioners and their supervisors on the strengths and limitations of the NES non-medical endoscopy workforce development project, based on the programme standards for training.

Strengths of the endoscopy workforce development project:

- The educational preparation was rated as excellent or good by 65% (n=11) practitioners and 66% (n=10) supervisors.
- The skills training was rated as excellent or good by 88% (n=15) of practitioners.
- The majority of practitioners (65%, n=11) did not share training lists with another trainee i.e. were individually supervised.

- The majority of training lists had the desirable features of reduced patient numbers (76%, n=13), continuous in-room supervision (94%, n=16) and opportunities for feedback from the supervisor (100%, n=17).
- The effectiveness of clinical supervision were rated as excellent or good by 100% (n=17) of practitioners.
- The majority of practitioners found other staff, particularly other endoscopy staff, to be very helpful or helpful (70-88%, n=12-15).
- The majority of supervisors found other staff, particularly other endoscopy staff, to be very helpful or helpful (41-100%, n=7-15)

Practitioner responses indicated they felt they 'added value' in 3 key areas:

- reducing waiting times (53%, n=9)
- increased flexibility (41%, n=7)
- enhancing patient care (35%, n=6)

Supervisors highlighted the following areas of 'added value'

- increased capacity (47%, n=7)
- flexibility (27%, n=4)
- enhancing care quality (20%, n=3)
- improved team working/workforce retention (20%, n=3)

Ten (59%) practitioners identified specific helpful features, including the following:

- Support from mentor who was a nurse endoscopist
- Support from mentor/supervisor
- Support & encouragement from other colleagues
- Skills training facilities
- Academic support from university

Limitations of the endoscopy workforce development the project:

- 47% (n=8) of practitioners were not provided with the programme standard of a minimum of two training sessions per week under the direct supervision of their supervisors
- A minority of practitioners found other staff, particularly their line manager or administrative staff to be 'not helpful' (18%, n=3)
- A minority of supervisors found other staff, particularly line managers to be 'not helpful' (20%, n=3)
- nine practitioners (53%) reported some degree of difficulty, stemming from one or more of the following factors: Competition with others/cancelled training lists, lack of planning/structure around training, unsupportive attitudes from others

- thirteen supervisors (87%) identified the following challenges: arranging training lists, pressures on own time, unsupportive attitudes of others/lack of planning

1.5 Strengths and limitations of the evaluative audit study

1.5.1 Strengths

This study adopted a range of data collection methods, enabling comparison across information sources, thus strengthening the validity of the findings. A particular strength is the high questionnaire response rate from both practitioners (74%) and clinical supervisors (75%). Although audit data from NHS Boards is incomplete, a representative sample of boards, demonstrating both geographic dispersal and size and complexity of service, is included.

1.5.2 Limitations

Difficulties obtaining audit data from several NHS Board areas, particularly 2004 data for comparison with 2007 figures, meant that statistical analysis of figures around capacity and waiting times was limited. Therefore, the descriptive statistics presented here are reflective of trends, rather than an accurate portrayal of service outcomes.

1.6 Conclusions

The overall purpose of the NHS Education for Scotland endoscopy workforce development project was to increase staff capacity in order to reduce patient waiting times for endoscopy procedures. The evidence provided by this evaluative audit indicates that goal was achieved, albeit other factors such as a small increase in medical staffing levels, additional endoscopy facilities and changes to the management of endoscopy waiting lists will also have contributed to these improvements within Scotland.

Practitioners and their clinical supervisors generally value the quality of the educational preparation, particularly the skills training, and although achieving the standard two training lists per week proved challenging, the effectiveness of the support provided by clinical supervisors was emphasised.

As well as adding capacity to endoscopy services and reducing waiting times, findings demonstrated the 'added value' non-medical endoscopists bring to the service in enhancing the patient care experience. However, the current variations in the job activities of non-medical endoscopists highlights the tension between the technical and caring aspects of the role, with participants expressing concern around the potential to limit the practice of these experienced nurses to a technical function.

1.7 Summary of Recommendations

- A national review and degree of standardisation of role titles and activities of non-medical practitioners involved in endoscopy should be considered, to maximise the potential contribution of non-medical endoscopists to clinical service by utilising the breadth of their expertise and avoid creating narrow 'endoscopy technicians'.
- To minimise the occasional difficulty with lack of managerial support or ineffective planning for the training of non-medical endoscopists, the line manager should plan workload and facilitate access to appropriate training opportunities, prior to NES funding being provided for the trainee non-medical endoscopist.
- There should be organisational recognition of the demands placed on and constraints affecting medical endoscopists who provide supervision, with attempts made to explore ways of providing support to ameliorate these demands.
- Programme providers should seek to increase opportunities for support from a mentor who is a non-medical endoscopist who meets the criteria for supervisors, thereby reducing the demands placed on medical supervisors and providing a professional role model for trainee non-medical endoscopists.
- The theoretical educational programme should be continued with ongoing enhancement in response to evaluation, combined with emphasis on skills training and competence assessment. The apparent success of this educational programme supports the expansion of this developmental opportunity into other areas of scoping work.

2.0 INTRODUCTION

As the modernisation agenda within the NHS takes hold, blurring of role boundaries and an increased patient focus to service delivery has meant that opportunities have emerged for nurses and other professionals to develop new roles to take forward clinical initiatives. One such opportunity has been the introduction of non-medical endoscopists. Following a request from a multidisciplinary team of practitioners working in endoscopy related service areas across the West of Scotland, in 2002, the Nurse Education Development Unit of the Division of Post Registration Nursing & Health at Glasgow Caledonian University introduced the only academically accredited educational and skills based non-medical endoscopy programme in Scotland.

This degree level programme incorporates professional issues in advancing practice, safe practices for clinical procedures, sedation, analgesia and reversal agent practice during therapeutic procedures, and upper and/or lower gastrointestinal endoscopy knowledge and skills. As well as theoretical instruction, students undertake an intensive simulated skills development programme alongside supervised clinical practice. Assessment involves OSCE, a clinical skills log, a portfolio of clinical evidence, academic essays/case study and a pathophysiology exam. On successful completion of the programme, practitioners are involved in endoscopic examination of patients requiring gastrointestinal related screening, diagnostics, and if appropriate, therapeutic interventions with patients who have been referred by a Consultant.

Following the success of initial cohorts and in response to the national waiting times initiative, in 2005 NHS Education for Scotland (NES) was asked by the Scottish Executive Health Department to develop the endoscopy workforce and provided funding for additional student places in order to boost the numbers of non-medical endoscopists and reduce patient waiting times. To date, over 50 students have undertaken this programme, which has now been extended into a model for cystoscopy and colposcopy education and skills training.

As new endoscopy initiatives come forward and the role of non-medical endoscopists extends, it is timely to evaluate the impact of this educational preparation on service delivery. NHS Education for Scotland set out a tender and commissioned a team from Glasgow Caledonian University (not involved in the educational delivery) to evaluate the impact of the non-medical endoscopy development programme, based on pre-project audit data from 2004 compared with 2007 outcomes, as well as the views of those practitioners and clinical supervisors who completed the project between 2005 and 2007. This document reports the findings of this evaluation in relation to the project objectives, before making recommendations for the future of non-medical endoscopy preparation.

3.0 AIMS OF THE STUDY:

NHS Education for Scotland specified the following objectives from the evaluation study:

1. Generate measurable outcomes in terms of a clear description of the numbers and current role of non-medical endoscopists in Scotland.
2. Analyse the impact of non-medical endoscopists in reducing waiting times.
3. Elicit the views of practitioners and their supervisors on the strengths and limitations of the NES non-medical endoscopy workforce development project, based on the programme standards for training.
4. Determine how successful the NES funded 'Developing the endoscopy workforce in Scotland' programme has been in meeting its original overarching objectives.

4.0 METHODS:

4.1 Design:

Given the clearly delineated objectives of the NES tender and the necessary constraints imposed by the short time-frame of the project, an audit approach was deemed to be the most appropriate way to address the project aim. The design adopted is an adaptation of Stake's (2004) criterion based evaluative perspective, using objective measures to assess achievement of pre-determined standards or objectives.

The design employed a combination of analysis of existing service data, questionnaire survey and interview to collect sufficient robust data to answer the questions identified by NES, as detailed in the data collection section below;

4.2 Data collection

The audit was conducted in three strands each explicitly linked to the tender objectives:

4.2.1 Study Strand 1: Audit of existing data

- i) The evaluation team was asked to collaborate with the Diagnostic Collaborative project of the Scottish Government Health Department's Centre for Improvement and Support Delivery Directorate, to examine centrally held audit data (appendix 1) in order to
 - determine whether capacity (in terms of the staff headcount and number of procedures) has increased and waiting times have been reduced as a result of the increase in trained non-medical endoscopists in Scotland
 - confirm the number of qualified non-medical endoscopists in Scotland and compare these figures with those available at the commencement of the project

- to identify succession planning targets in each Health Board area for future requirements for non-medical endoscopists in order to evaluate the sustainability of the programme

(In reality, it emerged that this data was not centrally held and staff from the Diagnostic Collaborative Centre requested the data from each NHS Board area in Scotland for the purposes of this audit.)

