



# **National Steering Group for Specialist Children's Services**

## **General Surgery of Childhood Report**

## **Preface**

This review was commissioned by the National Steering Group for Specialist Children's services in Scotland, on the basis of concern over the sustainability of general surgical services for children across Scotland. This is not an unique problem to Scotland as across the United Kingdom, there has been a progressive withdrawal of adult general surgeons from the surgical care of children over the last 15 years and the matter is now approaching a critical stage when the loss of the current older generation of surgeons through retiral will be replaced by a dissimilar successor who may have no preparatory training in children's surgery.

The implications of failure to provide a local service could be enormous. For every child who may require a general surgical operation, there will be three or four who will simply require assessment with no surgical intervention. If this service is not available in each locality, then not only will specialist centres be overwhelmed but transport providers would face an increased demand on their services - not to mention the inconvenience and distress to families, children and young people from potential delays in receiving treatment.

Whilst the problem has been well defined by the Medical Royal Colleges, training institutions and Specialty Associations, there appears to have been no ownership in terms of remedial actions and this review is designed therefore to consider the Scottish situation. It should be said that the nature of the problem differs across the different geographical zones of Scotland and there is no one single solution that is pan –Scotland; but this report offers several options and it will be for each strategic health care organisation to choose the solution that will best fit their problem.

The review team feels that this situation is urgent and problems already exist but will become significantly worse within the next five years.

The principal drivers behind this review therefore are the quality and sustainability of the existing service. There is no evidence base available in Scotland to suggest that in terms of quality of outcome, that the existing model of care is unsatisfactory. If new proposals can fortify the service, however, they need consideration but the emphasis in this report is given to service consideration with the implications for training, education etc. being secondary. This report attempts to define the care required as its primary concern and the facilities, manpower and other resources needed to support this plan, as subsidiary.

Finally, approximately 40,000 children are treated each year by surgical services in Scotland. 33,000 are treated locally by surgical disciplines other than general or paediatric surgery. The general surgery of childhood should therefore be another service that is available to children in their own locality with the provision that, in terms of standards of care, local care is safe and sufficient.

## CONTENTS

1. **Introduction**
2. **Background**
3. **Review Process**
4. **Information and Statistics**
5. **Hospital Visits**
6. **Allied Specialties/Interfaces/Synergies**
7. **Models of Care**
8. **Elective v Emergency Care**
9. **Care Pathways and Condition Specific Care**
10. **Special Situations**
11. **Implications for Specialist Centres**
12. **International Benchmarking**
13. **Timescale of Change**
14. **Workforce Considerations**
15. **Financial Aspects**
16. **Findings and Conclusions**
17. **Consultation**
18. **Recommendations**
19. **Bibliography**
20. **Executive Summary**

**Appendix A** Working Party Membership

**Appendix B** Minutes of the Meeting of the Working Party

**Appendix C** Work Plan

**Appendix D** Baseline Questionnaire

**Appendix E** Care Pathways

**Appendix F** – Open meeting Report

## 1. Introduction

### 1.1 *Current and Previous Reports*

Acute medical services in Scotland have been subject to two national reviews in the last decade, the Acute Services Review, Sir David Carter 1998, (1), and the Kerr Report 2005, (2). Aspects of child health have featured in both reports. Indeed, following the Acute Services Review, a group was commissioned to give advice directly to the Scottish Minister of Health. The Child Health Support Group, (subsequently the Child and Young People's Health Support Group) has been directed to extend the conclusion and recommendations of the Kerr Report. The Action Framework (3) was produced following the response of the Scottish Executive Health Department in Delivery for Health (4) along with a national delivery plan (HDL (5)) and set out the items which should be specifically addressed by a subsidiary of the Child and Young People's Health Support Group – the National Steering Group (NSG). 29 different work streams have been identified as being in need of further attention and analysis.

The work is not entirely strategic but can be, (as in the case of this particular review) a response to emerging problems and challenges in service delivery. In some instances there may be a consistent pattern to the difficulty across Scotland which requires a national solution and in others local solutions are available. However in this particular review the problems are specific to surgical care in District General Hospitals and are therefore not defined by any particular jurisdiction.

Some children, in need of general surgical care, have in the past been cared for by adult surgeons in the District General Hospitals of the Regions and in the larger conurbations, by specialist paediatric surgeons in children's hospitals fulfilling the secondary care function of those hospitals. This pattern of care varied somewhat in the extent to which adult general surgeons would be willing or capable of dealing with children but, in the main, they provided local care for the acute and common conditions such as abdominal pain, head injury, and a range of less complex elective conditions (hernia repair, surgery for undescended testes, circumcision etc).

Additionally, some conditions are treated by adult urologists who continue to have paediatric urology as a component part of their higher surgical training.

As will be outlined below, the continued provision of this service is compromised by changing patterns of training and education of adult general surgeons, and there is a clear mis-match between the supply of consultant general surgeons with the preparatory training to care for children and the local need for such care.

## 1.2 *Specialty Associations and Colleges*

This situation has been pending for some time and both the Association of Surgeons of Great Britain and Ireland (ASGBI) and the British Association of Paediatric Surgeons (BAPS) have recognised its nature and causes. However, solutions have remained elusive. A joint statement, (6) by the Association of Paediatric Anaesthetists, Association of Surgeons of Great Britain and Ireland, British Association of Paediatric Surgeons, and the Royal College of Paediatrics and Child Health, summarised and highlighted the problem faced in service delivery.

Indeed the Senate of Surgery published its document on this matter (7) in 1998 and the Royal College of Surgeons of England similarly published its report “Children’s Surgery – a first-class service” (8) in 2000 and a second edition “Surgery For Children” (2007); but the discretion allowing general surgeons in training to choose their sub-specialty area of interest, has resulted in a serious deficiency in the number of surgeons training in the General Surgery of Childhood (GSC). Since the introduction of the final examination in surgical training (FRCSgensurg 1990) which allows those completing surgical training to indicate a sub-specialty interest, approximately 1,400 candidates have successfully completed this examination and only 2 have taken the examination with an interest expressed in children’s surgery (9). The Specialty Advisory Committee (SAC) of the Joint Committee of Higher Surgical Training, in recognition of this, indicated that the specialty could be noted as a second area of interest – but this has similarly been unproductive in producing a cadre of trained surgeons. This lack of supply has several implications, which will be expanded below, but is certainly at variance with the ambition of local provision of care as outlined in the Kerr Report.

Previous publications and reviews have used differing terms to describe the service in question (eg paediatric general surgery, non-specialist surgery of childhood). For the purpose of this report the service will be referred to as the General Surgery of Childhood (GSC). The surgeons providing this service will be referred to as non-specialist or adult surgeons, to distinguish them from their counterpart specialist paediatric surgeons who have trained in paediatric surgery as opposed to general surgery.

### 1.3 *Working Party*

This review was undertaken over a 12-month period and a working party constructed for this purpose (Appendix A) comprised people with individual areas of expertise or representative functions, including:

- Non-specialist children's surgeons;
- Specialist children's surgeons;
- Specialist paediatric anaesthetists;
- Non-specialist paediatric anaesthetists;
- Nursing representation;
- Lay representation;
- Representation from SEHD;
- Members from the Regional Planning Groups (North, SEAT, and West);
- Members of Scottish Colleges Committee and Children's Surgical Services (SCCSS); and
- RCPCH (Scottish Officer).

The remit of the Working Party was laid out in HDL 2006 (12) and was as follows:

- To undertake a review of current patterns of general surgical care, including elective/emergency and day case surgery for children and young people up to 16 years of age across Scotland;

- To formulate and recommend care pathways, that will best support local surgical teams, and consolidate collaborative working arrangements across the regions, through the development of managed surgical networks;
- To consider solutions for those areas, which most challenge services, i.e. emergency care and those cases in need of joint working and/or transfer;
- To evaluate implications of any proposed change for families in local communities and parallel specialties, including medical paediatrics; and
- To produce a report for consultation with relevant groups, including specialist and non-specialist paediatric surgeons, surgical teams in remote localities, specialist and non-specialist anaesthetists and the wider community.

#### 1.4 *Age*

In keeping with the Action Framework, this report deals with the care of children up to their 16<sup>th</sup> birthday. Current admissions policies to paediatric units are somewhat inconsistent across Scotland with some (RHSCG and RHSCE) admitting children acutely up to the 13<sup>th</sup> birthday and others (RACH) up to the 14<sup>th</sup> birthday.

The advice contained in the Action Framework is to confirm an admission policy up to the 16<sup>th</sup> birthday as from October 2007.

The GSC Working Party is aware of the implications of a change of age limit which generally affects the specialist units more than the District General Hospitals (DGHs), since the latter already provide continuity into the late teenage years and adulthood. Specialist units have a range of policies, which all depend upon transfer to adult services, through transition arrangements for some conditions, or directly to adult services in others. The findings of the Age Appropriate Care Working Party have remained under consideration during this review.

It was also accepted that discretion would be shown in the care of adolescents and older teenagers with chronic disease, and delayed transitional arrangements appear to be appropriate for such children with complex needs. The Working Party also acknowledged

the need for physically and mentally mature teenagers to have the option of choosing an adult environment for care, if they felt more at ease in such surroundings.



## 2. **Background**

### 2.1 *Training and Education*

Serial changes in the configuration of training in postgraduate medicine have moved the Training Agenda inexorably towards a more specialist format. Abbreviation of both the duration of the working week (EWTD) and a reduction in the training years (MMC) may result further in constriction in the surgical repertoire of general surgeons with more in-depth concentration in a narrower field.

Moreover, the expectation of a direct relationship between the volume of procedures carried out and the quality of outcome has resulted in an application of this assumption to many aspects of surgery – whether scientifically validated or not. The apparent virtues and benefits of merger and centralisation of care has resulted in the truly general surgeon of bygone years becoming obsolescent and general surgeons in many hospitals concentrating on topographic or disease-specific surgery (vascular, breast, upper GI, colorectal, transplantation, etc). Children’s surgery, however, does not follow this trend, since it is an area marked by the age of the patient rather than restricted to any one organ, body system, or disease process. Whereas exposure to children’s surgery was previously an integral part of higher surgical training in previous decades, this has now changed and there are now very few training programmes, where children’s surgery is a component part of higher surgical training.

Individual general surgical trainees have been given free remit to choose any sub-specialty area, and there has been no attempt to match the numbers training in any given sub-specialty area to the needs of the service (unlike as in paediatric medicine, when there has been a national grid).

Excesses and shortfalls have resulted as a consequence, but also because of expansion in some areas and constriction in others, this mismatch continues. However, the shortage of non-specialist children’s surgeons has been consistent over the last 15 to 20 years and is becoming progressively worse.

The introduction of run-through training, as part of “Modernising Medical Careers” (MMC), will have had the effect that, during the reconstruction of the curricula of each specialty, the place of General Surgery of Childhood has an even less prominent place in general surgical training than previously (4-month option in ST2 and an option in the final phase of ST6-8) (10). The past records of options in choice suggest that General Surgery of Childhood may not be a popular one.

The drivers which appear to be prejudicial to the continuation of the past and current style of service delivery include:

- Increasing sub-specialisation;
- EWTD and work patterns;
- Changes in training structure;
- Assumption of direct correlation between volume and outcome; and
- Lack of adherence on many existing units to all aspects of children’s standards of care.

Finally, and notably, Professor Sir Ian Kennedy, in his many recommendations following the Bristol Inquiry, strongly suggested that any surgeon who treats children should have a credential that denotes preparatory training (11).

## 2.2 *Standards of Care*

Standards of care for children relate not only to the credentials of the surgeon but to the competencies of the entire surgical team and also extend to the care environment such that children should not be treated in the same environment as adults (e.g. should have specific theatre lists, out-patient clinics, ward facilities, and be treated by nurses trained and experienced in children’s nursing and have access to play specialists).

There is an expectation, moreover, that shared care with paediatricians will be provided for younger children and that children undergoing anaesthesia will be treated by suitably trained anaesthetists (12).

While there is no lower age threshold for care, non-specialist units should not provide surgical care for neonates who should be transferred to a specialist unit.

Children should be under the care of a named surgeon and surgeons with responsibility for children should be able to demonstrate continuous professional development in this specialty. More contemporary reviews – e.g. Tanner Report – have acknowledged the need for judgment in balancing the gain of timely intervention by a non-specialist against the potential effect of delayed treatment through attempts to access a more specialist but distant service. This tension is presently inconsistent across Scotland but is most marked in the remote and rural communities. Whilst the Working Party acknowledged the need for immediate intervention in some instances (e.g. testicular torsion) and recognised the importance of universally available resuscitation skills across Scottish hospitals, it was felt that the preservation of standards of care would be best served by:

- Developing condition-specific guidelines for surgical teams;
- Delineating a framework by which hospitals could elect to provide a certain level of care (based upon age, condition complexity, and available facilities); and
- Outlining options and models of care which better integrate specialist and non-specialist units within the planning regions across Scotland.

The Working Party recognises the value of the Tanner/Cochrane Report (17) and the recent edition of “Surgery For Children” (2007) (16), produced by the Children’s Forum of the Royal College of Surgeons of England, but at the same time understands that both the reports did not aspire to attend to, or make recommendations upon, elective surgery in GSC, nor did they address the problems of rural practice. Finally, little documentation exists on standards of care, in particular outcomes of care in relation to the General Surgery of Childhood. The Scottish Colleges Committee on Children’s Surgical Services have, however, produced advice in this regard which is of relevance to this review (15).

### 2.3 *Current Service Delivery*

A review of adult general surgeons, carried out in Scotland in 2004, (13) confirmed that the current generation of adult surgeons is already demonstrating a restrictive practice in relation to children's surgery. The current cadre of older surgeons, whilst able to deliver this service, indicated that the great majority are likely to be replaced with successors who will be reluctant to treat children in a similar fashion. This apparent reluctance in engagement in children's surgery is in part a consequence of a lack of preparatory training but it may also be due to:

- A heavier emphasis and higher priority placed on other conditions – e.g. cancer care – by the NHS in Scotland;
- The relative brevity of waiting times for children's surgery, in comparison with adult services, with a perception of less need in this sector of care;
- A lack of familiarity of the needs of children and their parents in hospital in relation to the non-technical aspects of care;
- A relative lack of opportunity for work in the independent sector;
- A moderately high component of the work being emergency work;
- The elective component being uncomplicated in complexity and accordingly less technically challenging and perceived as less rewarding;
- A more "isolated" surgical practice, given the small number of surgeons involved;
- General Surgery of Childhood is the "poor relation" to the specialist paediatric surgery
- A high stakes surgical practice, where adverse outcomes has a prolonged legacy.

The above are in part anecdotal but may explain some of the reasons for the apparent unpopularity of the specialty. Inevitably contrary views exist to counter many of these apparent disadvantages, but current trends in recruitment into the General Surgery of Childhood suggest that these and no doubt other factors lead surgeons into alternative areas of sub-specialty interest.

2.4 Nonetheless, the review identifies 26 hospitals in Scotland currently providing the service of GSC and found little evidence of a wish to terminate the service.

Activity data (in England) indicate that currently approximately 50% of GSC is provided in non-specialist settings (17) but that year on year approximately 12% of the case-load has moved from the non-specialist to the specialist setting, with no management either in terms of workforce or bed capacity being in place. However, this same study also recognised that an overall reduction in some operations being carried out, notably circumcision and orchidopexy. Whilst no separate studies exist in Scotland, there is no reason to expect Scotland to differ from this UK trend, which is interpreted as a change in the understanding of the natural history of some conditions and hence the indication for intervention rather than a change in the prevalence, either by virtue of population change or change in incidence. (Other operations showing a year on year reduction include reduction of intussusception pyloromyotomy and appendicectomy). By distinction, circumcision for non-health reasons has increased significantly.