- ii) Audit module and programme evaluations and external examiners reports to identify key aspects of the student experience of their educational programme.

4.2.2 Study Strand 2: Postal survey of practitioners and supervisors

- i) Postal survey (appendix 2) utilising a combination of Likert rating scales and open comment questions, of all non-medical endoscopists (n=23) who completed the NES Endoscopy project between November 2005 and March 2007, to describe their current roles by ascertaining;
 - a) Whether the work undertaken by newly trained non-medical endoscopists is primarily new cases, follow ups, or a combination of both in order to demonstrate the range of work these new practitioners are undertaking.
 - b) Non-medical endoscopists ratings of their educational training, provision of mentorship and support, provision of training lists.
 - c) Non-medical endoscopists perceptions of the value they have added to the team, difficulties / obstacles experienced in obtaining training, benefits from utilising newly qualified staff.
- ii) Postal survey (appendix 3), using open response questions, of all clinical supervisors of trainee non-medical endoscopists (n=20) who engaged in the NES Endoscopy project to ascertain their views on;
 - a) the provision of mentorship and support
 - b) provision of training lists
 - c) the value non-medical endoscopists have added to the team
 - d) difficulties / obstacles experienced in providing training to staff
 - e) benefits from utilising newly qualified staff.

Audit and survey data was analysed by using simple descriptive statistics, with content analysis of open response questions.

4.2.3 Strand 3: Case site interviews

To enable a more detailed exploration of issues raised by the survey of practitioners and supervisors and the contextual factors affecting the impact of the NES non-medical endoscopy project, four potential NHS Board case sites were selected on the basis of geographic dispersion and range of positive and negative survey responses. All endoscopy practitioners and supervisors from the selected NHS Boards were invited to attend either focus group discussions (if groups of practitioners

or supervisors could get together at the same time) or individual interviews. Focus groups have the benefit of encouraging group interaction with the potential to stimulate discussion and snowball ideas, thereby encouraging spontaneity and synergy. Conversely, responses may be guarded in a 'public' arena like a focus group. Recognising that endoscopy clinicians and their supervisors are busy people, and that it might be challenging to organise focus group discussions, the evaluation team were prepared to offer interviews on an individual basis.

Questioning was structured around the specific objectives set by the tender document (appendix 4), attempting to clarify strengths and limitations of the non-medical endoscopy development programme as experienced by practitioners and their supervisors. Interviews were tape recorded and content analysis techniques used to collate data around the key question areas set by the NES tender specification.

Based on data gathered via these three strands of evaluation, the evidence generated by this design was synthesised to provide an evaluation of the impact of the endoscopy workforce development project in meeting the intended outcomes of increasing capacity and reducing waiting times, as well as evaluating the experience of endoscopy practitioners in comparison to intended education programme standards.

5.0 Sample:

NHS Board participants: All twelve NHS boards that had staff participate in the workforce development project between 2005 -2007 were asked to provide audit data detailed in section 4.2.1. Five boards were able to provide complete comparative audit data from 2004 and 2007, a further five boards provided partial data, unfortunately not permitting full comparisons across all data sets, and two boards did not provide any audit data despite follow up requests.

Practitioner & supervisor participants: Given the small number of non-medical endoscopy practitioners (n=23) and clinical supervisors (n=20) who had completed in the NES funded project since 2005, all of the project participants were invited to take part in the audit survey. Table 1 below indicates those NHS Boards who had non-medical endoscopy staff developed via the project and identifies the capacity and waiting time audit data provided. In addition, the distribution of survey responses from practitioners and supervisors is shown. Taken together, this illustrates the spread of data made available to the audit/evaluation team, indicating that some level of information was generated by each of the twelve NHS boards who had staff undertake the development programme.

Table 1: Data provided by NHS Boards and project participants (√ = yes, X=no)

ID Code	Capacity & waiting time data	Practitioners & supervisors responded to survey
1	√	√
2	√	√
3	Partial: 2004 staffing levels not available	√
4	No data provided	√
5	Partial: no 2004 waiting time data available	√
6	No data provided	√
7	Partial: no 2004 waiting time data available	√
8	Partial: 2004 staffing levels or number of procedures not available	√
9	Partial: no 2004 waiting time data available	X
10	√	X
11	√	√
12	√	X

6.0 ETHICAL CONSIDERATIONS

Review of the NRES guidelines distinguishing between research, service evaluation and audit and discussion with the responsible NES Programme Director indicated that as the proposed study design intends to audit actual project outcomes against NES objectives and programme standards, rather than conduct research into the area of non-medical endoscopy practice per se, NHS Research Ethics Committee approval and national R&D access was not required. However, to ensure best practice, review of all data collection tools and procedures was undertaken by the School of Nursing, Midwifery & Community Health's Research Ethics Committee (appendix 5). Potential participants were given written information about the audit (appendix 6) and return of the questionnaire was taken as informed consent. Written consent was given by those participants who agreed to be interviewed (appendix 7). Although it was not anticipated that any potentially harmful disclosures would result from this audit, the confidentiality of all participants was protected and data management was conducted in compliance with the Data Protection Act.

7.0 RESULTS:

7.1 Study Strand 1: Audit of existing data

Objective:

- To determine whether capacity (in terms of the staff headcount and number of procedures) has increased and waiting times have been reduced as a result of the increase in trained non-medical endoscopists in Scotland

Several NHS Boards expressed difficulty in providing all of the requested audit data, particularly in relation to the lack of available pre-project (i.e. 2004) data and two Boards did not provide a response to the request for information. In addition, some boards provided estimated data, rather than known accurate figures. Therefore, as the audit data available from NHS Boards is incomplete and in some instances of variable reliability, comprehensive statistical analysis of the comparative data pre- and post- the introduction of the workforce development project was not possible and the following findings should be taken as indicative of trends rather than definitive service outcomes.

Figure 1: Comparison of the number of medical and non-medical endoscopists reported in Scotland in 2004 & 2007 (data available from 8 NHS Boards)

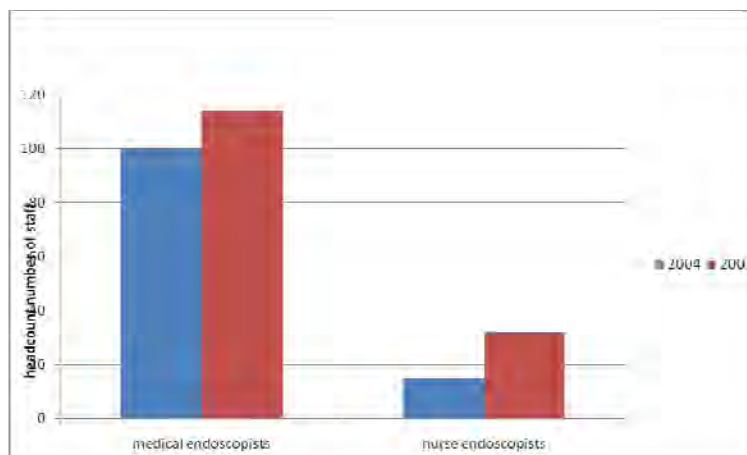
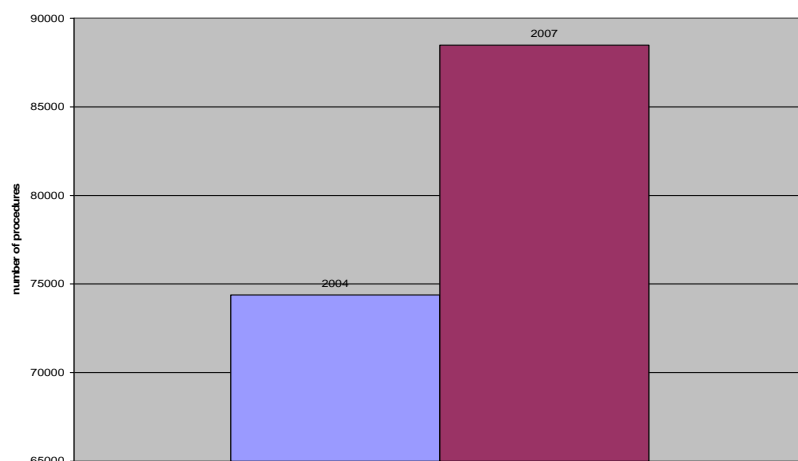


Figure 1 presents results from the 8 NHS Boards who were able to provide data. This demonstrates that the reported number of medical staff in Scotland who perform endoscopy rose from a headcount of 100 to 114 (**14% increase**) and that the number of non-medical staff in Scotland who perform endoscopy rose from a headcount of 15 to 32 (**113% increase**). Overall, the number of reported staff in Scotland able to undertake endoscopy rose from 115 to 146 (**27% increase**). It is not unreasonable to assume that the other NHS boards who were unable to provide comparative data yet who had staff attend the development project would further add to the increase in capacity and that the figures presented here underestimate the accurate picture in Scotland. It is safe therefore to

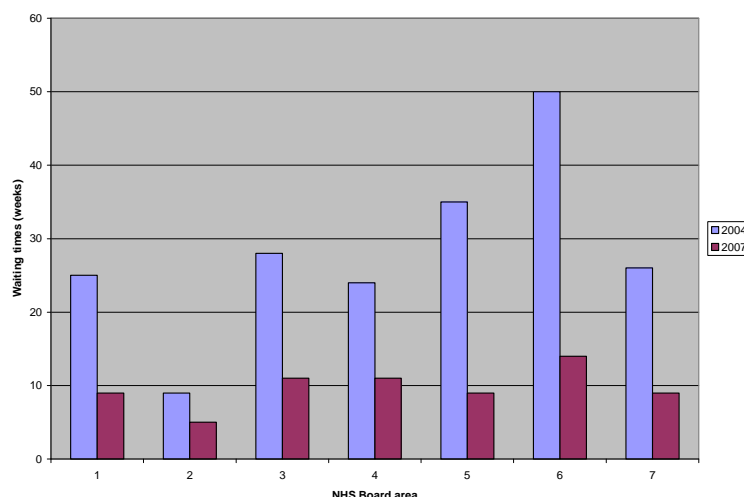
conclude, that whilst medical endoscopist staff numbers, which were not associated with the NES funded project, also rose during the audited timeframe, the NES workforce development project has been successful in its aim to increase staff capacity to undertake endoscopy.

Figure 2: Comparison of number of endoscopy procedures conducted in 2004 and 2007 (data available from 8 NHS Boards)



Based on comparative data provided by eight NHS boards, the number of endoscopy procedures carried out rose from 74,386 in 2004 to 88,480 in 2007, an **increase of almost 19%**. Although comparative data was not available from the other two boards who responded to the audit, adding their 2007 figures to that above results in a total number of endoscopy procedures reported in 2007 of **114,780**.

Figure 3: Comparison of waiting times in 2004 & 2007 (data available from 7 NHS Boards)



Seven NHS Boards provided comparative data for endoscopy waiting times. However, as several boards provided estimated 2004 data, it is not possible to calculate accurate medians for each board, nor to combine figures per board to produce a Scotland wide picture, therefore Figure 3 above

illustrates trends, indicating that average reported waiting times fell from 28 weeks in 2004 (reported range across Scotland 9 – 50 weeks in 2004), to 10 weeks in 2007 (reported range across Scotland 5 – 14 weeks in 2007).

Boards were also asked to report any intervening variables or clinical initiatives that took place between 2004 and 2007 that would affect capacity and waiting time figures but that may not be due directly to the NES endoscopy development programme. Three boards reported additional endoscopy suites being made available, medical workforce growth is reported by three boards, and the appointment of an endoscopy waiting times manager is also noted as improving efficiency in managing endoscopy capacity. Therefore, a range of initiatives, including the NES workforce development project, have improved capacity and reduced waiting times for endoscopy across Scotland.

7.2 Succession planning targets.

Endoscopy service managers in each of the twelve NHS Board areas who had previously engaged with the workforce development project were emailed and asked to provide some indication of possible target numbers over the next 2-5 years for additional endoscopy training within their service. It was emphasised that responding to this request would not commit the service to supporting additional trainees, and that this information was sought only as an indicator of possible demand for continuation of the endoscopy workforce development programme in order to evaluate the longer term sustainability.

Four out of the twelve service managers who were contacted replied, indicating an overall provisional intention to develop nine new non-medical endoscopists over the next 2-5 years, with three existing non-medical endoscopists requiring additional skill development to extend their scoping practice. Two service managers commented that future expansion of services or staff movement may increase the need for training. Given such a low response rate from service managers to this question, conclusions can be tentative at best; however, there is some indication of a small ongoing national requirement for non-medical endoscopy development.

7.3 Module evaluation

Each of the modules which comprise the theoretical elements of the educational programme are subjected to the following evaluation and review mechanisms:

- Written feedback of specialist external speaker lecturer input (appendix 8)
- Verbal evaluation with students of each individual module
- Standard University on-line module evaluation form
- Module leader reports to the Programme Board
- Review of student assessments by appointed external examiners

The module teaching sessions are largely undertaken by clinical experts and evaluation forms show that these are generally well received by the students. Each of the teaching sessions is evaluated individually to ensure relevancy for the cohort. This allows the timetable to be tailored after a key point in the module to address specific learning needs. The students have a period at the end of the module where there is no formally timetabled session, but gaps and areas of learning need are specifically addressed. Academic guidance is provided by the module leader as well as discussion and debate about the learning and its impact on role development and transition.

Joint Advisory Group on Gastrointestinal Endoscopy (JAG) and British Society for Gastroenterology standards are used to prepare the students and the clinical supervisors who work with the students on a weekly basis. These standards pertain specifically to the skills component of the Endoscopy programme. The clinical examiners are key contributors to the content of the programme as they determine both the application of theoretical underpinning and the skills of performing an endoscopy, advising on strengths and weaknesses found at the final clinical examination stage ensuring that appropriate amendments to the timetables are subsequently made for future cohorts of students.

There have been no major issues arising from the assessment strategies, although the focus of the case study was amended in 2006 to ensure the trainee endoscopist's decision making skills and their contribution to the patient's journey could be more clearly articulated.

Audit of the documents which comprise module leader and external assessor reports as part of the University's Quality Assurance and Enhancement processes during the academic year 2005 / 2006; 2006 / 2007 indicate that overall students are satisfied with the content of the various modules and that the teaching team have taken account of student and clinical examiner feedback in the regular updating of the content of the programme. External examiner reports comment favourably on the standard of student work and the constructive nature of marker feedback to students.

7.4.0 Study Strand 2: Postal survey of endoscopy practitioners and supervisors

Postal questionnaires (see appendix 2 & 3) were sent out on 7th January 2008 to 23 endoscopy practitioners who had completed the programme between November 2005 and April 2006 (the last completed cohort) and the 20 clinical supervisors of these students (some supervisors had more than one student over the period). The initial response provided completed questionnaires from 7 practitioners (30% response rate) and 13 supervisors (65% response rate). An email reminder and duplicate questionnaire yielded an improved response rate of 17 (74%) practitioners and 15 (75%) supervisors.

The following section presents descriptive statistics supported by qualitative commentary for each question on the survey. Where questions to practitioners and their clinical supervisors addressed the same issue, presentation of the responses has been integrated to permit comparisons of their relative perspectives.

7.4.1 The work of recently qualified non-medical endoscopists:

Figure 4: Practitioners: Since you completed your programme, do you have an agreed job plan?

Yes	No	Total
13	4	17

In keeping with the expectations incorporated in the NES funding agreement with NHS boards, the majority of practitioners have an agreed job plan. Of the four practitioners who did not have an agreed job plan, one has still to complete their training, one has recently completed and plans for an agreed role are in process, two further practitioners (employed in the same health board) indicated a lack of support from their line manager and lack of structure or planning around their role.

Figure 5: Practitioners: Which type of endoscopy work do you currently undertake?

Upper endoscopy only	Lower endoscopy only	A mixture of both	Total
2	8	7	17

Around 41% (n=7) of the practitioners undertake a mixture of upper and lower endoscopy, reflecting investment in further training, a further 8 practitioners undertake only lower endoscopy, and two practitioners undertake only upper endoscopy, possibly reflecting the increasing demand for lower endoscopy examination, in the context of the current priority to reduce waiting times for bowel cancer screening. In NHS Boards where there is more than one practitioner operating, there is no apparent link between board area and type of endoscopic training supported. NHS Boards do not necessarily restrict type of endoscopy activity, rather local or personal factors may influence activity. The type of scoping is most likely to reflect service demand and will therefore be at the discretion of the individual health boards.

Figure 6: Practitioners: What is your current caseload?