While changes in practice have had an impact on total numbers, the extent of decline has not rendered the service surplus to need and as will be seen below the General Surgery of Childhood still constitutes a substantial work-load for Scottish clinicians.

2.5 Particular attention should be paid to the fact that, for every child requiring operative intervention, there are at least an equal number simply in need of assessment and, in the case of suspected appendicitis, for every child undergoing surgery there will be 3 or 4 not requiring surgical interventions but still in need of identical evaluation. It is for children such as these that an imposition of prolonged travel, through a lack of a local service, is a very unsatisfactory prospect.

However, irrespective of the location of care, children must receive care to a standard that befits their needs, and this is most likely to be achieved by working in partnership with medical paediatrics. This is not consistently the case throughout Scotland at the present time, but would now constitute an important recommendation of this review.

### 3. **Review Process**

3.1 The Action Framework (18) was formulated by the Children and Young People's Support Group as a response to items identified in the Kerr Report and, emerging from that, a national steering group was established to work through many work streams. The General Surgery of Childhood was one such stream and is the driver behind this review and report. The remit set out at starting point was:

- To undertake a review of current patterns of general surgical care, including elective/emergency and day case surgery for children and young people up to 16 years of age across Scotland;
- To formulate and recommend care pathways, that will best support local surgical teams, and consolidate collaborative working arrangements across the regions, through the development of managed surgical networks;
- To consider solutions for those areas, which most challenge services, i.e. emergency care and those cases in need of joint working and/or transfer;
- To evaluate implications of any proposed change for families in local communities and parallel specialties, including medical paediatrics; and
- To produce a report for consultation with relevant groups, including specialist and non-specialist paediatric surgeons, surgical teams in remote localities, specialist and non-specialist anaesthetists and the wider community.

3.2 A working party was constructed to effect this review and membership is set out as in Appendix A. Minutes of the meetings held by the Working Party are available for review in Appendix B. A work plan was constructed (Appendix C) with recommendations anticipated as being available in the latter months of 2007.

The review included the following actions:

1. collection of contemporary data in relation to:
  - Hospitals identified as offering GSC services;
  - Surgical workforce therein;

- Anaesthetic workforce;
  - Paediatric workforce;
  - Activity (through diagnostic and procedural coding) for each hospital;
  - Other surgical activity in children; and
  - Facilities available in support of the service.
2. Analysis of activity through:
    - Total numbers in Scotland;
    - Analysis of activity of tracer conditions (see below); and
    - Analysis of admissions by type/source (elective/emergency/day case/transfers).
  3. Site visits to a sample of District General Hospitals (Stirling Royal Infirmary, Raigmore Hospital Inverness, Wishaw General Hospital, Crosshouse Hospital, Dumfries and Galloway Royal Infirmary, and Ninewells Hospital Dundee). Wick, Fort William and Western Isles were contacted through video conferencing.
  4. International comparisons.
  5. Consultation with partners

Additionally the review included the relevant contemporary literature as referenced in the bibliography.

#### 4. Information and Statistics

In order to gain some understanding of scale and activity trends, the Working Party accessed 4 primary sources of information:

- ISD activity data;
- Baseline template;
- Tanner & Cochrane Report (Department of Health, England); and
- RCS England, Children's Forum Report, "Surgery For Children" ( 2007).

##### 4.1 *ISD Activity Data*

The Working Party identified a number of conditions and procedures which they considered would best serve the review as illustrative and representative of the service provision. These were:

- Diagnostic data
  - Appendicitis
  - Non-specific Abdominal Pain (NSAP)
  - Head Injury
  - Undescended testes;
  - Hernia
  - Testicular Torsion;
  - Ingrown Toe Nail
  - Hydrocele
  - Phimosis
- Procedural Data
  - Appendicectomy
  - Circumcision
  - Herniotomy
  - Gastroscopy
  - Orchidopexy
  - Toe Nail Surgery
  - Cystoscopy
  - Testicular Fixation
  - Ligation Processus Vaginalis

Data was obtained on a hospital by hospital basis for years 1997 through to 2006 and, in the case of hospitals visited during the review process, data was obtained from 2003 to 2005 inclusive by age breakdown and admission source. The accuracy of this



data was challenged on several occasions by the host institution, and on each occasion an invitation made for submission of corrected and validated alternative.

The Working Party is grateful to Dr James Chalmers and the staff of the Information Services Division (ISD) of the Common Services Agency, Scottish Executive Health Department, for their assistance in this review.

The total numbers involved in this data set in Scotland are seen in Table 1. Activity data for each of the hospitals involved in site visits are available on request.

This data set was not inclusive but represented those conditions and procedures that were in the upper range of volume and accounted for approximately 80% of total activity.

The comparison of procedures against the relevant diagnosis (eg number of appendicectomies (cf number of cases of appendicitis) was noted as were ratios of procedures against index diagnosis (e.g. circumcisions per hernia). This showed significant regional variation.

#### 4.2 *Baseline Data*

In an attempt to obtain a current description of the service across Scotland, a questionnaire was constructed and circulated to the Chief Executives of all Health Boards in Scottish hospitals collecting data on all hospitals in their Health Board region, which provide a service for GSC.

The baseline questionnaire is seen in Appendix D.

This pro forma requested information in relation to each hospital that treats children in respect of:

- Staffing profile;
- Paediatric facilities;

- Ability to treat certain tracer conditions; and
- Information and other specialties.

The purpose of this was to build a representation of the service across Scotland but also to identify pertinent patterns of service within regions, to best identify any differences that exist.

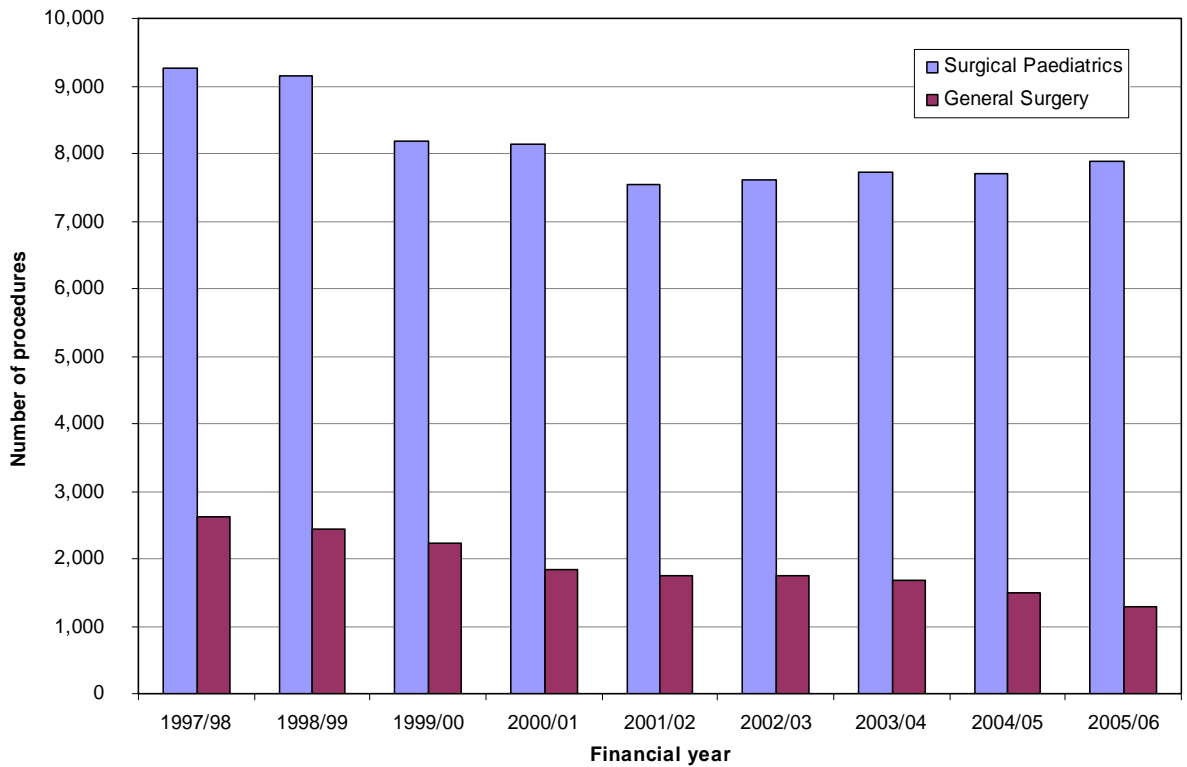
The data included activity and staffing levels and facilities including A & E, theatre, recovery, ward settings, out-patients as well as breakdown of activity by age. The presence of a clinical lead in GSC was ascertained as was contractual obligations to the service, availability of emergency radiology services, access to video conferencing and allied activity in paediatric dentistry, orthopaedics, ENT, plastic surgery, and ophthalmic surgery.

Lead paediatricians and children's anaesthetists were identified. This baseline data assisted the teams in those instances where site visits were carried out.

#### 4.3 *Other Information Sources*

A variety of reports were reviewed. However, the Tanner & Cochrane data (17) on activity in England was of particular value in identifying the volume of work done in DGHs across England, the drift of work to specialist units, and the actual reduction of interventions where given conditions were identified. Reductions in the overall numbers of cases of circumcision, orchidopexy, appendicectomy and herniotomy were noted as was the trend of treatment of children of all ages (not just restricted to the younger ages) by specialist units as opposed to DGHs. The recent draft of the document "Surgery For Children" ( 2007) (Children's Forum RSC England)(16) has indicated continued dependency upon general surgery. The equivalent Scottish data (based on financial years) is shown below:

Figure 1: Procedures on children aged 0-15 years<sup>1</sup> in Surgical Paediatrics and General Surgery specialties for financial years 1997/98 to 2005/06<sup>2,3</sup>



The Audit Commission emphasised, in their recent review carried out in 2006, that 64 % of surgical staff failed to undergo resuscitation training and that 31% of these units had inadequate rotas of junior staff covering GSC (19). These reports underline the vulnerable nature of this service with very similar themes existing in Scotland, albeit of a different scale. A significant difference has existed in the past in relation to age groups in that specialist paediatric services in England in general provide for children up to age 16, whereas in Scotland children as young as 13 have in some areas been treated in the adult sector.

## 5. Hospital Visits

**5.1 As part of the review, the Working Party elected to visit a number of hospitals in different parts of Scotland, to ascertain the following:**

- Working relationships between paediatric services;
- Local mechanisms for managing and administering the service;
- Succession planning;
- Existing models of care and interaction with regional paediatric services;
- Examples of good practice in General Surgery of Childhood;
- Unresolved problems in delivering GSC;
- Implications for other paediatric services in the event of change to GSC provision;
- Review of examples of facilities for the service; and
- The current tensions in providing emergency services on a 24/7 basis.

The visiting team comprised a specialist and non-specialist paediatric surgeon, nursing and anaesthetic representation, representation of Scottish Executive Health Department and Chairman of the Working Party. A local representative in the Working Party was generally avoided to avoid conflict of interest.

The team met with representatives of the local surgical services, anaesthesia, nursing staff, and management in all cases. The format of each visit consisted of an introductory presentation, review of activity data, discussion of local items of relevance to the review, visits around the paediatric facilities, summary and feedback.

The visit was followed by formulation of a report, which was discussed at the Working Party meetings, and the report then returned to the Chief Executive of the Health Board area. Both generic and specific areas emerged from the visits and the generic items remained the concern for this review. Site specific concerns were considered to be the direct responsibility of the hospital administration (at all levels), the child health commissioners and the Regional Planning Groups.

The choice of hospital for visitation was based on size, geographic location, distance from adjacent children's hospitals, and the range of services available to GSC. The following hospitals were visited over time periods January to May 2007:

- Stirling Royal Infirmary;
- Raigmore Hospital, Inverness;
- Dumfries and Galloway Royal Infirmary;
- Wishaw General Hospital;
- Crosshouse Hospital;
- Perth Royal Infirmary; and
- Ninewells Hospital.

Additionally, the staff of other hospitals were met during the course of these visits, either through their attendance at the visit to the above sites, or in the case of the remote hospitals through video conferencing. These hospitals included:

- Garrick Hospital Stranraer;
- Caithness Hospital Wick;
- Western Isles Hospital Stornoway; and
- Belford Hospital Fort William.

A range of different items emerged from the visits, including:

- Willingness/ability of local populations to travel for care;
- Levels of involvement of medical paediatrics in care;
- Availability of adolescent facilities;
- Organisation of local services;
- Planning for the future;
- The role and job descriptions of lead surgeons;
- Referral patterns from primary care;
- Working relationships with specialist centres;
- Contribution of anaesthetic staff to GSC;
- In-house educational development for paediatric staff;

- CPD arrangements for surgeons;
- Relationships between elective and emergency case-load;
- Availability of local protocols for paediatric conditions; and
- Desire for continuation of local services.

These items are considered in turn.

## 5.2 *Travel Considerations*

There is a consistent view expressed that parents are prepared to travel for specialist treatment to children's hospitals when this is deemed necessary and in the interests of their child. The Working Party found no contrary opinion expressed during the review. However, there is also an expectation that local facilities, which have, in the past, successfully treated the acute and common conditions of childhood, should continue to do so and this was iterated by local providers.

Certain clinical presentations moreover have quite a low intervention rate and a prime function of this service is assessment and diagnosis. Whilst it is not possible to separate this clinical function entirely from treatment, there is a very reasonable public expectation that accurate assessment of care needs to be locally available and protracted travel is not desirable for this function.

Other conditions have an inherent urgency, which also makes delays associated with protracted travel, undesirable (testicular torsion is such an example, where the condition is predominantly in the peripubertal cohort of boys and it is entirely within the scope of an adult general surgeon or urologist for effective treatment within the obligate 6 to 12 hour time period from presentation to testicular necrosis).

It should be noted that, throughout the review, emphasis was placed on the fact that the review had, as its primary objective, the consolidation and support of local services. It did, however, wish to identify those factors that were prejudicial to this aim, with the intention of issuing remedial recommendations. There was no expressed or tacit ambition to centralise this service, cognisant that, even if this became a

recommendation, that no capacity existed at present to accommodate this work in the existing specialist centres and possibly even less capacity would be available in future years .

There was also a view expressed consistently that, if further surgical specialties could be available on site (eg ENT, dental surgery, orthopaedics etc), then it would be inconsistent and inappropriate to fail to deliver general surgical services locally. (NB: ENT, orthopaedics, anaesthesia and dentistry all have a paediatric module as an obligate part of core training.) In rural areas, the need for local services is particularly important, to offset the physical and time delays required of travel.

### 5.3 *Medical Paediatrics and GSC*

There is no one model of care practice in relation to the inclusion of a medical paediatrician in GSC. The range seen extended on the one hand from all children being admitted under paediatric care for virtually all diagnosis with subsequent referral to surgery as deemed necessary, to all children (GSC) being admitted under the duty surgeon with invitation extended to medical paediatrics for several reasons (very young child, assistance with venous access and fluid management) but on a case by case basis.

Certain conditions (eg abdominal pain and head injury) appear on the curricula of both specialties, hence are not the exclusive preserve of any one specialty, but extension of the spirit of the recommendation that children should only be operated on in hospitals, where there is a paediatric service on site, would lead to the conclusion that inclusion of medical paediatric services should be the default arrangement. This should particularly be the case in emergency conditions in younger children (less than 5 years).

Whilst admissions policies are clearly the remit of individual hospitals, the Working Party recommends automatic inclusion of medical paediatrics in all cases of diagnostic uncertainty and in the case of children of all ages requiring high dependency care. Inclusion in the care of other children is at the discretion of local

clinicians but in all instances the working party recommends that surgery is only undertaken in an appropriately supported environment.