New cases only	Follow-ups only	mixture of both	No entry	Total
0	0	15	2	17

Figure 7: Supervisors: Is the work currently undertaken by recently qualified non-medical endoscopists in your area:

New cases only	Follow-ups only	A mixture of both	TOTAL
0	0	15	15

All those practitioners who completed this question (2 non entries) indicate that they undertake a mixture of both new cases and follow ups. This is supported by their clinical supervisors and reflects typical medical practice, indicating that non-medical endoscopists undertake a similar pattern of new and follow-up cases. It would be interesting to investigate whether this facilitates greater continuity of patient care from initial assessment through to follow-up.

7.4.2 Job title and role activities:

Practitioners: What are the key aspects of your role, e.g. what is your job title, what activities would you be involved in during a typical week?

In the context of ongoing professional debate around the use of different role titles, it is interesting to observe the variation in role title held by practitioners. As this was an open response question, the level of detail offered by practitioners varied. However, table 2 below indicates the frequency of role titles

Table 2: Frequency of role titles of non-medical endoscopists

Role title	Frequency
No specific role title given	5
Nurse specialist (colorectal or GI)	5
Nurse endoscopist	4
Nurse practitioner (GI or endoscopy)	2
Superintendent radiographer/clinical co-ordinator	1

From those responses where a role title was given, on analysis by health board;

- one board favours 'nurse endoscopist' (3 practitioners) yet also has one 'nurse practitioner'
- one board favours 'nurse specialist' (3 practitioners)
- there is insufficient data to comment on consistency of role titles in the other boards

Given the differences in job titles, it is useful to explore comparisons between the roles of nurse endoscopists, nurse specialists and nurse practitioners. Again, acknowledging the varied level of detail provided by practitioners' responses, data indicates:

- All respondents are engaged in direct endoscopy activity.
- 7 out of 17 respondents are involved in vetting patient referrals; this includes all the nurse endoscopists in one health board, one endoscopy nurse practitioner in another board, and three nurse specialists in a different board.

Therefore, evidence indicates that all three practitioner groups may be involved in vetting referrals, although fewer specialist nurses indicated this as a role activity.

- 10 out of 17 respondents are involved in patient clinics; the nurse endoscopists tend to specify bowel screening clinics, the nurse specialists tend to indicate follow up clinics, either nurse led or in parallel with consultants. The nurse practitioners gave insufficient information around clinic involvement.

This, tentatively, indicates that nurse endoscopists may have a more restricted focus on a screening role only, whereas nurse specialists may be more involved in follow up or longer term management clinics.

- 6 out of 17 respondents indicated an involvement in research, audit or protocol development. There was insufficient detail provided to indicate whether this research/audit was initiated by the practitioners themselves, or whether they were providing data required by other persons/groups. However, this finding supports the inclusion of knowledge and skills relevant to audit within the preparation of endoscopy practitioners.

A range of other activities were mentioned, some clinical e.g. blood monitoring, reporting on histology, cancer patient support or nutrition, others administrative e.g. organising lists and writing to GP's.

In summary, prepared non-medical endoscopy practitioners appear to have a variety of job titles, 7/17 are involved in vetting patient referrals, 10/17 are involved in patient clinics and 6/17 are involved in research/audit. Although not an objective of this audit study, given the apparent diversity of role activities, national policy makers or service managers may wish to consider formalising a review of the role profiles or agreed job plans of non-medical endoscopy practitioners, to clarify role titles and related activities in the context of modernising NHS careers.

7.4.3 Educational preparation for the role

Figure 8: Practitioners: How effective was the theoretical element of your educational programme in preparing you for your role?

Excellent	Good	Adequate	Inadequate	No entry	Total
2	9	5	0	1	17

The theoretical element of the programme appears to be largely effective, with 11/17 practitioners rating it good or excellent. One student commented that there should be more anatomy and disease recognition and management; conversely, another commented that the pathophysiology lectures were excellent. One student appeared to experience some difficulties in converting their previous training, indicating their lack of clarity around theoretical input in relation to a student centred conversion module.

Figure 9: Supervisors: From your observations, how adequate was the theoretical element of the non-medical endoscopists' educational programme in preparing them for their role?

Excellent	Good	Adequate	Inadequate	TOTAL
3	7	4	1	15

Again, the majority of supervisors believed the theoretical preparation was effective, with 10 out of 15 rating it good or excellent. The one supervisor who rated the theoretical element inadequate did not provide any explanatory comment. Other comments indicated that the theory components provided a basic grounding, that there was little basic science particularly pathophysiology, and that the practitioners inability to prescribe medication remained an issue.

Overall, the theoretical preparation seems to be relevant, and rated as more than adequate by 21 out of 32 combined practitioner and supervisor respondents. The programme team may wish to further explore clinicians' expectations in relation to the level of pathophysiology which is currently included, although as only one practitioner and one supervisor highlighted this concern, this may be an isolated opinion.

Figure 10: Practitioners: Where did you undertake your skills training?

Glasgow	Dundee	both	Total
8	6	3	17

Figure 11: Practitioners: How effective were the skills training elements of your educational programme in preparing you for your role?

Excellent	Good	Adequate	Inadequate	Total
9	6	2	0	16

The skill training was provided in a combination of simulated and real patient environments, in either Glasgow or Dundee, although three participants experienced both training environments. The majority of practitioners (15/17) report skills training as being good or excellent. There is no significant difference between the ratings for the Glasgow and Dundee skills centres, participant ratings for both centres ranged from adequate to excellent. It is worth commenting that more participants (9/17) rated the skills training as excellent compared to the theoretical education (2/17), possibly reflecting the 'hands on' interests of the students.

7.4.4 Availability of supervised training in clinical practice

Figure 12: Practitioners: During your programme, did you have a minimum of two training lists per week under the direct supervision of your mentor?

Yes	No	Total
9	8	17

The provision of the recommended number of training lists appears to be problematic, with 8/17 practitioners unable to meet the recommended standard of a minimum of two training lists per week under the direct supervision of their mentor. The availability of training lists does not appear to be linked to health board area, as in those boards where there was more than one practitioner to enable comparisons, the availability of directly supervised training lists still varied. That is to say, within the same health board, the supervision of some practitioners met the standard, others did not. This may reflect pressures on individual supervisors, rather than health board wide practices.

Reasons given for the difficulties experienced in accessing supervised training lists relate predominantly to the number of lists running or the number of available scoping rooms i.e. there were not enough lists running in service to meet the recommended standard. Comments indicate that most practitioners tried to work around the availability of training lists with their supervisor, for example, *“My clinical supervisor was very supportive and facilitated my attendance and training at other service lists. I actively sought opportunities on other service lists and did procedures as possible as lists would allow”*. However, one practitioner reports that their employer *“gave little consideration to my training needs and did not provide a training list on site. I had to seek out training in a satellite site”*.

Once again, this finding may have implications for NES funding, which indicated a requirement that boards should facilitate a minimum of two training lists per week.

Figure 13: Practitioners: During your programme, did you share your training lists with another trainee?

Frequently	Occasionally	Never	Total
2	4	11	17

The majority of practitioners did not share training lists with another trainee, with only two reporting this occurred frequently, within the same health board. However, one of those practitioners reports they *“shared with SHO’s but did not feel in any way that training suffered as a result”*. Of the six practitioners who occasionally or frequently shared training lists, two did not meet the recommended standard of a minimum of two directly supervised training lists per week; therefore, for some practitioners, not only do they not have the recommended direct supervision, they also have to share the limited supervision with another trainee.

Figure 14: Practitioners: During your programme, did your training list have the following features?

	YES	NO	TOTAL
A) Reduced patient numbers (4-6 patients)	13	4	17
b) Continuous in-room supervision during the procedure	16	1	17
c) Opportunities for feedback from your mentor	17	0	17

Figure 15: Supervisors: Were you able to provide training lists with the following features?

	YES	NO	Total
a. Reduced patient numbers (4-6 patients)	11	4	15
b. Continuous in-room supervision during the procedure	14	0	14
c. Opportunities to feedback	14	0	14

In general, both practitioners and supervisors reported that training lists had the desirable features of continuous in-room supervision during the procedure and opportunities for feedback from supervisors. Four out of seventeen practitioners did not have reduced patient numbers training lists. This occurred in two separate health boards, however, other practitioners in the same boards did have patient numbers reduced.

It was not an objective of this study; however, it would be interesting to investigate any relationship between the availability of directly supervised training sessions and the length of time practitioners require to become competent.

7.4.5 Support from mentors and other colleagues

7.4.6 Mentorship:

Figure 16: Practitioners: Overall, how effective was the clinical mentorship you received in preparing you for your role?

Excellent	Good	Adequate	Inadequate	Total
13	4	0	0	17

Figure 17: Supervisors: How effectively do you think you were you able to provide clinical mentorship to prepare the non-medical endoscopists for their role?