#### 5.4 *Availability of Adolescent Facilities*

Age appropriate care has been the subject of a separate workstream but the Working Party on GSC took due note of facilities available for teenagers particularly during the visits. In general the facilities were limited or deficient. In one instance, where good quality accommodation was available, this was being lost due to expansion of adjacent adult services.

The need for transition was limited in this surgical specialty, given the continuity of care provided by the surgeons whose practice extends (and is based) in adult practice. However, the conditions treated in GSC are in the main acute and short lived and not in need of transitional care. This, however, does not diminish the need for specific and appropriate environmental and care requirements for teenagers in Scottish hospitals.

#### 5.5 *Organisation of Local Services*

Health Boards have prime responsibility for organising local care provision. Additionally Regional Planning Groups, including child health commissioners, are involved in strategic planning of children's services and, at hospital level, oversee service delivery. While adult general surgical services would appear to be securely managed across Scotland and children's services similarly administered, there would appear to be gaps in bridging planning between the paediatric and surgical services. In some instances, no joint administrative committee structure existed at all, whereas, in other instances, when present, they were often inactive. In only one hospital was a joint planning group/interface committee active.

#### 5.6 *Planning for the Future*

Several hospitals visited had anticipated vacancies or already had noticed a change in the level of service provision in GSC by consultant surgeons. However, in succession



planning, GSC appear to have a low priority. Even in instances where a surgeon is acknowledged as a main service provider in GSC, the other components of his/her job appear to take precedence over the need to plan for the GSC. Moreover, engagement with Regional Planning Groups seldom appear to have a firm basis in the planning of GSC.

### *5.7 Role and Job Description of Lead Surgeon*

The position of lead surgeon was identifiable in all hospitals visited and was occupied by a named surgeon with administrative responsibilities. In one instance this was an adult urologist, and in another instance the lead clinician was a consultant anaesthetist. In the case of the adult urologist, this was the only position where a commitment to paediatric surgical practice appeared in the job contract. In all other instances, surgeons with lead roles appeared to assume these roles and duties with no recognition of such in job description and contract.

The role of those surgeons was not, however, to be a monopoly service provider. Indeed, in all hospitals, most, if not all, general surgeons were involved in emergency rota for children's surgery (there being no separate rota for children and adults). Elective surgery, however, tended to be concentrated in the hands of a few surgeons who generally were more senior in age range.

### *5.8 Referral Patterns*

Patterns of referral from primary to secondary care varied according to geography. In those areas, where the DGH was more distant from a children's hospital, they functioned in a sole provider fashion with all referrals made to that hospital. However where a DGH was within travelling distance of a children's hospital, there was no consistent pattern of referral from primary care, with the GP having discretion as to the ultimate destination of each referral.

Self-referral to Accident & Emergency Departments appear to have proximity and ease of access as the major influence on whether referral was to a specialist unit,

providing its local secondary function, or to a non-specialist hospital. In Aberdeen, Edinburgh and Glasgow, all referrals were to the children's hospitals of those cities.

Hospital to hospital transfer occurred at 3 levels:-

- from rural hospital to DGH;
- rural hospital to children's hospital; and
- DGH to children's hospital.

The Working Party did not address paediatric intensive care retrievals

Several of the DGHs provided off site day care surgery to smaller hospitals, utilising local anaesthetists. This service was valued by those communities and by those anaesthetists involved, since they believed it preserved core skills, especially those required on an occasional basis for the purposes of resuscitation.

#### *5.9 Working Relationships with Specialist Centres*

Working relationships between DGHs and the Regional Specialist Centres were in the main informal. This was reported as a satisfactory situation on most occasions, although differing views were noted in discussions.

There were no proposals for care agreed within Regions and children were managed on a day-by-day basis. At an early stage in the review, the benefit of guidance on a condition-specific basis was identified and the review group produced a comprehensive set of care plans. (See section 10.)

#### *5.10 Contribution of Anaesthetists to General Surgery*

Anaesthetists have, as a core part of their training, experience in paediatric anaesthesia. Those with a special interest in paediatric anaesthesia undergo a further 12 months' training (see section 6). During the visitation process, the Working Party found a consistently high standard of anaesthetic care throughout Scotland. In addition to providing elective and emergency care, anaesthetic staff were commonly involved in:

- Pain control;
- Resuscitation and stabilisation; and
- Facilitating transfer with retrieval teams.

There was a spectrum of involvement with some individuals having a major contribution to the service as lead clinician and through provision of in-house EPLS/APLS courses. For those working in more remote locations and being involved in paediatric resuscitations (albeit on an infrequent basis), they placed a higher value on their elective practice and found such courses invaluable.

In some situations, the anaesthetists will work in teams, to provide appropriate local care; and in other situations, some, with only occasional practice, will call upon the expertise of the local “expert” anaesthetist for more complex situations.

This practice, of accessing colleagues who were not on call, was seen on a regular, albeit infrequent, basis. The working practice is therefore dependent upon goodwill and concerns were expressed on several fronts:

- Firstly the contractual limits may be transgressed;
- Indemnity cover may be inapplicable; and
- Future generations of doctors might be unwilling to extend to this work pattern.

However surgeons and anaesthetists involved in such work felt that, irrespective of the above, there was a duty of care to both child and colleague in this situation and felt that this outweighed the negative items outlined above. Moreover, this practice was not restricted to GSC, but was an increasingly common option as general surgery sub-specialised: eg the need to deal with an oesophageal or vascular emergency problem when the surgeon with that sub-specialty was not on call.

There were situations in the larger DGHs, where there would appear to have been some merit in rostering anaesthetists, to provide a continuous paediatric service (such

was the number of cases and anaesthetists involved) but that opportunity has not yet been utilised.

Given their involvement in other paediatric surgical specialties (dental, ENT, orthopaedics), it was clear that anaesthetists were not a restricting influence in the provision of GSC. Indeed, with the exception of neonatal cases, most other cases were accommodated in the hospitals visited and treatment was seldom declined on the basis of anaesthetic provision.

#### 5.11 *CPD and Educational Programmes*

APLS courses were delivered for medical staff and nurses in a number of the hospitals involved. Similarly, EPLS and PLS courses were available. Such educational provision was originated by anaesthetists and no example of CPD delivery, originating from surgeons, was found.

Similarly, few examples of audit or multi-disciplinary meetings were found. This could perhaps be explained by the limited case mix complexity undertaken by the institutions visited.

In rural hospitals, examples were quoted of anaesthetists undertaking secondments to specialist units on a regular basis for CPD and skill maintenance. Mirroring activity by surgeons was uncommon, and views were expressed that attachment to a specialist unit may not be “fit for purpose”, in that exposure to the specialist case mix may not develop the skills needed in GSC.

An opportunity exists for refreshing skills by close collaboration between specialist and non-specialist surgeons and recent developments in recertification may facilitate this. Moreover this exchange may not be only one way, and adult surgeons may bring skills, particularly in endoscopic surgery, to those CPD ventured for paediatric uplift just as they themselves may benefit from attachment to a paediatric unit.

Adult general surgeons generally find that attendance at the annual congresses and scientific meetings of the specialist units (eg British Association of Paediatric

Surgeons – BAPS) to be of limited value and expensive in terms of the limited time and budget allocated CPD.

The Working Party noted these items and made an approach to NES to discuss the matter of skill preservation within the NHS in Scotland. It took the view that skill maintenance was the responsibility of NES and, whilst possibly delivered through Colleges and Specialty Associations, this should feature in a contractual basis and not be subject to the limitations of existing study leave arrangements. Moreover, since most of the surgeons leading GSC services had other areas of interest (eg breast surgery), these were often in competition with the resources allocated to CPD for time and funding.

#### *5.12 Relationship between Elective and Emergency Caseload*

The volume of elective surgery, and through the nature of its provision (dedicated children's lists), results in this service being provided by a few individuals with an interest in GSC. By contra-distinction the unpredictable nature of emergency workloads involves all surgeons on the emergency rota, whether or not they have preparatory training in GSC or an interest in children's surgery. Whilst this is perceived not to be a particular problem for the care of older children and teenagers, it may be a problem with younger children. In those instances, a variety of options exist comprising:

- Stabilisation of the child and defer further treatment until the local surgeon is available the next morning;
- Liaise with specialist centre and continue care; and
- Transfer to specialist centre.

A concern expressed by a number of surgeons in relation to outreach services was that the consequent reduction in exposure to elective surgery (the planned elective lists being done by the outreach surgeon) compromised the familiarity with GSC and prejudiced delivery of emergency surgery.

An alternative view was that the conditions in emergency and elective surgery were different (herniotomy being the exception). As stated previously, this tension, in relation to emergency cover of sub-specialty interests, relates to many sub-specialty areas (notably vascular surgery, which is increasingly forming emergency rotas between DGHs).

However the review recommends an “elective first” approach to surgery which implies that emergency surgery should not take place in a location where there is no elective surgery. Moreover the elective surgery should not be performed exclusively by the visiting specialist surgeon (if one exists) leaving the residual emergency surgery to be accommodated by the in-house surgeons who have had no prior experience or commitment to elective care.

#### *5.13 Availability of Local Protocols of Care*

The care of children with emergency conditions is generally dependent upon the duty surgeon rather than treatment by protocol (either local or conforming to national standards of care). Moreover, treatment of certain conditions (intussusception) is more dependent upon the availability and willingness of support services (eg radiologists) than the ability of the surgeon to operate. In the exceptional situation that surgery is required, resuscitation is paramount and generally transfer is performed.

#### *5.14 Desire for Local Continuation of Services*

Without exception, all hospitals expressed a strong wish to retain the current level of surgical services for children.

It was acknowledged that different models of care may evolve with increasing specialist provision of the service. Nonetheless, retention of local services is an aspiration of the District General Hospitals visited, with a desire to integrate services and collaborate with children’s hospitals when so required. In general, there was concern that loss or down-grading the current level of service would have a scatter effect and produce de-skilling across a range of affiliated specialties.

## 6. Allied Specialties/Interfaces/Synergies

Inherent in the approach to this speciality is the concept of a “care package” which indicates that multi-specialty support is needed for general surgical care to be provided safely and adequately. In that regard the elements which are included in the “package” comprise:-

- Surgery
- Anaesthesia
- Nursing
- Medical paediatrics
- Radiology
- AHP's
- Environment

Without each of these, the service is difficult to quality assure but the working party is cognisant that the complete range may not be available in all locations and on all occasions (particularly in remote and rural hospitals). In such instances, decision making needs to be made at a senior level taking into account the urgency of intervention and the implications of retention of the case or forward transfer as the case may be.

### 6.1 *Medical Paediatrics*

Medical paediatrics can contribute to peri-operative care of children with surgical illness and assist in the management of co-morbidity. The current syllabus of specialty training includes topics such as diagnosis and management of abdominal pain. Because of expertise in the management of sepsis and their resuscitative skills in children of all ages, paediatricians are useful partners, along with anaesthetists, in the management of both the critically ill child, but also in younger children and the more complicated aspects of fluid and pain management in surgical patients.

**While the extent of involvement will be a professional judgment by the named surgeon, joint care is the commonest arrangement in most hospitals and is to be commended.** Such inclusion in care will provide helpful support to the general

surgeon who is managing children as a function of their emergency roster responsibilities. However, it must also be noted that many professional documents indicate that surgery should only take place in those hospitals/units where paediatricians are present. It should be noted that any loss of expertise in surgical matters should be counter-balanced by an increased input from medical paediatrics in non-specialist centres, but this will increasingly have implications for medical paediatric manpower.

## 6.2 *Paediatric Anaesthesia*

Paediatric anaesthesia is a core component of the training of all anaesthetists. Additional training of 12 months in a specialist hospital is provided for those who wish to have paediatric anaesthesia as a sub-specialty interest. Those anaesthetists who expect to work in a DGH as a lead anaesthetist for children will have 6 months' training in a tertiary centre. The training provided in the core module is such that the routine procedures of all surgical specialties in older children can be accommodated by the non-specialist anaesthetist. Younger children, those with more complex pathology and those more severely ill, are better managed by the paediatric anaesthetist or indeed by the experienced lead anaesthetist.

This review found no evidence of anaesthetic services producing a restrictive practice in the General Surgery of Childhood. However, as indicated earlier, the limited availability of anaesthetists with special skills in paediatric anaesthesia was such that these doctors were occasionally requested to provide care when they were not "on duty" as such. Special note is taken of the fact that this practice, irrespective of the contractual implications, was accepted by those involved as the most pragmatic solution to the lack of continuous availability.

## 6.3 *Paediatric Nursing*

The extent of "cover" of children's services by children's nurses varies across Scotland. The aspiration to provide a child's nurse at "all points of care" was not always achieved – indeed in some areas (notably theatre and recovery) the dual skill set of theatre nurse and children's nurse was seldom available. However, the theatre



nurses were, in the main, highly experienced in the care of children and this was not perceived as a significant quality issue. Children were managed peri-operatively on children's wards, where children's nursing cover was good, and where, in addition, there was support from play specialists.

Paediatric dentistry and paediatric ophthalmology, in some of the hospitals visited, were areas where this quality standard broke down (vide infra).

Recruitment and retention factors in children's nurses seem not to be a major issue at the time of this review across Scotland, but continuous professional development for nurses is most certainly an area where the demand exceeds availability. This review recommends further analysis by NES of the way in which a "fit for purpose" workforce can be maintained across Scotland – in nursing as well as in the medical sector.

#### 6.4 *Other Surgical Specialties Including Dentistry*

Specialties including ENT, ophthalmology, orthopaedics, dentistry and occasionally plastic surgery (as an out-reach service from a tertiary unit) – significantly outnumber GSC in terms of the volume of cases treated in any one hospital with the latter producing only approximately one-quarter of the number of other cases at most. (See Table 2.)

Whilst there is interaction across these specialties with general surgery (children needing multiple procedures and occasionally trauma care), the most notable implication is that all surgical units utilise the same supporting facilities (theatre, nursing, ward, etc) and there is no intention currently to alter the provision of these other specialties. Indeed, if there was to be any withdrawal or degradation of the current level of GSC for many hospitals in Scotland, this would simply potentially weaken the level of support for these other surgical specialties.

## 7. Models of Care

A variety of models of care were considered. These were based on current examples of practice, in the UK and elsewhere, as well as options that were considered to be feasible and would provide support to this service. These include:

1. joint regional appointments;
2. specialist out-reach service with local lead surgeon;
3. networks of DGHs;
4. over 12 service only with under 12s going to specialist centre;
5. in-house lead surgeon with close relation to specialist centre
6. DGH specialist appointment with inreach
7. tiered model of care.
8. joint regional appointment attached to specialist centre and several DGH's

### 7.1 *Joint Regional Appointments*

An example of the arrangements whereby a specialist surgeon has a dual appointment between a specialist hospital and another centre already exists both in Scotland (Lothian/Tayside) and in England (Liverpool).

The benefits of this arrangement are that it provides in-house support for the non-specialist staff and improves training opportunities. It facilitates communication with specialist centres and allows earlier repatriation of complicated children into their own locality with options on local follow-up.

There is help in giving clinical opinion and advice and the potential is for general up-skilling. There is an expressed interest in this type of working pattern from current trainees in specialist paediatric surgery.

The obvious deficiencies are one of travel for the consultant involved, the lack of a 24/7 emergency cover of a consistent level, and the administrative difficulty in

managerial terms of creating a job “shared” by different budget holders with possibly differing levels of commitment to that appointment.

It has advantages over the out-reach model in that the integration of the practitioner into both hospitals seems to yield a better level of investment, and ability to produce clinical leadership than one given “visitor/out-reach” status.