Excellent	Good	Adequate	Inadequate	Total
3	9	3	0	15

Responses to the question ‘how effective was the clinical mentorship you received’ clearly indicate that practitioners appreciated the role of their clinical mentor, with all respondents indicating mentorship was either good or excellent. Supervisors again generally felt able to provide good or excellent mentorship (12 out of 15), although three supervisors felt they provided ‘adequate’ mentorship.

Comments indicated that supervisors were perceived by practitioners to be very busy, but always made time for the trainees. This is echoed by supervisor comments, for example *“Owing to time pressures it was exceptionally difficult”* or *“There are times when a busy list doesn’t allow”*. One supervisor who reports giving ‘adequate’ mentorship noted that non-medical endoscopists require more time than medical trainees. Interestingly, two supervisors commented that they felt they carried out this aspect of their role better having attended mentorship or trainer training

Overall, mentorship by clinical supervisors appears to be operating effectively, albeit constrained by time pressures, and is appreciated by trainees.

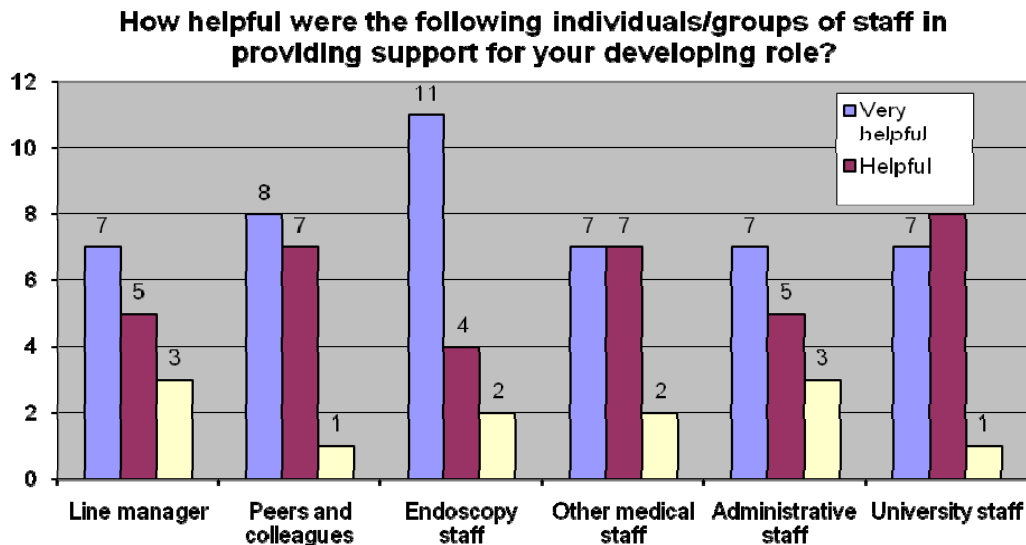
7.4.7 Other staff:

Figure 18: Practitioners: How helpful were the following individuals/groups of staff in providing support for your developing role?

	Very helpful	Helpful	Not helpful	No entry	TOTAL
a) Line manager	7	5	3	2	17
b) Peers and colleagues	8	7	1	1	17
c) Endoscopy staff	11	4	2	0	17
d) Other medical staff	7	7	2	1	17
e) Administrative staff	7	5	3	2	17
f) University staff	7	8	1	1	17

This information is displayed graphically below in Figure 19:

PRACTITIONER RESPONSES



As evidenced in the graph above, the majority of practitioners report that other staff are helpful or very helpful in supporting their role development, with endoscopy staff in particular being found to be 'very helpful'.

It is difficult to discern patterns in practitioner responses to the role of other staff that were perceived as 'not helpful'; the following comments are largely idiosyncratic as the sample size is insufficient to draw any robust conclusions:

- Trainee endoscopists in one health board appear to experience particular challenges:
 - one practitioner scored all other staff groups (except the administrative staff) as 'not helpful', that person has left their post, clearly dissatisfied with their situation.
 - three practitioners reported that their line manager was not helpful;
 - in relation to other endoscopy staff, one respondent commented *"Quite frankly the consultant staff didn't seem to care less if I completed the training or not, as long as their lists were not affected"*
 - one participant commented *"Administration system very unsupportive even when referrals were screened as OK for training lists"*.
 - A more general comment being the *"lack of clear structure when not attending training lists"*.
- One practitioner (from a different health board) felt peers and colleagues were not always helpful, commenting *"local colleagues sometimes obstructive"*.
- One participant reports other endoscopy and medical staff were not helpful, saying *"frustrated at times. Felt decisions should have been made at beginning of course to ensure appropriate training in place"*.

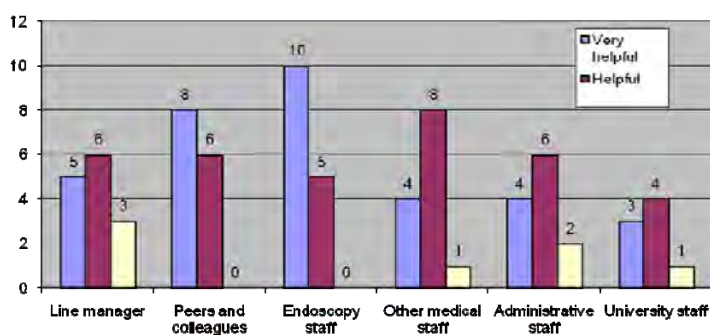
- More positive comments included “*I didn't liaise with line manager but lead consultant was excellent*” and “*Meeting with university staff helpful in determining and addressing my personal requirements for colonoscopy training.*”

A similar pattern of responses was provided by the clinical supervisors, as demonstrated in figures 20 and 21 below:

Figure 20: Supervisors: How helpful were the following individuals/groups of staff in providing support for the developing role of the non-medical endoscopist?

	Very helpful	Helpful	Not helpful	TOTAL
a) Line manager	5	6	3	14
b) Peers and colleagues	8	6	0	14
c) Endoscopy staff	10	5	0	15
d) Other medical staff	4	8	1	13
e) Administrative staff	4	6	2	12
f) University staff	3	4	1	8

Figure 21: SUPERVISOR RESPONSES: How helpful were the following individuals/groups of staff in providing support for the developing role of the non-medical endoscopist?



Few supervisors provided comments in relation to their perceptions of the level of support from other staff groups, those given predominantly expressed negative views, for example,

“No local support of any significant amount”

“Varied from being supportive to outright opposition”

“Surgeons unhelpful”

Based on the responses of both practitioners and supervisors, the role of other staff groups in supporting endoscopy role development was considered worthy of further exploration via in depth interviews in stage 3 of the project.

7.4.8 Value added to the service by non-medical endoscopists

Practitioner responses indicated they felt they 'added value' in 3 key areas (appendix 9):

- reducing waiting times (9 out of 17)
- increased flexibility (7 out of 17)
- enhancing patient care (6 out of 17)

Nine out of seventeen respondents highlighted their impact in reducing waiting times, seven commented on the increased flexibility they added, being able to cover cancelled sessions or step in to cover staff absence, a further six comments emphasised the benefits in enhancing patient care, for example, by improving communication and incorporating health promotion into their patient contacts. In addition, two practitioners highlighted continuity in service provision (in terms of long term presence in comparison to registrars, rather than continuity for individual patient care). Whilst one respondent mentioned improved job satisfaction and better prospects, two commented that they were unclear of any 'added benefit', reporting that the lack of structure around their role made them feel like a technician who stepped in to fill for others. This area would benefit from further in-depth exploration in interviews.

Similarly, supervisors highlighted the following areas of 'added value'

- increased capacity (47%, n=7)
- flexibility (27%, n=4)
- enhancing care quality (20%, n=3)
- improved team working/workforce retention (20%, n=3)

Interestingly, supervisors emphasised the increased capacity and flexibility of non-medical endoscopists, rather than the reduction in waiting times per se (only 2 out of 15). Improved team working was also valued, being highlighted by three supervisors. Individual supervisors commented that the non-medical endoscopists were '*very valuable*', with '*excellent skills*' and '*consultant high standard*'.

7.4.9 Difficulties and obstacles in preparing for the role

Two practitioners commented that they experienced no difficulties whatsoever in preparing for their role, reporting that colleagues and University staff were all supportive and encouraging. Conversely, nine practitioners (53%) reported some degree of difficulty, stemming from the following factors:

- Competition with others/cancelled training lists (4 out of 9)
- Lack of planning/structure around training (3 out of 9)
- Unsupportive attitudes from others (2 out of 9)

In addition, individual practitioners suggested that they would have found it helpful in building their confidence if they had a consistent supervisor, rather than 2-3 different ones, and that having study time would have been useful.