There are clear advantages from the perspective of the patient in having a local specialist on a regular, albeit less than whole-time, basis. It is crucial that this post is in addition to staffing complement of the specialist centre, since withdrawal of an existing slot will weaken that specialist base. Such posts, moreover, conform to the projected status of MCNs with the ambition of fusion of local and regional planning – meeting the mutual ambition of separate employers.

This model of appointment is, however, potentially restricted by geography, i.e. proximity of specialist and non-specialist hospital would be preferable. Existing appointments in Scotland cope with travel distances for the surgeons, however, because of the flexibility in the administrative approaches by both clinical staff and employers. The costs of having specialist surgeons travelling long distances will need to be measured against the many definite benefits these appointments bring to promoting local services.

## *7.2 Specialist Out-Reach with Local Lead*

Both elements of this model are important, as it tends to focus strongly on the elective component alone, leaving emergency provision as a very separate set of problems. This dissociation is potentially unhelpful, and it is advantageous for the out-reach team/surgeon to work collaboratively with in-house clinicians, notably paediatrics and anaesthesia.

It is also a tried and tested working relationship between hospitals and is a way to provide specialist presence and specialty support for a non-specialist unit. Again this arrangement is helped by geographic proximity of the “recipient” unit to the “donor” unit.

### 7.3 *Network of DGHs*

In England there are, in densely populated urban areas, multiple hospitals relatively close to each other, and it is being proposed that the lead children's surgeons of each form a network which provides continuous availability of clinical expertise. The configuration of hospitals in Scotland is unlikely to let this happen for this particular clinical service.

### 7.4 *12 and Above Only Care*

This model has already come into existence in a small number of hospitals already. Whilst it does acknowledge a stated position in the inability to provide care for younger children, it would appear to place older children in an adult setting and healthcare process which may not meet their needs.

The impact of the age 16 watershed for paediatric age limit, upon the future practice in hospitals such as these, is unknown, but there will be times when the urgency of the situation will be better served by immediate intervention by a non-specialist rather than delayed treatment by a specialist.

### 7.5 *In-House Lead General Surgeon*

This is a model currently deemed unsatisfactory in that the continuation of the same type of care would appear to be problematic. As a model of service delivery, it is in itself entirely appropriate, but the difficulties besetting succession on account of the changes to preparatory training would appear not to favour this way of providing service – at least in the short-term.

However, if alternatives can be found to ensuring such surgeons are appropriately trained, then this model of care remains a valid prospect for some hospitals; indeed, the presence of more than one such person would consolidate this service substantially. The review found a re-awakening of interest in this model.

### *7.6 DGH Specialist with inreach*

Whilst it is a minority of SpR's in paediatric surgery who expressed interest in working in a DGH during a questionnaire study (\*), the appointment of a paediatric surgeon to a large DGH with elective clinical sessions in the specialist hospital might be a model which appropriate for specific locations. This would cater well for elective surgery and share the same limits for emergency surgery as the other models, but for the fact that the surgeon would be able to provide a rostered emergency cover for children in the DGH if he/she so wished, and a purely elective service in the specialist centre.

### *7.7 Tiered Levels of Care*

As a method of providing a basis for planning, a reference point for discussion, and a guide for service delivery, a tiered level of care plan has been drafted. This has provided context to the discussion and is simply a method of grouping age, complexity of condition, and available facilities and support, into categories which may allow hospitals to determine their current and future service strategy. Whilst not currently prescriptive nor indeed having any status in the NHS in Scotland, it may help direct a planning process to areas where there is either sufficiency or inadequacy of resource for the population.

### *7.8 Joint appointment to several hospitals*

This is a variation on 7.1 which allows a single surgeon to support more than one district general hospital when these are suitably located geographically.

### *7.9 Advantages of joint specialist/non-specialist working*

The combination of a local General Surgeon with an interest and a joint appointment Specialist Surgeon has several advantages. With good communication and working relationships, local standards are maintained at specialist hospital level, a permanent 'paediatric surgical presence', directly or indirectly, is provided in the DGH, communication channels between other adult general surgeons looking after children

and paediatricians, and between the DGH and Specialist Hospital are facilitated and formal and informal paediatric surgical CPD can be a regular feature for surgical and paediatric staff.

Cant get rid of the space, setup wrong!

## 8. **Elective v Emergency Care**

- 8.1 The predictability of elective care allows organisation and preparatory staffing for care. Hence operation lists will usually be carried out by staff with a commitment to paediatric care.
- 8.2 However emergency cover means a child will be admitted under the care of the duty surgeon who may or may not have expertise in the General Surgery of Childhood.
- 8.3 In the event of the latter situation, the older child will appear to be manageable by most general surgeons. Difficulties arise, when there is diagnostic uncertainty, or there is a need for urgent intervention. In these situations the options include stabilisation (along with the help of the medical paediatrics) and hand on the case to the in-house expert, or onward refer it to the specialist unit. It important that not all elective surgery, the more predictable and manageable part of the service, is “handed over” to an outreach or visiting surgeon, potentially deskilling the emergency surgeon and leaving the more challenging component (emergency surgery,) to be left to the in-house team. In that regard, the “elective first” approach must be considered as an obligate element of the team that will be treating children in an emergency setting.
- 8.4 The visit process took note of the transfers in and out of District General Hospitals. In some cases there was dispute of the accuracy of these figures. It was not therefore possible to analyse these for trends, nor was it possible to identify the effects of non-specialist care on outcome. Apart from occasional anecdote, however, no evidence exists of a consistent deficiency in care at the present time.
- 8.5 During the visitation process, several surgeons made the point that, although their exposure to elective surgery was intermittent and of a relatively low volume, they were resistant to discontinuing this practice, since they believed it would be prejudicial to skill preservation and reduce their skill base for dealing with emergency conditions. This statement was reiterated in several

locations and was made, recognising that the conditions in elective and emergency practice are in the main quite different in nature and in age groups, elective being younger (eg hernia and orchidopexy) and in emergencies slightly older (eg appendicitis and testicular torsion).

- 8.6 The volume of emergency surgery in children under 16 years of age across Scotland is significant, and there is still a substantial dependency upon general surgery if the age group up to 16 years of age is considered: eg the annual number of appendicectomies in the 3 children's hospitals is approximately 360 (average 2003-2005). The total annual appendicectomies performed in children under 16 years in Scotland in the same time period is 911.



## 9. Care Pathways and Condition Specific Care

9.1 One of the remits given this review was:

“to formulate and recommend care pathways that will best support local delivery of care, local surgical teams and consolidate collaborative working arrangements across the Region”.

9.2 To this effect, the Working Party recognised the merits of a condition-specific approach and formulated care pathways for emergency conditions. Where appropriate an evidence base was used to determine the care pathway and, in the absence of any published best practice, expert opinion was utilised. The complete set of care pathways is seen in Appendix F.

9.3 Emergency case management included:

- Neonatal care;
- Pyloric stenosis;
- Intussusception;
- Appendicitis (age-based);
- Testicular torsion (age-based);
- Acute abdomen (no diagnosis);
- Irreducible hernia;
- Abdominal/multi-system trauma; and

9.4 The recommendations in the remaining conditions were made for the Scottish population accommodating access, travel distance and time.

9.5 Local care pathways are also available in some (but not all) DGHs, notably in rural settings.

## 10. **Special Situations**

### 10.1 *Remote and Rural Care*

All the previous difficulties faced in the provision of GSC, are magnified significantly when the specialty is addressed in a remote setting. Volume is small, dependency on few staff is high, and skill maintenance is difficult. Critical illness is managed by resuscitation, stabilisation and retrieval, but there is still an expectation, on the part of the population for local care, for the acute and common. Moreover the transfer of a child with a simple condition (e.g. child under five with an abscess required the incision and drainage) may be entirely inappropriate. This situation needs a care plan which is sensitive to the child's needs and yet ensures safe practice. This is best achieved by decision-making taken by the senior staff in charge of the case.

Provision of surgical care is compounded by the absence of in-house paediatricians in most of the rural situations, although out-reach clinics are held there, and the possibility of synchronising elective activity around the presence of the paediatric staff exists.

The volume of elective surgery is, however, very small and restricted to older children, although the baseline responses from some of the rural hospitals indicates a willingness to operate on younger children (less than 5).

The case mix in these institutions is more diverse (in keeping with their adult practice) and rural surgeons are capable of dealing with orthopaedic and minor trauma as well as the GSC.

The position proposed robustly by this group of surgeons is one of retention of elective surgery being vital to skill maintenance, so that resuscitation of the occasionally critically ill child (irrespective of the underlying condition being medical or a surgical condition) has a greater chance of success.

An opposite view is one of resuscitation skills being specific and best supported through specific educational experiences (refresher courses, simulator courses) has also been forwarded.

Irrespective of the virtues of each position, there is a continued need for such skills and existing practitioners intend to continue their current practice in the short to medium-term. Recruitment difficulties into these posts have been a feature of the last 10 years and may ultimately be a factor that determines the shape of the service of GSC.

The work of the Remote and Rural Workforce Review will be particularly apposite in this regard.

## 10.2 *Adolescent/Transitional Care*

The new age limit being implemented across Scotland (age 16 years) is likely to have more implications for the existing children's hospitals than DGHs, and the source of these patients is likely to be the urban adult teaching hospitals more than the DGHs, who in general supply the entire age limit of their local population.

That, however, does not deflect from the need for there to be age-appropriate facilities in both DGHs and children's hospitals. The review found few examples of such facilities and where present they were under considerable pressure to be maintained for this population. A separate group (age-appropriate care) will deliver recommendations on this aspect of the surgical service, but it is in this group's view that, given the emotional and physical requirements of teenagers, there should be an age-appropriate facility available which is physically separate from the "childhood population" of the hospital and similarly from the "elderly population".

## 11. Implications for Specialist Centres

- 11.1 Providing the current level of service in DGHs can be maintained, the only major additional challenges the specialist centres will face are:
1. Accommodating a new case-load aged 12 to 16 years;
  2. Provision of out-reach services to maintain local services; and
  3. Consider joint appointments with adjacent DGHs.
- 11.2 The risk of failing to recruit successors to the current generation of surgeons providing GSC is that elective provision of care will decline in each locality. That, in turn, is highly likely to lead to a withdrawal of surgeons from emergency care and then a new case-load will appear in specialist centres – not just those elective and emergency cases that require surgical treatment but also a cohort that will simply need evaluation and assessment.
- 11.3 Working on the premise that the existing disposition of medical paediatric services remains as it is now, much of the “assessment only” case-load may be retained locally, but the need for a surgical opinion will now require a transfer for consultation purposes. Assuming that assessments will be made by, or in conjunction with, medical paediatrics, then most children should be evaluated at their local hospital. In some hospitals in Scotland, this will be an additional burden for medical paediatrics at a time when the number of junior staff in units may be in decline, and those that are present in need of more educational time from the existing consultant staff.
- 11.4 The transfer of a significant number of children will have implications for nursing services, anaesthetic services, have an impact upon the waiting-list times and also crucially upon transport services.
- 11.5 The change in age group will also see a change in case mix – eg adolescent gynaecological services will now be required – and the type of trauma case seen in the children’s units may change, as will be the profile of substance abuse problems.

11.6 While these changes are in the main related to the newly defined age limit, they will be exacerbated, if there is a strict imposition in the DGHs across Scotland, ? and if there is a summary withdrawal of services to the paediatric population.

## 12. International Benchmarking

12.1 The Working Party made contact with a number of surgeons in other countries through their Surgical Colleges or on occasion through direct personal contact. Responses and particularly helpful comments were had from New Zealand and Australia. We acknowledged the following for their assistance:

Professor S Beasley, Christchurch, New Zealand;

Mr Tony Sparnon, Adelaide, Australia;

Dr Gillian Barker, Obsalah, Sweden;

Dr Bill Fitzgerald, Newfoundland, Canada; and

Dr Charles Bagwell, Richmond, Virginia, USA.

12.2 In both Canada and USA, there has been withdrawal by adult surgeons from their inclusion in GSC. Cases of appendicectomy in 15 year-olds are increasingly being treated exclusively by paediatric surgeons with significant impact upon a limited surgical resource. Across the USA approximately 100 posts are unfilled at the present time in specialist paediatric surgery.

12.3 Similarly in Canada the strong direction of travel is to refer all children, irrespective of complexity of condition, to paediatric surgery. The situation of rural Canada continues to be problematic, and there is still surgery performed in that location by general surgeons, but with a low threshold to evacuation of children who are perceived as being potentially complex.

Sweden dealt with this problem by utilising the local surgical service, but again with the centralisation of any complex children. It is clear, however, that information collection and internal communication within Sweden is reported as unstructured. *This point needs a number, have failed to insert 1!*

12.4 The review is extremely grateful for the information provided by New Zealand and Australian correspondents. The South Island of New Zealand in particular has a dispersed and rural population served by a specialist centre in Christchurch. The similarities extend beyond the geographic and climactic

conditions, to the current willingness of senior surgeons to continue in GSC, but a reluctance of their successors to practise in the same way. Hence this country shares many of the problems faced by Scotland. When possible outreach services are provided, but in the main the model of care is still one of dependency upon adult general surgeons and with heavy emphasis on guidelines and care pathways, which encourage regular interactions with specialist and non-specialist centre. In spite of the rural nature of much of South Island, this model of care appears to be sustainable, particularly since the preparatory training for rural surgery includes exposure to training in GSC.

- 12.5 Australia faces different problems in that rural Australia has a dependency of local services by virtue of the distances involved in transfer, but clearly the flying doctor services utilised for ill children and those in remote locations. The large urban populations, such as in Melbourne and Sydney, have a population of adult general surgeons who are prepared to operate on older children in the private sector but are reluctant to offer this service in the public sector. This places significant strains on the paediatric surgical community, which until 2007, have faced a moderate vacancy factor in their number. For the first time in many years, 2007 sees all training posts for paediatric surgery filled with home candidates. The workforce planners in Australia anticipate an increasing dependency upon the community of paediatric surgeons to provide a comprehensive GSC service in Australian cities, but a dependency still on rural surgeons for children in those locations. Recruitment into the rural training programme of the Royal Australasian College of Surgeons remains highly variable and at this time has a low level of popularity with Australian trainees.

### 13. **Timescale of Change**

- 13.1 The current problem of succession has been anticipated for at least the last 10 to 15 years, and the predicted timeframe to retiral of the current senior cohort of GSC is within 5 years (currently underway).
- 13.2 The need for implementation of actions recommended in this review is an urgent one in the Working Party's view.
- 13.3 The numbers needed to replace surgeons in the larger District General Hospitals are unclear, but in 4 of the hospitals visited one or more surgeons will be retiring from GSC within the next 5 years. The Working Party recognises that, whilst the job profile of these doctors contains more than their paediatric component, this component needs to be addressed specifically. In the regional appointment of 3 to 4 consultant surgeons with a joint appointment to specialists and non-specialist units, should be considered.
- 13.4 Moreover, if the pertinent training can be had, the replacement of the outgoing surgeon with another with paediatric interest may be equally acceptable; indeed, these options are not mutually exclusive, but planning must begin now.
- 13.5 In the medium to longer-term (5 to 10 years), all 14 surgeons carrying out surgery on children less than 3 years of age should be replaced with either an adult surgeon trained in GSC or with a shared appointment surgeon.
- 13.6 The transfer of 12 to 16 year-old children to paediatric hospitals will depend to an extent upon the implementation of the new age policy.



## 14. **Workforce Considerations**

- 14.1 Table 3 demonstrates the numbers of surgeons involved in GSC.
- 14.2 The majority of these surgeons treat children simply because of their emergency duties and, given their lack of specific interest in GSC, they restrict their practice to older children and uncomplicated conditions, such as appendicitis.
- 14.3 With the exception of the urban teaching hospitals who are likely to relocate the 12 to 16 year-old work-load into children's hospitals, those adult surgeons treating older children are not predicted to change their practice and in the short to medium-term nor should they.
- 14.4 The report concentrates on replacing the adult surgeon, with a specific interest in children's surgery, with the aspiration that consolidation of this cadre of surgeon will act to support the adult surgeon, who is prepared to operate on the 5 to 10 age group, by virtue of their previous training and experience and ongoing in-house support.
- 14.5 Moreover, while the subject matter of this report is principally GSC, an opportunity is being taken to note the potential impact on specialist centres of the change in age limit for acute admissions. Hence regional appointment of specialist surgeons over and above current specialist numbers could also help overcome the manpower issues in the Specialist Hospitals with the increase in caseload due to the extended age range of up to 16 or 18 years.
- 14.6 Projection of the current numbers of trainees in Paediatric Surgery would suggest there will be sufficient specialist paediatric surgeons within the next five years to occupy joint regional appointments if that eventuality arises. The current figures suggests a transient overproduction of trainees in relation to job opportunities

## 15. **Financial Aspects**

- 15.1 Fiscal considerations are outwith the remit of this report and hence no attempt has been made to cost the recommendations. However, the apparent costs, in relation to the importance of providing local services, appears to be reasonable.
  
- 15.2 Matters related to the facilities available to children in hospital are again not the brief of this review, but the visit process identified unmet needs in some areas, and in particular showed provision of adolescent and HDU facilities to be generally poor.

## 16. Findings, Conclusions and Observations

16.1 The list of findings below summarised the observations, findings and conclusions extracted from analysis of data, results from hospital visits, correspondence with other countries, and review of the existing literature. The findings of the Working Party are as follows:

1. There is no contractual identification of paediatric duties in any general surgeon's job plans;
2. Most hospitals have no form for interdisciplinary discussions/planning/care review;
3. Children's surgery is not a strategic priority;
4. There is poor or no succession planning for existing general surgeons with GSC responsibilities;
5. There is poor if any engagement of GSC with regional planning;
6. GSC has a heavy dependency on paediatric medicine ( in most but not all centres)
7. Good anaesthetic provision for children exists across Scotland;
8. There is erosion of already poor adolescent facilities;
9. Reasonable working/clinical relationships exist between DGHs and children's hospitals;
10. The suggested models of care are an appropriate way to approach planning;
11. The proposed care pathways are an useful addition to service;
12. Shared regional appointments are a popular model of service delivery; and
13. Specialist units are anticipated as facing an increased work-load as a consequence of age limit change.

## 17. Consultations

17.1 The review acknowledges that the methodology involved provided limited opportunity for clinical staff across Scotland to feed into the process. However, it achieved no consultation with the public other than through lay representation on the Working Party. An internal recommendation therefore was made, during the process of review, that an open meeting should be held to allow all health professionals, NHS management with an interest in this matter and the public to engage in the review process. This meeting was held in the Radisson, Glasgow on Friday the 31<sup>st</sup> of August, 2007. Over 100 delegates attended the meeting. The intention was primarily to review the subject matter of the report, with particular reference and perspective from the different regions of Scotland. Moreover the pathways of care and models of care received particular comment and presentation at the review meeting. A summary of the feedback is seen in appendix F.

## 18. Recommendations

### Summary of Recommendations

1. General surgery is a core part of health services for children in Scotland and should be provided to meet local needs. There is an urgent requirement for each Health Board to examine current provision in order to develop or sustain this service. Strategic planning needs to address local, institutional and regional needs. This is a responsibility which all Health Boards should meet within the next 12 months.
2. Local services (including remote and rural hospitals) must have diagnostic care, resuscitation and stabilisation as a minimum clinical standards set.
- 3 All hospitals must develop a multi disciplinary forum, where the surgical care of children can be reviewed, discussed, planned, and audited on a regular cycle (see “package of care”). Communication between specialist centres and DGH’s must be reinforced.
4. In the short-term (0 to 5 years), 3/4 regional appointments should be made in Scotland, to support the larger DGHs in the General Surgery of Childhood, and the children’s hospitals in their requirement to expand their age group.
5. The care pathways described in this report should provide a basis for clinical decision-making across Scotland for the conditions described.
6. Medical paediatrics should be involved jointly in the care of General Surgery of Childhood in the following as a minimum:
  - Emergency conditions in children less than 5 years;
  - Children of all ages with diagnostic uncertainty; and
  - Children of all ages in need of high dependency care.
7. Paediatric training should reflect this clinical duty. Inclusion of medical paediatrics in the care of other general surgical children is at the discretion of local clinicians and is generally recommended.
8. Inpatient adolescent facilities which provide privacy and gender separation require to be provided for young people.
9. The General Surgery of Childhood should be a mandatory part of core training in general surgery.
10. Formal arrangements should be made through NHS Education for Scotland, Colleges and Specialty Associations for continuous professional development of surgeons and anaesthetists involved in the General Surgery of Childhood, and for all clinicians (including nurses, therapists and anaesthetic assistants) treating children.

11 Health Boards should determine their intended level of care for children at each location. (Reference to Figure 3 may be useful in this regard).

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**NATIONAL STEERING GROUP FOR SPECIALIST PAEDIATRIC SERVICES**

**GENERAL SURGERY OF CHILDHOOD**

**Executive Summary**

## **EXECUTIVE SUMMARY**

This review was commissioned by the National Steering Group for Specialist Services for Children, on the basis of concern over the sustainability of general surgical services for children across Scotland. This is not a unique problem as across the United Kingdom, there has been a progressive withdrawal of adult general surgeons from the surgical care of children. This is now approaching a critical stage as many of the current older generation of surgeons are retiring and are being replaced with surgeons who have no preparatory training in children's surgery.

The implications of failure to provide a local service could be enormous. For every child who may require a general surgical operation, there will be three or four who will simply require assessment with no surgical intervention. If this service is not available in each locality, then not only will specialist centres be overwhelmed but transport providers would face an increased demand on their services - not to mention the inconvenience and distress to families, children and young people from potential delays in receiving treatment.

Whilst the problem has been well defined by the Medical Royal Colleges, training institutions and Specialty Associations, there appears to have been no ownership in terms of remedial actions. This review is designed therefore to consider the Scottish situation and to propose potential solutions. It should be said that the nature of the problem differs across the different geographical zones of Scotland and there is no one single solution that covers the whole of Scotland. ; However, this report offers several options and it will be for each strategic health care organisation to choose that solution that will best fit their their area's needs.

The review team feels that this situation is urgent. Problems already exist and will become significantly more severe within the next five years.

Therefore the principal drivers behind this review are the quality and sustainability of the existing service. There is no evidence base available in Scotland to suggest that in terms of quality of outcome, the existing model of care is unsatisfactory. If new proposals can fortify the service they need consideration, but the emphasis in this report is given to service priorities with the implications for training, education etc. being secondary. This report attempts to define the care required as its primary concern; and the facilities, manpower and other resources needed to support this plan, as a consequence of this.

Approximately 40,000 children are treated each year by surgical services in Scotland. 33,000 are treated locally by surgical disciplines other than general or paediatric surgery. The general surgery of childhood should therefore be another service that is available to children in their own locality with the proviso being that, in terms of standards of care, local care is safe and sufficient.

## **Key Issues**

### ***Manpower***

A substantial proportion of the general surgery of childhood, both elective and emergency is currently carried out in district general hospitals by non-specialist adult general surgeons. Trainees in general surgery are given discretion to choose their subspecialty interest with no reference to service requirement; general surgery of childhood has not proved a popular choice and therefore there are few if any trainees being prepared to succeed the current adult surgeons.

Changes in working patterns and training structure, driven by the European Working Time Directive, shift working and Modernising Medical Careers may combine to reduce the flexibility required to make use of the training opportunities available in District General Hospitals for children's general surgery.

### ***Standards***

There is in many existing units, poor compliance with the standards of care for all aspects of children's surgery set out in previous reports.

There is a perception that there exists a close relationship in all surgery between volume and outcome. In the absence of a defined programme of Continued Personal Development for surgeons performing children's general surgery, some adult general surgeons are becoming uncomfortable about continuing to treat small numbers of children, whether in the emergency or elective situation.

### ***Service Delivery***

There is a steady decline in the number of cases of both elective and emergency children's surgery being performed by non-specialist surgeons. This may in part be due to the move towards conservative management in many conditions of childhood. However, there is a definite shift of patients towards the specialist centres, either by direct referral from primary care or via an initial referral to the District General Hospital. This shift may or may not be fully funded.

Current adult surgeons performing children's general surgery may well be replaced on retirement by surgeons who are unwilling or untrained to perform children's general surgery, particularly if they fulfil the requirement for other pressurised services such as cancer-care.

### ***Age***

The National Framework (Kerr Report) has suggested increasing the age of admission to children's units to 16 years. Whilst this may not impact directly on the District General Hospital where the full age range already is catered for, it will certainly impact on the workload in the specialist children's units and reduce their capacity to accommodate this new referral pattern from District General Hospitals.

### ***Priority***

Children's general surgery is not currently seen as a priority. This may be due to a higher priority given to other services such as cancer care, and the perception that the shorter waiting times for children indicate adequate provision. The true costs of the 'non-technical' needs of children and their families are poorly understood & remain unmeasured.

### **Timescales**

There is a real urgency in addressing the issues in children's general surgery as there will be retirements of the current adult surgeons providing children's general surgery as early as 2008. The new hospital projects in Edinburgh and Glasgow and the requirement for them to provide services up to aged 18 also impact on the requirement for urgent solutions.

### ***Next 12 months***

- All health boards in Scotland should produce a strategic plan for the provision of children's general surgery in their area which addresses local, institutional and regional needs, whilst examining current provision and the changes required to develop or to sustain this service. This should include succession planning for the current adult general surgeons who at present provide the service.
- All NHS boards to clearly identify at which surgical level they wish to practice in line with the tiered model of care
- Full implementation of care pathways developed to support the care of children within Rural and District General Hospitals
- All Specialist, District and Rural Hospitals are required to establish a multi-disciplinary Forum, with the remit to address clinical issues linked to children's health.
- All Specialist, District and Rural Hospital are required to appoint a lead surgeon for paediatric surgery.

### ***Next 2 years***

- NHS Education for Scotland, along with the Royal Colleges Specialty Associations should provide programmes for CPD for all of those involved with children's general surgery.

### ***Regional appointments***

- By 2011 4 regional appointments of specialist paediatric surgeons to support the larger District General Hospitals. The location of these posts will be dependent on local NHS boards and regional planning groups needs.

### **Recommendations**

1. General surgery is a core part of health services for children in Scotland and should be provided to meet local needs. There is an urgent requirement for each Health Board to examine current provision in order to develop or sustain this service. Strategic planning needs to address local, institutional and regional needs. This is a responsibility which all Health Boards should meet within the next 12 months.
2. Local services (including remote and rural hospitals) must have diagnostic care, resuscitation and stabilisation as a minimum clinical standards set.
3. All hospitals must develop a multi disciplinary forum, where the surgical care of children can be reviewed, discussed, planned, and audited on a regular cycle (see “package of care”). Communication between specialist centres and DGH’s must be reinforced.
4. In the short-term (0 to 5 years), 4 regional appointments should be made in Scotland, to support the larger DGHs in the General Surgery of Childhood, and the children’s hospitals in their requirement to expand their age group.
5. The care pathways described in this report should provide a basis for clinical decision-making across Scotland for the conditions described.
6. Medical paediatrics should be involved jointly in the care of General Surgery of Childhood in the following as a minimum:
  - Emergency conditions in children less than 5 years;
  - Children of all ages with diagnostic uncertainty; and
  - Children of all ages in need of high dependency care.
7. Paediatric training should reflect this clinical duty. Inclusion of medical paediatrics in the care of other general surgical children is at the discretion of local clinicians and is generally recommended.
8. Inpatient adolescent facilities which provide privacy and gender separation require to be provided for young people.
9. The General Surgery of Childhood should be a mandatory part of core training in general surgery.
10. Formal arrangements should be made through NHS Education for Scotland, Colleges and Specialty Associations for continuous professional development of

surgeons and anaesthetists involved in the General Surgery of Childhood, and for all clinicians (including nurses, therapists and anaesthetic assistants) treating children.

11. Health Boards should determine their intended level of care for children at each location. (Reference to Figure 3 may be useful in this regard).

Table 1 - Scottish Hospitals reviewed for admissions /procedures carried out in GSC

Arran War Memorial Hospital	Royal Hospital for Sick Children G*	Western General Hospital*
Ayrshire Central Hospital	Western Infirmary/Gartnavel General*	Astley Ainslie Hospital
Crosshouse Hospital*	Dunbar Hospital	City Hospital
Davidson Cottage Hospital	Caithness General Hospital*	Princess Margaret Rose Hospital
Ayr Hospital	Lawson Memorial Hospital	Royal Hospital for Sick Children E*
Knoll Hospital	Raigmore Hospital*	St John's Hospital At Howden
Borders General Hospital*	Ian Charles Hospital	Royal Infirmary of Edinburgh at Little France*
Dunoon & District General Hospital	Belford Hospital*	Princess Alexandra Eye Pavillion
Islay Hospital	Mackinnon Memorial Hospital	Ninewells Hospital*
Mid Argyll Hospital	Portree Hospital	Dundee Royal Infirmary
Victoria Hospital	Ross Memorial Hospital	Kings Cross Hospital
Arran War Memorial Hospital	Monklands Hospital*	Perth Royal Infirmary*
Dunaros and Salen Sick Bay	Kello Hospital	Blairgowrie Community Hospital
Lorn & Islands District Gen Hospital*	Hairmyres Hospital*	Meigle Community Day Hospital
Campbeltown Hospital	Stonehouse Hospital	Arbroath Infirmary
Vale of Leven District General Hospital	Wishaw General Hospital*	Stracathro Hospital
Inverclyde Royal Hospital*	Aberdeen Royal Infirmary*	Crieff Community Hospital
Royal Alexandra Hospital*	Albyn Hospital	Falkirk and District Royal Infirmary*
Larkfield Unit	Woodend General Hospital	Stirling Royal Infirmary*
Golden Jubilee National Hospital	Royal Aberdeen Children's Hospital*	Abbey King's Park Hospital
Cameron Hospital	Maidencraig House	Daliburgh Hospital
Victoria Hospital*	Peterhead Community Hospital	St Brendan's Hospital
Forth Park Hospital	Fraserburgh Hospital	Western Isles Hospital*
Adamson Hospital	Jubilee Hospital	Uist & Barra Hospital
St Andrews Memorial Hospital	Turriff Cottage Hospital	Dumfries & Galloway Royal Infirmary*
Glenrothes Hospital	Chalmers Hospital	Kirkcudbright Hospital
Queen Margaret Hospital*	Dr Gray's Hospital*	Moffat Hospital
Canniesburn Hospital	Seafeld Hospital	Garrick Hospital*
Glasgow Dental Hospital and School	Turner Memorial Hospital	Gilbert Bain Hospital*
Glasgow Royal Infirmary*	Fleming Cottage Hospital	Victoria Infirmary*
Ruchill Hospital	Balfour Hospital	Town and County Hospital Nairn
Stobhill Hospital	Eastern General Hospital*	Ian Charles Hospital
Southern General Hospital*	Roodlands General Hospital	Stirling Royal Infirmary*

\*

Denotes those Hospitals actively involved in care provision of GSC

General Surgeons treating children < 16y

<u>24 hospitals</u>	<u>Surgeons</u>
• Rota surgeons	135*
• 5 – 12y	56
• > 5y	32
• Lead surgeons (<3y)	14

\* No data from Gartnavel and Glasgow Royal Infirmary

Table 2



**Table 3**  
**Levels of care**

<b>Level of Care</b>	<b>Age</b>	<b>Example conditions</b>	<b>Supporting facilities/conditions and accompanying services</b>
1 remote and rural	No age specified	Abscess, torsion tests(urgent uncomplicated with no co morbidity)	Experienced children's anaesthetist with appropriately certified and competent support staff. No significant in-patient stay envisaged
2	11-16 yrs	Appendicitis, torsion testis + elective conditions in this age group, trauma	No inpatient paediatric, paediatric section to A&E, Access to suitably trained or experienced paediatric nurses All staff have paediatric resuscitation accreditation Adolescent facilities
3	5-10yrs	Appendicitis, torsion testis, elective surgery, trauma	Paediatric A& E, Children's Nurses Immediate access to paediatrician Paediatric inpatient facilities Identified lead paediatric anaesthetist Lead general surgeon
4	1-5 yrs	Elective & emergency surgery in this age range eg. Hernia, orchidopexy	lead paediatric anaesthetist formalised link with specialist paediatric surgeon Paediatric HDU available In house paediatrics Lead general surgeon

\* The levels are advisory and each region/NHS Board should indicate the level to which individual hospital should adhere.