Thirteen out of fifteen supervisors identified a similar range of challenges, as indicated below;

- Arranging training lists (6 out of 13)
- Pressures on own time (3 out of 13)
- Unsupportive attitudes of others/lack of planning (3 out of 13)

Difficulties in arranging training lists appeared to relate to attempting to meet the needs of competing trainees but more specifically in the context of maintaining service targets, as one supervisor comments *“it is not possible to reduce endoscopy workload for training purposes as a result of government waiting time targets”*. Pressure of finding time to train effectively, particularly within the consultant job plan, were also mentioned.

7.4.10 Helpful factors in preparing for the role

Ten practitioners identified specific helpful features, outlined below:

- Support from mentor who was a non-medical endoscopist (3 out of 10)
- Support from mentor/supervisor (2 out of ten)
- Support & encouragement from other colleagues (4 out of 10)
- Skills training facilities (2 out of 10)
- Academic support from university (2 out of 10)

Clearly, the support of others, particularly the clinical mentor/supervisor was pivotal and is appreciated by practitioners in helping to prepare them for their new role.

Correspondingly, the six clinical supervisors who commented highlighted the benefits of the positive attitudes of the trainee endoscopists, for example, *“Flexible attitude of trainees themselves”* and *“Initiative and willingness to take on the responsibility of new charges”*. Additional helpful aspects mentioned by individual supervisors included the co-operation of colleagues, attending the trainer course and the GI mentor scope simulator.

7.5.0 Strand 3: Case Sites Interviews

From the analysis of the strand 2 survey data, it was possible to identify two clinical areas where support and development of non-medical endoscopists appeared most effective and two clinical areas where support seemed less effective. All practitioners and clinical supervisors from these four clinical areas were invited to participate in focus group discussions or individual interviews, with the purpose of adding explanatory power and depth of understanding to the information gathered via the survey. Only two practitioners and two supervisors responded to this invitation, all from the same NHS board

area, which was identified via the survey as providing effective support. Therefore, the additional information provided by strand 3 interviews is limited to one specific context, noted to be supportive of non-medical endoscopist development.

The opportunity for face-to-face discussion largely substantiated the analysis of factors supporting non-medical endoscopy preparation. Whilst the limited sample size constrains the credibility of this aspect of the audit, the following themes are offered to illustrate the views of practitioners and supervisors.

7.5.1 Challenges in providing two training lists per week

The practitioner's perspective:

"I had two training lists per week which were the consultant's lists...the capacity was not reduced".

"There was an SHO being trained whilst I was there and we alternated, I don't feel that my training in any way suffered...I think it probably taught me the real world if you like rather than reduced lists which might have given me false hope for what the service would be like".

The supervisors view:

"I could only ever provide one training list per week as I had my regular lists – that one list worked out very well...management agreed that we could access training lists in other areas... ..students have had two training lists per week but it was impossible to get those two lists with me".

"I would hope we were fair [in providing lists] but I think there was a bit of competition between who would get the lists [non-medical vs. medical]".

Addressing these challenges were helpfully summarised by one practitioner with the following comment

"There needs to be a bit more focus on negotiating with the team who are taking that student on within the hospital environment..... This should be negotiated and set in stone before the student commences the course"

7.5.2 Role other staff played in ensuring your learning experience was effective

The following quotations from practitioners succinctly demonstrate the importance of managerial support in particular,

"I've had a very good positive experience"

"This unit known as a training centre so staff are in-tune with students coming to learn, whether they are internal or external".

".. from very early on my nurse manager was very aware and very supportive on my needs".

"... from their point of view, the sooner I am trained the more beneficial it will be for them".

"I think it is very important that the right people are involved and fully aware of the support that's needed for the students".

Conversely, the common tension with many role transitions was also experienced, for example,

“peers and colleagues were largely not supportive...other nurse specialists were not especially supportive...when I came along to fill this role it was not particularly well received by other specialist colleagues”.

7.5.3 Benefits to the service:

Identified by supervisors:

“helps the waiting lists and a lot more endoscopy lists can be covered particularly when medical endoscopists were on holiday their list could be kept running”.

Identified by practitioners:

“nurse endoscopists are very valuable because we have more flexibility in taking on endoscopy sessions...our medical staff may have very fixed theatre sessions where we [nurse endoscopists] have more flexibility in our ability to travel between hospitals and pick up sessions that may have lain empty”.

“There has been a very obvious impact on waiting times.. they [waiting times] have gone from 23 weeks one year ago and are now nine weeks...the capacity has been increased quite considerably”.

“Nursing, I think is what we bring to patients...that is reflected in the way we interact with patients...the whole patient experience is different when being care for by a nurse rather than a doctor...I’ve had encouraging feedback from patients, they say, I’m glad it was a nurse that was doing it”.

7.5.4 In summary, from supervisors:

“if you had asked 20 years ago, there would have been a lot more resistance...there is acceptance now that this is no longer terribly new...I think the main thing that has led to its acceptance had been the pioneers of nurse-endoscopy ...they have been enthusiastic, competent and built a good reputation...if the first nurses accepted to this (programme)had had problems then that might have tempered the enthusiasm, but because the ground breakers made a good job of it they are now a credible group”.

Looking to the future

“I think if you look at the colonoscopy aspect in isolation, then all is fine, but I emphasise to these trainees that the job they should be looking for should be wider than that – it’s a bit like checking baggage in an airport, if you do that all day every day you switch off, you miss things, you get careless, you’ll get bored....there should be an understanding from the employers at the outset that they are not training someone who is going to do endoscopy procedures day in day out, there’s got to be an understanding that that will be only part of their remit...other aspects of the job such as care of the patients who have bowel cancer and the management role gives a variety and career development as well as looking at the wider aspects...my main issue is that they don’t just do endoscopy an nothing else”.

8.0 SUMMARY OF FINDINGS

The following section provides a concise summary of findings in relation to the project objectives.

8.1 Generate measurable outcomes in terms of a clear description of the numbers and current role of non-medical endoscopists in Scotland.

Based on the data provided by the responding NHS Boards (approx eight out of a possible twelve boards), between 2004 and 2007:

- The number of non-medical endoscopists increased from 15 to 32 (113% increase)
- The overall number of staff (medical & non-medical) undertaking endoscopy increased from 115 to 146 (27% increase)
- The number of endoscopy procedures undertaken annually increased from 74,386 to 88,480 (19% increase)

Based on survey responses provided by 17 (75% response rate) non-medical endoscopy practitioners

- Current job titles and role activities of non-medical endoscopists are varied, encompassing;
 - A mixture of upper and lower endoscopy work, both new cases and follow up
 - Vetting patient referrals (41%, n=7)
 - Involvement in patient clinics (59%, n=10)
 - Involvement in audit or research (35%, n=6)
 - Other clinical activities e.g. blood monitoring, reporting histology, cancer patient support, nutrition
 - Other administrative activities e.g. organising patient lists and writing to GP's.

8.2 Analyse the impact of non-medical endoscopists in reducing waiting times:

Comparative data provided by NHS Boards in relation to waiting times is largely unreliable due to difficulties in obtaining accurate 2004 waiting time figures. However, trends indicate that

- Waiting times have fallen from an average of 24 weeks (range 9-50 weeks) to an average of 10 weeks (range of 5-14 weeks)
- Other initiatives besides the non-medical endoscopy workforce development project may have contributed to this fall e.g. small increase in the number of medical endoscopists, additional endoscopy facilities becoming available, new waiting list management practices.

Qualitative data provided by the questionnaire responses from both non-medical endoscopy practitioners and their clinical supervisors substantiates this evidence, as the opinion of both groups is that the new workforce has aided flexibility, improved capacity and reduced waiting times. Non-medical endoscopists have undoubtedly contributed to the reduction in waiting times, however, this is difficult to quantify.

8.3 Elicit the views of practitioners and their supervisors on the strengths and limitations of the NES non-medical endoscopy workforce development project, based on the programme standards for training.