**Appendix A**  
**Working party membership**

## Appendix A Members of Working Party

- George Youngson ( chair)
- Alistair Fyfe RHSC Glasgow-WOS regional planning
- Graham Haddock RHSC Glasgow
- Fraser Munro RHSC Edinburgh –Lothian Regional Planning
- Bill Manson RHSC Edinburgh
- John Duncan Raigmore hospital
- Brian Sugden Crosshouse hospital
- Charles Clark West of Scotland Regional Planning
- Mike Lavelle-Jones Ninewells
- Lorna Wiggins Nursing representative Tayside
- Fiona Bartley- Jones Action for Sick Children
- Ian Bashford Department of Maternal and Child Health, Scottish Executive  
Health Department
- Ken Mitchell Department of Maternal and Child Health, Scottish Executive  
Health Department
- Gillian Garvie Department of Maternal and Child Health, Scottish Executive  
Health Department
- Ros Lawson Anaesthetist RHSCG
- David Simpson Intensivist RHSC Edinburgh
- Chris Driver North of Scotland regional planning-RACH,  
Aberdeen
- Adrian Magerison RCPCH
- John Schulga Stirling
- Jamie Houston NHS Highland

## Appendix B Minutes of Working Group

**CHILDREN AND YOUNG PEOPLE'S HEALTH SUPPORT GROUP  
NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES IN  
SCOTLAND**

**PAEDIATRIC GENERAL SURGERY WORKING GROUP - MONDAY 25<sup>TH</sup>  
SEPTEMBER 2006 - RAMADA JARVIS HOTEL, PERTH**

<b>PRESENT</b>	
Professor George Youngson	Chair
Mr Fraser Munro	Consultant Paediatric Surgeon – SEAT representative
Dr Ros Lawson	Consultant Anaesthetist – SCCCSS representative
Mr Adrian Margerison	Scottish Officer – RCPCH
Dr Charles Clark	Public Health Consultant – WoS & Child Health Commissioner Representative
Dr Ian Bashford	Professional Adviser – SEHD
Mr Graham Haddock	Consultant Paediatric Surgeon – SCCCSS Representative
Mr John Duncan	Consultant General Surgeon – Raigmore
Dr David Simpson	Consultant Anaesthesia & Intensive Care – SCCCSS Representative
Mrs Lorna Wiggins	SPENS Representative
Mr Bill Manson	Consultant Paediatric Surgeon -
Mr Ken Mitchell	Senior Project Manager, Children and Young People's Specialist Services Team – SEHD
Ms Gillian Garvie	Policy Manager – Child and Maternal Health Unit – SEHD

**1. Apologies**

Mr Alasdair Fyfe - Consultant Paediatric Surgeon – Yorkhill Representative  
 Mr Chris Driver - Consultant Paediatric Surgeon – Northern Planning Group &  
 Aberdeen Children's Hospital Representative  
 Action for Sick Children  
 Children in Scotland

**2. Welcome, Introductions and Background**

Professor Youngson welcomed the members of the group and provided a brief overview on the background to the Specialist Children's Service work stream ; in particular explaining the reasoning for the focus on Paediatric General Surgery. He also introduced several documents as background material. These included:

- HDL 2005(26) regarding the implementation of the Kerr Report and Delivering for Health
- The Future of Children's Surgery in Scotland – discussion document written in 2000, issued in 2002
- Joint Statement on General Paediatric Surgery provision in District General Hospitals in Great Britain and Ireland
- General Surgical Services for Children in Scotland – 21<sup>st</sup> Century Care – A Review of Non-specialist Surgical Units.

Professor Youngson highlighted the following points:

- Majority of non-specific general surgery has been conducted by adult surgeons – by virtue of their training they can deliver care for children.
- From 1990, general surgeons have been given the opportunity to have a specialist interest in children's surgery - 1500 general surgeons have trained in UK but few have declared an interest in children's surgery.
- For the purpose of this group, we are looking at children aged under 16.

Subsequent discussion focused on the current position of paediatric general surgery in Scotland with the following points being made:

- There is a very small number of general surgery registrars who have spent 6 months in a dual accredited post
- Location of specialities is a problem in many Board areas i.e. paediatric units located in one DGH with general surgery located in another
- Issues associated with anaesthetic cover for under 3's in DGH's
- Issues around confidence of radiologists in reading children's scan/x-ray results
- Provision of emergency cover causing concern within DGH's
- Training issues a major concern re: sustainability of future provision
- Clinical Governance issues may have a direct impact on the future provision of general surgery in DGH's
- Consensus that the output of the group had to include clear recommendations to support the sustainability of Paediatric General Surgery with DGH's

### **3. Role/ remit & membership**

Professor Youngson introduced the draft role and remit paper for discussion and agreement. Following discussion it was agreed to amend the following –

- Bullet point 1 to incorporate elective/emergency and day case surgery
- Bullet point 2 to incorporate a statement outlining the provision of support to surgical teams.

Following discussion regarding membership it was proposed that the following addition members be invited to join the group -

- Mr Mike Lavelle-Jones – Nine wells, Dundee
- A General Surgery Representative from Ayrshire

#### **Actions:**

- 1. Ken Mitchell to ensure invitations are forwarded to the additional members .**
- 2. Ken Mitchell to ensure role and remit paper is updated and re circulated**

#### **4. Work Plan**

Professor Youngson spoke to the draft project plan and the various actions outlined within it. General agreement was given to the various actions, which will be discussed in more detail at the November meeting of the group.

Specific discussion took place on the proposed visits to the DGH's. It was felt that there needed to be a baseline survey undertaken across locations providing general surgery, prior to visits. Subsequent debate took place regarding areas which maybe visited and what the purpose of the visits would be.

Suggestions were made regarding locations and content of baseline survey. It was agreed that a draft template would be discussed at the November meeting; proposals for visits to be further discussed at November meeting.

#### **Actions:**

- 1. Professor Youngson and Ken Mitchell to develop pre-visit proforma**
- 2. Ken Mitchell to produce proposal for DGH's visit**

#### **5. Establishment of Information Library**

Professor Youngson informed the group that as part of the group's activities it is intended to develop an information library of relevant information. Members were asked to forward any relevant reports, information etc to Ken Mitchell.

Discussion took place on ISD information circulated and the need to gather additional information. ISD to be approached regarding the following

- Age break down in the following – 0-5, 6-10, 11-15
- To clarify if it is possible together information on number of procedures undertaken per surgeon
- Out patient referral numbers(diagnosis information to be circulated)

#### **Actions**

- 1. Ken Mitchell to contact ISD re additional information**
- 2. Identification of relevant reports and information(all)**

## **6. International Comparisons**

Professor Youngson, suggested that as part of the final report it would be useful to consider international comparisons. Approaches have been made to Australia, Canada and Norway to date.

## **7. AOCB**

- **Joint statement on General Paediatric Surgery** – This correspondence was discussed and it was agreed that Professor Youngson would draft a response on the group's behalf.
- **Other Project areas** – It was noted that the work of the group would need to reflect/consider the work of other groups i.e. age appropriate care, workforce and rural services for example.

## **8. Dates of Future Meetings**

Monday 13th November Stirling Highland Hotel -10.00 to 2.30

Wednesday 24th January – TBA – 10.00 to 2.30



**CHILDREN AND YOUNG PEOPLE'S HEALTH SUPPORT GROUP  
NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES IN  
SCOTLAND**

**PAEDIATRIC GENERAL SURGERY WORKING GROUP - MONDAY 13<sup>th</sup>  
NOVEMBER 2006 – HIGHLAND HOTEL, STIRLING**

<b>PRESENT</b>	
Professor George Youngson	Chair
Mr Fraser Munro	Consultant Paediatric Surgeon – SEAT representative
Dr Ros Lawson	Consultant Anaesthetist – SCCCSS Representative
Dr David Simpson	Consultant Anaesthesia & Intensive Care – SCCCSS Representative
Dr Charles Clark	Public Health Consultant – WoS & Child Health Commissioner Representative
Mr John Duncan	Consultant General Surgeon – Raigmore
Mrs Lorna Wiggins	SPENS Representative
Mr Bill Manson	Consultant Paediatric Surgeon – Royal Hospital for Sick Children, Edinburgh and Tayside representative
Mr Alasdair Fyfe	Consultant Paediatric Surgeon – Yorkhill Representative
Mr Brian Sugden	General Surgeon – Crosshouse Hospital
Mr Ken Mitchell	Senior Project Manager, Children and Young People's Specialist Services Team – SEHD
Ms Gillian Garvie	Policy Manager – Child and Maternal Health Unit – SEHD

**1. Apologies**

Dr Adrian Margerison - Scottish Officer - RCPCH  
 Dr Ian Bashford - Professional Adviser – SEHD  
 Mr Graham Haddock - Consultant Paediatric Surgeon – SCCCSS Representative  
 Mr Chris Driver - Consultant Paediatric Surgeon – Northern Planning Group & Aberdeen Children's Hospital Representative  
 Mr Mike Lavelle-Jones – Consultant Paediatric Surgeon & Dundee Representative

**2. Minutes of meeting held on the 25<sup>th</sup> September 2006**

Subject to minor amendments, the minutes of the previous meeting were approved.

**3. Matters Arising**

**a) Revised Role and Remit**

The role and remit paper was agreed.

**b) Response to Senate letter**

There was discussion about the response to the senate letter which was issued on behalf of the Group and the response which had been sent by Liam Donaldson.

**c) International Comparisons**

Letters have been sent to Presidents of College of Surgeons in Canada and Australia, asking for information regarding the provision of general surgery. Following some discussion it was felt that contact should also be made with either Sweden or Norway. Mr B Manson has a contact in Sweden and agreed to undertake this.

**Action point**

- **Mr B Manson to forward copy of letter, to contact in Sweden**

**4. Implementation of Work Plan**

**a) Development of models for delivery**

- Need to establish what exists now
- Consider options for the future
- Carry out option appraisal exercise

It is intended that the group will develop a discussion paper covering these issues. However as a starter it was agreed that members would consider current/future models of care and send their thoughts/suggestions to Ken Mitchell. This information will be collated and used as the basis for discussion at the next meeting..

**Action point**

- **Group members to forward thoughts on current and future models of care to Ken Mitchell by Monday 18<sup>th</sup> December**

**b) District General Hospital visits**

Ken Mitchell spoke to the paper highlighting the proposed visit sites and purpose of visits. Professor Youngson clarified that the visits were intended to test out existing models of provision and consider future models of provision.

Following debate it was agreed that Ninewells and Wishaw General should be included as part of the programme.

The proposed timetable for visits was agreed as -

- 22 January 2007 – Stirling Royal Infirmary, Stirling
- 5 February 2007 – Raigmore General, Inverness

- 1 March 2007 – Dumfries & Galloway General, Dumfries
- 12 March 2007 – Crosshouse, Ayr & Wishaw General, Wishaw
- TBC – Ninewells, Dundee

#### **Action Point**

- **Health Boards to be contacted regarding proposed visits and obtain agreement to participate. Prof Youngson and Ken Mitchell to progress**
- **List of proposed membership for each visit to be finalised and circulated with minute (Gillian Garvie & Ken Mitchell)**

#### **c) Baseline Questionnaire**

General discussion took place regarding the content of draft questionnaire with several suggestions being made on how to improve it.

Discussions also took place on how best to distribute the questionnaire, Dr C Clark suggested that the Child Health Commissioners would be a logical mechanism for distribution. Following further discussion it was agreed to approach NHS Chief Executives, copying to Child Health Commissioners.

#### **Action –**

- **Dr C Clark to email all Child Health Commissioners to let them know about questionnaire**
- **Ken Mitchell to amend questionnaire and re circulate for comment**

#### **5. Update of Information Library**

##### **a) Update re ISD information**

Ken Mitchell informed the group that, discussions have taken place with ISD regarding specialist children's services work stream. From this various contacts have been identified. Dr J Pearson from ISD has been identified as General Surgery contact. Work is currently underway to produce a user friendly version of the statistical information.

#### **6. Regional Planning Group Progress**

##### **a) North of Scotland**

Professor Youngson provided a brief update, key points being –

- Discussions are currently underway with NHS Orkney regarding improvements with the surgical outreach service from NHS Grampian

## **b) SEAT**

Mr F Munro provided a brief update, key points being –

- One meeting of general surgery group has taken place.
- It is envisaged that the group will be able main vehicle to take forward any recommendations made by the National Review Group.
- SEAT have a users reference group which maybe a useful sounding board for the National group to test out recommendations with

## **c) West of Scotland**

Dr C Clarke provided a brief update –

- A group has still to be formed, but its intended to take this forward shortly

## **7. Any Other Business**

### **a) Workforce – Sub Group Update**

Ken Mitchell informed the group that the first meeting of the workforce group has taken place. The group is still at the development stage, but is envisaged that the work of this group will be closely linked.

The Group discussed the Department of Health document, *The Acute or Critically Sick or Injured Child in the District General Hospital* and the implications for general surgery.

## **8. Dates of Future Meetings**

Wednesday 24<sup>th</sup> January 2007 – TBC – 10.00 – 2.30

Thursday 3<sup>rd</sup> May – TBC – 10.00 – 2.30

**ACTION POINTS FROM GENERAL SURGERY PROJECT GROUP  
MEETING HELD ON THE 13<sup>TH</sup> NOVEMBER 2006**

<i><b>ACTION</b></i>	<i><b>BY WHEN</b></i>	<i><b>WHO</b></i>
Draft letter to be sent re training programme/numbers	25 <sup>th</sup> November	GY/KM
Views on existing models of care plus possible examples of good practice, to be submitted asap	18 <sup>th</sup> December	All
Draft minutes of 13 <sup>th</sup> November to be circulated	11 <sup>th</sup> December	GG/KM
Visits to identified DGH's to be organised, included pre-visit information	22 <sup>nd</sup> December	KM/GG
Draft visit proforma to be circulated for comment	15 <sup>th</sup> December	KM
Visit to be organised to Ninewells	12 <sup>th</sup> January	GY/KM
Information on ISD tracers to be developed into user friendly data and made available to regional planning groups	22 <sup>nd</sup> December	JP/KM
Clarify public involvement mechanism for general surgery	15 <sup>th</sup> December	KM
Finalise baseline data questionnaire	24 <sup>th</sup> November	KM
Circulate baseline questionnaire to all NHS Boards for completion	29 <sup>th</sup> November	KM/GG
Organisation of open meeting with lead paediatricians across country	April 2007	KM/GG

**CHILDREN AND YOUNG PEOPLE'S HEALTH SUPPORT GROUP  
NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES IN  
SCOTLAND**

**PAEDIATRIC GENERAL SURGERY WORKING GROUP – WEDNESDAY 24<sup>th</sup>  
JANUARY, FORTH BANK STADIUM , STIRLING**

<b>PRESENT</b>	
Professor George Youngson	Chair
Dr Ian Bashford –	Professional Adviser – SEHD
Dr Ros Lawson	Consultant Anaesthetist – SCCCSS Representative
Dr David Simpson	Consultant Anaesthesia & Intensive Care – SCCCSS Representative
Dr Charles Clark	Public Health Consultant – WoS & Child Health Commissioner Representative
Mr Graham Haddock	Consultant Paediatric Surgeon – SCCCSS Representative
Mr Bill Manson	Consultant Paediatric Surgeon – Royal Hospital for Sick Children, Edinburgh and Tayside representative
Mr Alasdair Fyfe	Consultant Paediatric Surgeon – Yorkhill Representative
Mr Brian Sugden	General Surgeon – Crosshouse Hospital
Mrs Fiona Bartley – Jones	Action for Sick Children Representative
Mr Ken Mitchell	Senior Project Manager, Children and Young People's Specialist Services Team – SEHD
Prof Andrew Simm	Medical Director Western Isles

**1. Apologies**

Dr Adrian Margerison - Scottish Officer - RCPCH  
Miss Gillian Garvie – Policy Manger SEHD  
Mr Chris Driver - Consultant Paediatric Surgeon – Northern Planning Group & Aberdeen Children's Hospital Representative  
Mr Mike Lavelle-Jones – Consultant Paediatric Surgeon & Dundee Representative  
Mrs Lorna Wiggin – SPENS Representative  
Mr John Duncan - Consultant General Surgeon – Raigmore

**2. Minutes of meeting held on the Wednesday 24<sup>th</sup> January 2007**

Minute of meeting agreed as accurate record

### **3. Matters Arising**

#### **a) Medical Paediatric Involvement**

Following discussion it was agreed to invite a paediatrician from a DGH and RGH to join the group.

**Action – Mr Ken Mitchell to invite**

#### **b) Role and Remit paper**

It was agreed that the option appraisal statement maybe inappropriate for the group to pursue at this stage and that the statement would be better stating – To identify specific options for the future delivery of general surgery.

**Action – Mr Ken Mitchell**

#### **c) Rural Issues**

Discussion took place regarding the development of a core model/ care pathways – agreed that this should be followed up in more detail.

It was agreed that a small sub-group should be tasked to develop principles/pathways of care for identified conditions, which could be localised as appropriate.

**Action – Mr Graham Haddock asked to take this forward**

#### **d) International Comparisons**

**Canada** – No response to date

**Australia** – Issues linked to credentialing flagged up – discussion on whether this should be considered in more detail, concluded that the group should focus on attempting to produce a standard setting proposal.

It was felt that the issues were more focused on changing practice and the need for CPD and this was an issue that NES and the College should address. It was agreed that both should be contacted.

**Action – Prof G Youngson to contact NES and College in writing in first instance**

#### **e) Training Opportunities for general surgery of childhood**

Discussions have taken place with Stuart McPherson and Evelyn Dykes  
Summary of these -

- No sub- specialist provision
- Maybe some flexibility around appointments

- Potential may exist to appoint a year in advance, with specific training in place to ensure that an appropriately trained individual is in post.

#### **4. Baseline Data Update**

The majority of the information has been returned. Further discussion have taken place with ISD with the intention of having the information put into a more user friendly format.

#### **5. Update on Site Visits**

Visit to Stirling Royal Infirmary took place on the 22<sup>nd</sup> January – Discussion on issues took place, which covered –

- Models of care
- Role of paediatricians
- Future sustainability of service provision
- Multi-disciplinary support
- Linkage with tertiary centres

Report on visit will be available for next meeting along with other site visit reports.

#### **6. Models of Care Discussion**

Discussion took place on summary of views thoughts submitted on current and potential future models of care. General agreement that this required to be revisit once the site visits had all been concluded.

Bill Manson gave a short presentation on the Tayside/Lothian model for the provision general surgery. There was general agreement that the model was a logical way forward and the group should give careful consideration to it as part of the final recommendations.

#### **7. Regional Planning Group Progress**

##### **a) North of Scotland**

No update given



**b) SEAT**

Mr B Manson provided a brief update, key points being –

- Four models of service delivery have identified
- Work is being progress to develop these in more detail

**c) West of Scotland**

- Dr C Clarke informed the group that the first meeting of the group was taking place in a couple of weeks.

**8. Any Other Business**

**a) Open Meeting** - Discussion took place around the need to have an open/consultation meeting, possible with the Age Appropriate Care Group.

**8. Dates of Future Meetings**

Thursday 19<sup>th</sup> April – Edinburgh  
Monday 2<sup>nd</sup> July - Glasgow

**CHILDREN AND YOUNG PEOPLE'S HEALTH SUPPORT GROUP  
NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES IN  
SCOTLAND**

**PAEDIATRIC GENERAL SURGERY WORKING GROUP – THURSDAY 19TH  
APRIL 2007 – BMA, QUEEN STREET, EDINBURGH**

<b>PRESENT</b>	
Professor George Youngson	Chair
Dr Ros Lawson	Consultant Anaesthetist – SCCCSS Representative
Dr Charles Clark	Public Health Consultant – WoS & Child Health Commissioner Representative
Mr Brian Sugden	General Surgeon – Crosshouse Hospital
Mr Fraser Munro	Consultant Paediatric Surgeon – SEAT representative
Mr Bill Manson	Consultant Paediatric Surgeon – RHSC and Tayside Representative
Mr Graham Haddock	Consultant Paediatric Surgeon – SCCCSS Representative
Mrs Lorna Wiggins	SPENS Representative
Ms Fiona Bartley-Jones	Action for Sick Children
Mr Ken Mitchell	Senior Project Manager, Children and Young People's Specialist Services Team – SEHD
Miss Gillian Garvie	Policy Manager – Child and Maternal Health Division – SEHD
<b>APOLOGIES</b>	
Dr Adrian Margerison	Scottish Officer – RCPCH
Mr Alistair Fyfe	Consultant Paediatric Surgeon – Yorkhill Representative
Dr Ian Bashford	Professional Adviser – SEHD
Professor Andrew Sim	Medical Director, Western Isles
Dr Jamie Houston	Consultant Paediatrician, NHS Highland
Dr John Schulga	Consultant Paediatrician, NHS Forth Valley
Mr John Duncan	Consultant General Surgeon - Raigmore

**1. Minutes of meeting held on the 24th January 2007**

The minutes of the previous meeting were agreed subject to a few minor amendments:

- Page 2 – 2nd paragraph of Rural Issues should have separate heading – Care Pathways

## **2. Matters arising**

### **2a. Correspondence**

#### **Telemedicine:**

A letter had been received from the Scottish Centre for Telehealth. Bill Manson had attended a meeting at the SCTH. The Scottish Executive has the remit to harmonise provision for telehealth across Scotland to ensure the correct equipment is purchased etc. The paediatric project was seen as very successful. The plan is to set up a core steering group. The General Surgery group need to ensure that the telehealth Steering Group are aware of the work going on.

#### **International Contacts:**

No response has been received from the President of College of Surgeons in Canada – Ken Mitchell asked to chase this up.

**Action: Ken Mitchell to chase response from Canada**

### **2b. Training/MMC Issues**

Prof Youngson advised the group that he had written to NHS Education Scotland (NES) to express the view that funding for CPD and continued training for paediatric general surgeons may require to be funded nationally. A response had been received from NES acknowledging that NES along with the Colleges have a role in addressing this issue.

Mike Watson from NES has agreed to have further discussions with Prof Youngson on these issues.

It was suggested that recertification issues should also be considered as part of any future discussion.

#### **Action:**

- Copies of letter from NES to be copied to Presidents of the Royal College of Surgeons in Edinburgh and Glasgow
- Prof Youngson will arrange further discussion with Mike Watson

## **2c. Interim Report**

Interim report written in February is to be circulated to the Group. It was felt that the interim report should be agreed with the group. Prof Youngson advised that the report is about process and not results. He advised that colleagues should circulate the report further if it was felt to be useful.

**Action:**

- Ken Mitchell to ensure interim report is circulated to group for comment

## **2d. ISD Data**

The data tool from ISD was considered to be useful although there were some questions about how accurate this it is. It was suggested that there maybe some under-counting occurring, which could be related to the changes in the codes used. Of particular relevance is data from Edinburgh and Glasgow where the data will inform the planning process for the new hospitals – there is a need to ensure the data reflects clinical activity.

It was felt that there required to be some further discussion with ISD on the figures.

## **3. Development of Care Pathways**

The Group discussed the various care pathways papers, prepared by Mr. G Haddock, Mr B Sugden and Dr R Lawson. It was suggested that there may be other conditions which may benefit from this exercise. Any tool developed needs to be as simple as possible whilst capturing the key issues. Some suggestions were made and sub-group agreed to update the paper and recirculate. Prof Youngson reminded the group that the development of care pathways will be a key part of the work of the Group and which will be sent out for consultation.

**Action:**

**Mr G Haddock will update paper on care pathways and recirculate to the Group.**

#### **4. Site Visits Reports**

Prof Youngson advised that the visits had concluded this week.

##### **4a. Stirling Royal Infirmary**

The report on the visit to Stirling Royal has been signed off by the visiting team and has been sent to the CEO for NHS Forth Valley.

##### **4b. Raigmore**

There were questions from the Group over levels of care as these haven't been set by the Group yet. It was agreed that reports can refer to levels of care but with a warning that levels have not officially been set and that they are subject to change.

The content of this report was agreed, subject to minor redrafts as noted in the meeting.

##### **4c. Dumfries**

The report has been signed off by the visiting team and is to be sent to colleagues in Dumfries for their comments prior to final sign off and issue to CEO.

##### **4d. Crosshouse**

Need to check whether RSCN nursing staff are present at all times. Some minor redrafting to be done in report before sign off.

##### **4e. Wishaw**

The report has not yet been signed off by members of the visiting team.

Concern was expressed that there was no mention in the report about the outreach service provided by Yorkhill and questions raised over why the professionals providing this service were not included in the visit. It was confirmed that the report reflects what information was given on the day of the visit and there was some reluctance to amend the report at this stage however, the concerns of this Group were noted. This incident highlighted the complexity of the task given the timescales in which this piece of work needed to be concluded.

#### **Action:**

- **Comments on reports to be submitted to Prof Youngson ASAP**

## **5. Development of Models/Levels of Care**

**Discussion took place around models of care and levels of care.**

### **5a. Models of care**

Models of care identified to date include:

- Shared care
- Out-reach
- Bring together DGH's in one area to provide service/outreach
- Local/in-house surgeons providing care with no link to specialities
- In-reach
- Regional appointments – but has no statutory authority.

### **Levels of care**

Agreement was reached that it is useful to have a level of care model; however the content and make up of the levels require to be discussed in more detailed. Agreed to revisit this at the next meeting, in the interim members to give further consideration to the development of the model.

## **6. Regional Planning Group Progress**

### **6a. North of Scotland**

General Surgery Group appears on agenda as a Standing Item

### **6b. SEAT**

An interim report outlining problems has been pulled together and sent back to the Regional Children's Group. There is reasonable engagement with SEAT over issues, which include:

- Disquiet that elective children's surgery should only take place with paediatric medical support
- Viability of paediatric units in smaller DGH's
- Training requirements for General Surgeons

### **6c. West of Scotland**

Initial meeting talked through the process of bringing this together – this is complicated by the number of hospitals in the region.

## **7. Any Other Business**

### **7a. Open Meeting**

Following discussion it was felt that as part of the consultation process, there should be a wider session, involving related professionals. The proposed session would include discussion around models and pathways of care, anaesthesia issues, DGH issues and the role of RPG's.

Suggested date of 31st August was set as a date for that meeting.

Provided agreement can be obtain from National Steering Group to proceed, content etc will be discussed further at the next meeting.

### **7b. Wider Engagement**

Discussion took place on NHS Boards involvement with this work. It was suggested that there is some anxiety at CEO level about the work which is taking place in various workstreams and board planers are not necessarily involved.

It was suggested that NHS Boards should be aware of work as the general surgery questionnaires and visits request were issued through CEO's.

Action:

Prof Youngson will write to Mr. M Wright (in his role as Chair of the CYPHSG) expressing the need to engage with NHS Board CEO's and planners.

## **8. Date of next week**

**Monday 2nd July at 10.30 (Glasgow)**

**CHILDREN AND YOUNG PEOPLE'S HEALTH SUPPORT GROUP  
NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES IN  
SCOTLAND**

**PAEDIATRIC GENERAL SURGERY WORKING GROUP – MONDAY 4<sup>TH</sup> JULY  
EUROPA BUILDING , GLASGOW**

<b>PRESENT</b>	
Professor George Youngson	Chair
Mrs Lorna Wiggin	SPENS Representative
Dr Ros Lawson	Consultant Anaesthetist – SCCCSS Representative
Dr David Simpson	Consultant Anaesthesia & Intensive Care – SCCCSS Representative
Mr John Duncan	Consultant General Surgeon – Raigmore
Mr Alasdair Fyfe	Consultant Paediatric Surgeon – Yorkhill Representative
Mr Brian Sugden	General Surgeon – Crosshouse Hospital
Mrs Karen Martins	Action for Sick Children Representative
Mr Ken Mitchell	Senior Project Manager, Children and Young People's Specialist Services Team – SEHD

**1. Apologies**

Dr Charles Clark Public Health Consultant – WoS & Child Health Commissioner Representative

Mr Graham Haddock - Consultant Paediatric Surgeon – SCCCSS Representative

Dr Adrian Margerison - Scottish Officer - RCPCH

Miss Gillian Garvie – Policy Manger SEHD

Mr Bill Manson - Consultant Paediatric Surgeon – Royal Hospital for Sick Children, Edinburgh and Tayside representative

Mr Chris Driver - Consultant Paediatric Surgeon – Northern Planning Group & Aberdeen Children's Hospital Representative

Mr Mike Lavelle-Jones – Consultant Paediatric Surgeon & Dundee Representative

Prof Andrew Simm - Medical Director Western Isles

**2. Minutes of meeting held on the Thursday 19<sup>th</sup> April 2007**

Minute of meeting agreed as accurate record



### **3. Matters Arising**

#### **a) Telemedicine -**

Discussion took place on how to ensure the inclusion of telemedicine within the final report.

#### **b) International Comparisons**

Limit feedback has been received from Canada, which follows similar themes to comments already received.

#### **c) Education/Training Issues**

Prof Youngson informed the group that a meeting has been arranged with Mr M Watson from NES and Mr S McPherson to discuss the training and education issues for all disciplines involved in paediatric general surgery.

#### **d) Baseline Data**

An additional information request has been made to ISD for data on total number of adult general surgeons and total number of paediatric procedures.

### **4. Development of Care Pathways**

The revised Care Pathways were discussed, with the following points being raised.

- Viewed as a helpful document, which could assist in creating discussion between medical paediatrics and surgeons.
- It was suggested that there required to be further thought on how these link to the development of critical care networks etc and the impact they may have on transport.
- Concerns were expressed around the head injury pathway and the need for wider consultation on these, in particular with neurosurgeons.

Following discussion it was felt that many of these issues could be discussed further at the open meeting.

### **5. Update on Site Visits**

With the exception of the Ninewells and Wishaw reports, all other reports will be formally returned to visit sites by week ending the 6<sup>th</sup> July.

**Ninewells Report** – Comments are currently being collated and the report should be ready for circulation by the 9<sup>th</sup> July.