8.3.1 Strengths of the project:

- The educational preparation was rated as excellent or good by 65% (n=11) practitioners and 66% (n=10) supervisors
- The skills training was rated as excellent or good by 88% (n=15) of practitioners
- The majority of practitioners (65%, n=11) did not share training lists with another trainee
- The majority of training lists had the desirable features of reduced patient numbers (76%, n=13), continuous in-room supervision (94%, n=16) and opportunities for feedback from the supervisor (100%, n=17)
- The effectiveness of clinical supervision were rated as excellent or good by 100% (n=17) of practitioners
- The majority of practitioners found other staff, particularly other endoscopy staff, to be very helpful or helpful (70-88%, n=12-15)
- The majority of supervisors found other staff, particularly other endoscopy staff, to be very helpful or helpful (41-100%, n=7-15)

Practitioner responses indicated they felt they 'added value' in 3 key areas:

- reducing waiting times (53%, n=9)
- increased flexibility (41%, n=7)
- enhancing patient care (35%, n=6)

Supervisors highlighted the following areas of 'added value'

- increased capacity (47%, n=7)
- flexibility (27%, n=4)
- enhancing care quality (20%, n=3)
- improved team working/workforce retention (20%, n=3)

Ten (59%) practitioners identified specific helpful features, including the following:

- Support from mentor who was a nurse endoscopist
- Support from mentor/supervisor
- Support & encouragement from other colleagues
- Skills training facilities
- Academic support from university

8.3.2 Limitations of the project:

- 47% (n=8) of practitioners did not experience the programme standard of a minimum of two training sessions per week under the direct supervision of their supervisors

- A minority of practitioners found other staff, particularly their line manager or administrative staff to be 'not helpful' (18%, n=3)
- A minority of supervisors found other staff, particularly line managers to be 'not helpful' (20%, n=3)
- nine practitioners (53%) reported some degree of difficulty, stemming from one or more of the following factors: Competition with others/cancelled training lists, lack of planning/structure around training, unsupportive attitudes from others
- thirteen supervisors (87%) identified the following challenges: arranging training lists, pressures on own time, unsupportive attitudes of others/lack of planning

9.0 Strengths and limitations of the evaluative audit study

9.1 Strengths

This study adopted a range of data collection methods, enabling comparison across information sources, thus strengthening the validity of the findings. A particular strength is the high questionnaire response rate from both practitioners (74%) and clinical supervisors (75%). Although audit data from NHS Boards is incomplete, arguably a representative sample of boards, demonstrating both geographic dispersal and size and complexity of service, was included.

9.2 Limitations

Difficulties obtaining audit data from several NHS Board areas, particularly 2004 data for comparison with 2007 figures meant that statistical analysis of figures around capacity and waiting times was limited. The descriptive statistics presented here therefore are reflective of trends, rather than an accurate portrayal of service outcomes.

10.0 CONCLUSIONS

Aim of evaluative audit:

To determine how successful the NES funded 'Developing the endoscopy workforce in Scotland' programme has been in meeting its original overarching objectives.

The overall purpose of the NHS Education for Scotland endoscopy workforce development project was to increase staff capacity in order to reduce patient waiting times for endoscopy procedures. The evidence provided by this evaluative audit indicates that goal was achieved, albeit other factors such as small increases in medical staffing levels, additional endoscopy facilities and changes to the management of endoscopy waiting lists will also have contributed to these improvements within Scotland.

Practitioners and their clinical supervisors generally valued the quality of the educational preparation, particularly the skills training, and although providing the standard two training lists per week proved challenging, the effectiveness of the support provided by clinical supervisors was emphasised.

As well as adding capacity to endoscopy services and reducing waiting times, findings demonstrated the 'added value' non-medical endoscopists bring to the service by enhancing the patient care experience. However, the variations in the job activities of non-medical endoscopists highlights the tension between the technical and caring aspects of the role, with participants expressing concern around the potential to limit the practice of these experienced non-medical practitioners to a technical function.

11.0 RECOMMENDATIONS:

The following recommendations can be drawn from the findings of the three strands of this evaluation project.

- The job titles and role activities of non-medical endoscopists appear to vary across, and to a lesser extent within, NHS Boards. Participants in this evaluation expressed some concern that there was a danger that skilled nurses may be 'pigeon holed' into a narrow endoscopy technician function. To address these concerns and the current variability in role, a national review and degree of standardisation of role titles and activities of non-medical practitioners involved in endoscopy should be considered, within the scope of the NHS Career framework, in order to maximise the potential contribution of non-medical endoscopists to clinical service by utilising the breadth of their expertise.
- In a limited number of NHS Board areas, practitioners and supervisors reported a lack of managerial support or ineffective planning for the training of non-medical endoscopists. To minimise this difficulty, serious commitment should be made by the line manager to plan workload and facilitate access to appropriate training opportunities, prior to NES funding being provided for the trainee non-medical endoscopist.
- Although it is difficult to identify a specific recommendation to address the following aspect of the findings, there should be organisational recognition of the demands placed on and constraints affecting medical endoscopists who provide supervision, with attempts made to explore ways of providing support to ameliorate these demands.
- The role of the clinical supervisor is crucial in many ways and must remain central to the educational preparation of practitioners. As more non-medical practitioners gain expertise in their endoscopy role, programme providers should seek to increase opportunities for support from a mentor who is a non-medical endoscopist who meets the criteria for supervisors,

thereby reducing the demands placed on medical supervisors and providing a professional role model for trainee non-medical endoscopists.

- Overall, evaluation of the content, delivery and assessment of the educational programme was positive. This robust theoretical programme should be continued, combined with emphasis on skills training and competence assessment. The apparent success of this educational programme supports the expansion of this developmental opportunity into other areas of scoping work.

Appendix 1: Diagnostics collaborative audit tool for waiting times & capacity

PLEASE INSERT BOARD NAME HERE

	2004		2007	
	Headcount	WTE	Headcount	WTE
Number of medical endoscopy practitioners (headcount and WTE ¹) as at end September				
Number of non-medical endoscopy practitioners (headcount and WTE ¹) as at end September				
Number of endoscopy procedures carried out in calendar year				

¹ WTE - Whole Time Equivalent

Please provide the maximum prospective (or actual waiting time if not available) in calendar year (please state P or A) for routine endoscopy procedures:

Please add any qualifying information i.e. any events or initiatives that took place between 2004 and 2007 that may have affected waiting times, headcounts and/or the number of procedures carried out.

	2004	2007
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

Appendix 2: Endoscopy practitioner questionnaire
Evaluation of the NES funded Non medical Endoscopy Project
Practitioner audit



The aim of this audit is to gain an accurate description of the work you are currently undertaking as a non-medical endoscopist and to evaluate your experiences of support during your training programme. Please insert a tick inside the box which reflects your experiences and add in any additional comments you would like to make.

Your responses will be treated in strict confidence.

Type of work you currently undertake:

1. Since you completed your programme, do you have an agreed job plan?

Yes

No

2. Which type of endoscopy work do you currently undertake?

upper endoscopy

lower endoscopy

a mixture of both

Comments What is your current caseload?

new cases

follow-ups

a mixture of both

Comments: _____

3. Since you completed your programme, what are the key aspects of your role? (e.g. what is your job title? what activities would you be involved in during a typical week?)

Comments: _____

Your educational preparation:

4. How effective was the theoretical element of your educational programme in preparing you for your role?

excellent

good

adequate

inadequate

Comments: _____

5. How effective was the skills training elements of your educational programme in preparing you for your role?

excellent

good

adequate

inadequate

Comments

6. Where did you undertake your skills training?

Glasgow

Dundee

7. During your programme, did you have a minimum of two training lists per week under the direct supervision of your mentor?

Yes

No

Comments: _____

Comments: _____

12. Please tell us about the value you think you have added to the endoscopy service or benefits from using non-medical endoscopists.

Comments: _____

13. Please tell us about any difficulties or obstacles you faced in obtaining adequate training to prepare you for your role.

Comments: _____

14. Please tell us about anything that you found particularly helpful in preparing you for your role.

Comments: _____

Please feel free to add any other comments below.

Appendix 3: Clinical supervisor questionnaire
Evaluation of the NES funded Non medical Endoscopy Project
Clinical supervisor audit



The aim of this audit is to gain your views of the service contribution of the non-medical endoscopists you have helped prepare and to evaluate the relative ease or difficulty of providing support during their educational programme. Please insert a tick inside the box which reflects your experiences and add in any additional comments you would like to make.

Your responses will be treated in strict confidence.

1. Is the work currently undertaken by recently qualified non-medical endoscopists in your area:

new cases

follow-ups

a mixture of both

Comments: _____

2. From your observations, how adequate was the theoretical element of the non-medical endoscopists' educational programme in preparing them for their role?

excellent

good

adequate

inadequate

Comments: _____

3. Were you able to provide training lists with the following features:

	Yes	No
Reduced patient numbers (4-6 patients)	<input type="checkbox"/>	<input type="checkbox"/>
Continuous in-room supervision during the procedure	<input type="checkbox"/>	<input type="checkbox"/>
Opportunities to feedback	<input type="checkbox"/>	<input type="checkbox"/>

4. How effectively do you think you were you able to provide clinical mentorship to prepare the non-medical endoscopists for their role?

excellent	good	adequate	inadequate
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

5. How helpful were the following individuals/groups of staff in providing support for the developing role of the non-medical endoscopist?

	very helpful	helpful	not helpful
Line manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peers and colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endoscopy staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other medical staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administrative staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
University staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

- 6. Please tell us about the value you think non-medical endoscopists have added to the endoscopy service or other benefits from using non-medical endoscopists.

Comments: _____

- 7. Please tell us about any difficulties or obstacles you faced in providing support for the training to prepare non-medical endoscopists for their role.

Comments: _____

- 8. Please tell us about anything that you found particularly helpful in preparing non-medical endoscopists for their role.

Comments: _____

Please feel free to add any other comments below.

Appendix 4: Interview topic guide

Glasgow Caledonian University Evaluation of the Non-medical Endoscopy Project
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Interview Questioning Route

Activity:	Rationale:	Question / Activity:	Pauses / Probes:	Timing:
Open the interview	Set the tone and frame of reference	<ul style="list-style-type: none"> Introduce self, Introduce topic and outline procedure. Thanks for taking time to complete the initial questionnaire and participate in interview. 	<ul style="list-style-type: none"> Set timeframe (45 min – 1 hour) Agree to tape recording (rationale) 	1 minute
Ground rules	Create an appropriate environment that encourages participant to talk freely in a mutually relaxed and trusting environment.	<ul style="list-style-type: none"> You have something valuable to say. There are no right or wrong answers. Feel free to give specific examples. Allow me to seek clarification and prompt you. I will respect your viewpoint. Everything will remain confidential to this context. Trust that your contribution will be anonymised. 		1 minute
Opening question to initiate discussion	Ice breaker	<ul style="list-style-type: none"> Tell me about yourself, your previous background, where you work now, in what capacity? 	<ul style="list-style-type: none"> Identity not revealed – tape not running 	2 minutes

Introductory question to topic	Initiate thinking about the participant connection with the topic.	<ul style="list-style-type: none"> What brought you to undertake the endoscopy programme and what were your objectives? 	<ul style="list-style-type: none"> tape running 	1 minute
Transition question	Move the participant towards discussion related to their individual experience of the project.	<ul style="list-style-type: none"> <i>Did the questionnaire allow you to express everything you wanted to say about the education programme?</i> 	<ul style="list-style-type: none"> On – balance? Strengths & Weaknesses? Gaps. 	1 minute
Key questions	Drive the study	<ol style="list-style-type: none"> <i>One of the expectations was that students would be provided with 2 training lists per week, what was your individual experience?</i> 	<ul style="list-style-type: none"> If 2 lists were available, what made this possible? If 2 lists were not available, what were the 	34-49 minutes

		<p>2. <i>Tell me about the role of other staff played in ensuring your learning experience was effective?</i></p> <p>3. <i>Explain to me the value to the service by introducing non-medical endoscopists?</i></p> <p>4. <i>Do you see any barriers which hinder the introduction of non-medical endoscopists?</i></p> <p>5. <i>Are there any aspects of your work where you feel you have not been educationally prepared?</i></p>	<p>difficulties?</p> <ul style="list-style-type: none"> • Line manager • Peers and colleagues • Endoscopy staff • Other medical staff • Administrative staff • University staff • Strengths/weakness <ul style="list-style-type: none"> • Throughput/Waiting times • Quality of care • Patient focus <ul style="list-style-type: none"> • Re-iterate anonymity 	
Summary	<p>Summary from interviewer / Verification</p> <p>Allow participant to reflect on previous comments</p>	<ul style="list-style-type: none"> • Interviewer gives a summary of the conversation so far. • How well does that capture what was said? 		3 minutes
All things considered?	Bring closure to the study and	<ul style="list-style-type: none"> • Is there anything that you came here to say that you have not had the opportunity to say yet? 	<ul style="list-style-type: none"> • <i>Thanks for participation.</i> • <i>What happens to the report?</i> 	2 minutes

Appendix 5: Ethics Committee approval

NES Participant information for survey

Appendix 7: Interview information and consent letter

Focus group/interview participant information

Title of Study: Evaluation audit of the nurse endoscopist development programme

Project lead: Dr Kay Currie

Sponsors: NHS Education for Scotland & Glasgow Caledonian University

Invitation

You are being invited to take part in a discussion to evaluate the impact of the above programme. This information sheet tells you the purpose of this study and what will happen to you if you agree to take part.

Please ask us if there is anything that is not clear, or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?

This study has been funded by NHS Education for Scotland in order to audit the impact of the development programme for nurse endoscopists in Scotland.

Why have I been chosen?

You have been chosen to participate in this study as you were either a NES funded student or a clinical supervisor on the nurse endoscopy development programme at Glasgow Caledonian University.

Do I have to take part?

No, it is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and be asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect your employment status or relationship with Glasgow Caledonian University.

What will happen to me if I take part?

You will be invited to join a small group of either past endoscopy students or clinical supervisors to discuss aspects of your experience with an experienced facilitator, specifically around the mechanisms intended to support education and skills development for nurse endoscopists. If there are too few other graduates or clinical supervisors in your health board area, you may be asked to participate in an individual interview.

What will I have to do?

Be willing to share your views in an open and honest manner, understanding that all comments will be treated in confidence. The discussion is likely to last around 30 minutes to one hour and will be tape recorded to aid analysis.

What are the possible disadvantages and risks of taking part?

Participation in discussion may take around one hour of your time, arranged at a mutually convenient time and location. Otherwise, no risks or disadvantages are envisaged.

What are the possible benefits of taking part?

Your experience, and that of fellow students or clinical supervisors, will be used to audit the impact of the nurse endoscopy development programme. There may be no direct benefit to you personally, however, the results will be used to further enhance the programme.

Will my taking part in the study be kept confidential?

Yes, although other people will be present if a focus group discussion is feasible, ground rules will be set to establish that the content of all discussions will be treated in confidence. Your manager may know that you are participating in the study, but will not be informed of anything that you say. Recordings will be destroyed at the end of the study and your identity or workplace will not be disclosed in the final report.

Who is organising and funding the research?

This study is being conducted by Glasgow Caledonian University, on behalf of NHS Education for Scotland, who are funding the audit.

Who has reviewed the study?

This study has been reviewed by the ethics committee of the School of Nursing, Midwifery & Community Health at Glasgow Caledonian University.

What will happen if I agree to take part?

If you decide to take part you need to return the reply slip found at the end of this introductory letter in the enclosed stamped addressed envelop, by **Monday 18th February 2008**.

You will then be contacted by a member of the project team (Mr David Cochrane) to arrange a time and place for the discussion.

Further information and contact details

If you would like to discuss your potential involvement, or would like further information about any other aspect of this study, please contact

Dr Kay Currie Phone 0141 331 3472 email k.currie@gcal.ac.uk

I would/would not like to be involved in a focus group discussion or interview (please delete)

Name (please print) _____

Day time phone number _____

Appendix 8. Lecture evaluation form

Endoscopy Knowledge and Skills

Name of Lecturer : _____

Lecture Title : _____

With each of the comments below, please tick the box that corresponds to your experience

	Totally Agree	Mostly Agree	Mostly Disagree	Totally Disagree
The lecturer captured interest at the beginning of the lecture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The aims and objectives of the lecture were clearly stated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecture was well structured with a clear introduction, development of ideas and conclusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecture was well delivered and interesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The students were encouraged to participate actively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer spoke clearly and audibly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer used good quality aids, e.g. overheads, powerpoint, handouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer used a variety of delivery methods, e.g. input, discussion, group work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecture went at the right pace for me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer explained the subject matter clearly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer periodically reviewed what we had covered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer checked that students had understood the subject of the lecture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The lecturer gave students the opportunity to ask	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

questions

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The lecturer had a good relationship with the students e.g. encouraged engagement

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The lecturer was enthusiastic about the subject of the lesson

--	--	--	--

The lecturer was approachable

--	--	--	--

The lecturer made it clear what work had to be done after the lesson e.g. directed learning

--	--	--	--

Further comments

Appendix 9 Project team & Steering Group**Project team:**

Dr Kay Currie,
School of Nursing, Midwifery & Community Health,
Glasgow Caledonian University
Email k.currie@gcal.ac.uk

David Cochrane
School of Nursing, Midwifery & Community Health,
Glasgow Caledonian University

Steering Group:

Dorothy Armstrong,
NHS Education for Scotland

Dr Grace Lindsay,
School of Nursing, Midwifery & Community Health,
Glasgow Caledonian University

Marty Wright,
School of Nursing, Midwifery & Community Health,
Glasgow Caledonian University

Karen Linton,
GI Nurse Practitioner, Crosshouse Hospital, NHS Ayrshire & Arran

Shelia Mair,
Upper Gastrointestinal Nurse Specialist, NHS Lanarkshire