**Wishaw report** – Comments have been received from the Yorkhill surgeons who provide the out-reach service and Dr Charles Clarke. It was agreed that the comments from outreach surgeons should be incorporated into the report as an appendix.

**6. Draft Final Report**

Prof Youngson led discussion on the draft report, various comments have been received and will be incorporated into the report. Agreed that revised version would be circulated by the 14 July.

**7. Planning Open Meeting**

Discussion took place on the open meeting being planned for the 31<sup>st</sup> August. A draft programme is being put together and will be circulated shortly for comment. Invitations have been circulated widely.

**9. Any Other Business**

**9a) Future of report**

Some concern was expressed that the work surrounding the production of the report, including models of care and pathways of care could be lost, if the document was not published as a stand alone report.

Prof Youngson agreed to approach Mr M Wright as chair of National Steering for advice.

**10. Dates of Future Meetings**

Friday 14<sup>th</sup> September - Edinburgh  
Monday 5<sup>th</sup> November - tbc

## Appendix C Work Plan

**NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES IN SCOTLAND**

**PAEDIATRIC GENERAL SURGERY PROJECT GROUP**

**PROJECT PLAN**

**September 2006**

Action	Key Outcomes	Time-scale	Lead	Progress	Date Completed
Agree Remit/Role of Project Group	<ul style="list-style-type: none"> <li>Clarity of role and purpose of project group</li> </ul>	25 <sup>th</sup> September 2006	Project Group		September 2006
Identify information requirements of project group	<ul style="list-style-type: none"> <li>Clear identify current patterns of paediatric general surgery care</li> </ul>	October 2006			September 2006
Complete review of available statistical information	<ul style="list-style-type: none"> <li>Clear identify current patterns of paediatric general surgery care</li> </ul>	November 2006		Core area identified	January 2007
Identify models of good practice for paediatric general surgery	<ul style="list-style-type: none"> <li>Support development of potential solutions for the local provision of paediatric general surgery</li> </ul>	January 2007			April 2007
Identify pressure areas within existing provision i.e. emergency care and consider potential solutions	<ul style="list-style-type: none"> <li>Ensure potential pressures are identified and solutions include within final report</li> </ul>	March 2007			April 2007
Complete literature review	<ul style="list-style-type: none"> <li>Support informed decision making</li> </ul>	November 2006		Dat	February 2007

Action	Key Outcomes	Time-scale	Lead	Progress	Date Completed
Develop models for care pathways which support local delivery	<ul style="list-style-type: none"> <li>Ensure that the provision of paediatric general surgery is maintained at a local level</li> </ul>	May 2007		Models and pathways of care identified	July 2007
Develop guidance which supports the development of managed surgical networks	<ul style="list-style-type: none"> <li>Ensure that the provision of paediatric general surgery is maintained at a local level</li> </ul>	May 2007		Care pathways have been developed for key conditions	July 2007
Establishment of effective links with Regional Planning Groups	<ul style="list-style-type: none"> <li>Ensure communication between groups, which supports the development of local solutions to identified issues</li> </ul>	September 2006		Representatives from each of Regional planning groups identified	October 2006
Identify DGH's for visits and organise	<ul style="list-style-type: none"> <li>Ensure local issues are identified and local teams are fully consulted</li> </ul>	October 2006		Five sites agreed upon	November 2006
Develop proforma to support visits to DGH's	<ul style="list-style-type: none"> <li>Ensure local issues are identified and local teams are fully consulted</li> </ul>	October 2006			November 2006

Action	Key Outcomes	Time-scale	Lead	Progress	Date Completed
Consider work force issues linked to provision of General Surgery	<ul style="list-style-type: none"> <li>Ensures workforce are considered fully within recommendations</li> </ul>	February 2007		Baseline template has gathered information on workforce	February 2007
Undertake risk analysis on outcomes of the General Surgery Review; including implications for families and linked specialities	<ul style="list-style-type: none"> <li>To ensure that outcomes/recommendation do not unduly effect provision of locally delivered services</li> </ul>	June 2007			
Produce report on outcomes/recommendation of general Surgery review	<ul style="list-style-type: none"> <li></li> </ul>	May 2007		1 <sup>st</sup> draft of report ready of open seminar	July 2007
Complete consultation on draft report with key groups	<ul style="list-style-type: none"> <li>Ensure that key groups are fully involved in the development of the reports and outcomes/recommendations</li> </ul>	July 2007			August 2007
Submit final report to National Steering Group for consideration		July 2007		Report completed	October 2007

## Appendix D

Baseline Questionnaire,  
plus summary



## **NATIONAL STEERING GROUP FOR SPECIALIST CHILDREN'S SERVICES**

### **REVIEW OF PAEDIATRIC SURGICAL SERVICES**

#### **BASELINE QUESTIONNAIRE**

The National Steering Group for Specialist Children's Services has been asked to carry out a review of the general surgery provision for children and young people. Several methods are being used as part of the review, to gather information. This questionnaire aims to establish the current level of provision throughout Scotland.

The Project Group wishes to examine the following items in relation to each hospital that currently treats children.

- Staffing profile
- Paediatric facilities and services
- Ability to treat certain tracer conditions
- Other Surgical Specialties

The purpose of this baseline questionnaire is to identify the ability of individual hospitals to manage elective and emergency conditions across a range of ages. The diagnoses and procedures have been specifically chosen and it is recognised that not all units will have facilities for treating all those included.

For the purposes of the review the age limit involved will be up to a young person's 16<sup>th</sup> birthday.

**A separate questionnaire must be completed for each site seeing and treating children**

**Please return by Friday 12<sup>th</sup> January 2007**

**For further information please contact :**

Gillian Garvie

at

[Gillian.Garvie@Scotland.gsi.gov.uk](mailto:Gillian.Garvie@Scotland.gsi.gov.uk) or tel. 0131 244 44086

**SECTION 1 :  
General Information**

<b>Hospital name</b>	
<b>Address</b>	

<b>Lead General Surgeon for Children</b>	
Contact details (telephone & e-mail)	
<b>Lead Paediatrician</b>	
Contact details (telephone & e-mail)	
<b>Lead Paediatric Anaesthetist</b>	
Contact details (telephone & e-mail)	
<b>Lead Paediatric Nurse</b>	
Contact details (telephone & e-mail)	

**Please provide contact details for the person completing this form**

<b>Name</b>	
<b>Job Title</b>	
<b>Telephone</b>	
<b>E-mail</b>	

The following questions are aimed at gathering general information on staffing levels and activity linked to general surgery. It is intended to provide a baseline on staffing levels for the National Project Groups

**SECTION 2 :**

**STAFFING PROFILE**

- 1. How many consultant paediatricians work in the hospital? Please provide details of numbers/fte in box below**

<b>Number of Consultant Paediatricians</b>	<b>Number of FTE posts</b>

- 2. Is there a general surgeon with designated lead responsibility for children's surgery?**

a) YES / NO

- 3. How many consultant general surgeons work in the hospital? Please provide details of numbers/fte in box below**

<b>Number of General Surgeons</b>	<b>Number of FTE posts</b>

- 4. How many of the consultant general surgeons, have dedicated PA's for paediatric surgery?**

**4a. On average how many PA's would this be?**

- 5. How many general surgeons operate on children & young people in the following circumstances ?**

<b>Age Groups</b>	<b>Elective Procedures</b>	<b>Emergency Procedures</b>
3 and under		
5 and under		
6 to 12		
13 to 16		

- 6. Is there a lead paediatric anaesthetist?**

a) YES / NO

7. Is anaesthetic cover available for children and young people within the following age ranges?

Age Groups	Yes	No
0 - 3		
4 - 5		
6 - 10		
11 - 15		

8. Is emergency anaesthetic cover available 24/7 for children and young people within the following age ranges?

Age Groups	Yes	No
0 - 3		
4 - 5		
6 - 10		
11 - 15		

9. How many anaesthetic assistants are trained to look after children and young people?

Number of anaesthetic assistants	Number of FTE posts

10. Are there children's nurses available in the following areas?

Areas	Yes	No	If yes, how many
A&E			
Theatre			
Recovery			
Ward			

11. How many RGN's provide support to children in the following areas?

Areas	RGN Numbers
A&E	
Theatre	
Recovery	
Ward	

**12. Have any RGN's undertaken training/education in the care of children ?**

- a) YES/NO
- b) If yes how many
- c) Could you please list courses attended?

<b>Course</b>	<b>Provider</b>

**13. Do qualified play specialists provide support for paediatric surgery lists?**

- a) YES / NO
- b) If yes how many?

**14. Does your service have access to children's community nurses?**

- a) YES / NO
- b) If yes how many?

**15a. Is the follow up of children after surgery included in their remit?**

- a) YES / NO

**15. Are there APLS/EPLS providers available in the following 4 areas?**

<b>Areas</b>	<b>Yes</b>	<b>No</b>
A&E		
Theatre		
Recovery		
Ward		

**In the following table could we ask you to tick the relevant box?**

**Available Paediatric Facilities**

**1. Do you have a paediatric ward?**

a) YES/NO

b) If yes how many beds does it have?

c) Is the ward for inpatient care, day case or both?

	<b>Yes</b>	<b>No</b>
General A&E facilitates		
Provision of specific Paediatric area within A&E		
Provision of separate paediatric area within outpatient departments		
Are you able to provide HDU care ?		
Do you have dedicated HDU facilities		
Provision of a dedicated young person's Ward		
Is there access to a routine laboratory service.		
Is there access to an emergency laboratory service.		
Is there access to in hours radiology service for children and young people		
Is there access to an emergency radiology service for children and young people		
Is there access to 24/7 video conferencing and e-help facilitates		

**1. How many dedicated general surgical theatre lists are there for children and young people –**

a) per week?

b) per month?

**2. Are there dedicated lists for children & young people in the following specialties**

<b>Specialty</b>	<b>Yes</b>	<b>No</b>
Dental		
Orthopaedics		
ENT		
Plastics		
Ophthalmology		

**3. Who admits head injuries?**

**3a. What is the minimum/maximum age cut off for head injuries admissions?**

#### SECTION 4: TREATMENT OF TRACER CONDITIONS

The following table has conditions which have been agreed as tracers for the purposes of the project group. For which of these conditions is your unit able to provide complete care? Please tick the relevant box?

		Yes	No
A	Pyloric Stenosis		
B	Intussusception		
C	Head injury*		
	< 1y		
	< 5y		
	<10y		
	<16y		
D	Appendicitis		
	< 5		
	5-10		
	>10		
E	Acute Scrotum		
	< 5		
	5-10		
	>10		
F	Abdominal Trauma		
	< 5		
	5-10		
	>10		

\* Head Injury relates to uncomplicated head injury GCS 12-15



## Information on Other Surgical Specialties

Could we ask you to provide the following information?

1. How many dental surgeons routinely operate on children?

Number of dental surgeons	Number of FTE posts

2. How many ENT surgeons routinely operate on children?

Number of ENT surgeons	Number of FTE posts

3. How many orthopaedic surgeons routinely operate on children?

Number orthopaedic surgeons	Number of FTE posts

4. How many ophthalmic surgeons routinely operate on children?

Number ophthalmic surgeons	Number of FTE posts

5. How many plastic surgeons routinely operate on children?

Number plastic surgeons	Number of FTE posts

**Please return to:**

Gillian Garvie  
Scottish Executive Health Department  
Ground Rear  
St Andrew's House  
Regent Road  
Edinburgh  
EH1 3DG

Or by email to [Gillian.Garvie@Scotland.gsi.gov.uk](mailto:Gillian.Garvie@Scotland.gsi.gov.uk)

**Please return by Friday 12 January 2007**

**Thank you very much for your support in completing this questionnaire**

**Appendix E**  
**Care Pathways**

**Currently being revised**

**Appendix F**  
**Open meeting Report**

## **REPORT FROM THE OPEN MEETING**

**FRIDAY 31 AUGUST 2007**

### **GENERAL SURGERY OF CHILDHOOD**

This meeting was held in the Radisson Hotel, Glasgow where over 100 delegates attended. The format was one of several presentations followed by questions and answers with subsequent breakout/small group discussion sessions. The first session discussed the care pathways and the implications in the different regions of Scotland for these care pathways. Additionally, the suggested models of care were discussed. The second breakout session repeated small group work with the groups populated on a regional basis. This session evaluated the draft report from the regional perspective.

The delegates were asked to identify omissions, contradictions, and errors in the report.

The following themes received specific comment:-

- Succession planning.
- Package of care.
- Training and education.
- Drivers for change.
- Quality assurance.
- Service models.
- Levels of care.
- Transfer arrangements.
- Care pathways.
- Recommendations.
- Remote and rural considerations.
- Others.

The following is an extract of opinion/comments/advice provided by the open meeting delegates.

#### **Succession Planning**

- Advisory appointment committees (AAC's) should ensure that when a surgeon who currently provides general surgery of childhood is replaced, that that component of his/her job plan is identified and protected in the appointment process. It is recognised that this is often only one component of the job description but failure of any candidate to meet this requirement should result in directed training if that candidate is otherwise suitable for appointment.
- If a vacancy is anticipated in GSC, proleptic appointments should be considered.

#### **Package of Care**

- A multi-specialty provision is required for GSC to function effectively and safely. The component parts of the package of care comprise General Surgery, Anaesthesia, Paediatrics, Nursing, Radiology, PAMS, Paediatric Environment. All component parts should be present before a service is endorsed as satisfactory.

#### **Training and Education**

- Identification of incentives is required to recruit general surgeons into this apparently “unpopular” specialty. If need be, these should include differential financial incentives.
- Current training programmes in special paediatric surgery in the United Kingdom are likely to over produce in the near future, so a workforce is available for regional appointments.
- A modular training package should be created to allow peri-CCT training, directed training for succession planning, and re-certification.
- Early exposure of general surgical trainees is not happening by virtue of the fact that these trainees are nearly all in urban hospitals which are not co-located with children's hospitals and which have no paediatric presence within them. There is therefore no early exposure to general surgery of childhood – which is prejudicial to recruitment into the subspecialty. Early rotation of general surgeons to paediatric surgery is required in a non-discretionary manner.
- An “ST9” level should be identified for general surgery of childhood.
- CPD is different from study leave and is the responsibility of NES Scotland to ensure that all staff remain fit for purpose.

### 1. Drivers of Change

- General surgery of childhood lacks clear ownership. It seems to fall between the advocacy of Paediatric Surgery and General Surgery.
- Boards and regional planners must see this as an obligate service and not one that they simply choose to invest in as a low priority.

### 2. Quality Assurance

- The multi-disciplinary forums, which should be present in every health board region, must have quality assurance processes applied to them by QIS.
- Just as in education, prisons and other areas of public service, a quality inspectorate is required and this should review children's services.
- The recommendation of obligate presence of a paediatrician in a hospital where the general surgery of childhood is being carried out should be viewed flexibly, particularly if the anaesthetic and surgical staff have suitable competencies and there is a sufficient safety net of staff to assist them in the rare circumstance of an adverse event.

### 3. Service Models

- "One size does not fit all" - In that regard regional appointments will be of little value where geography is a concern (Dumfries/Yorkhill, Inverness/Aberdeen). In this situation an outreach service may well be the solution if accompanied by a local surgeon with responsibility for children.
- The use of telemedicine has been underrated and undervalued in this report. Substantial investment in this method of care has taken place and needs better awareness by all involved in providing outreach services.
- Shared regional appointments with a local lead general surgeon is the optimal service model.

- Shared appointments must have equity of loyalty and ownership.
- A supportive surgical infrastructure is required in the district general hospital for any outreach surgeon who may otherwise be somewhat isolated in their clinical function.
- Regional solutions are required to support this service and closer liaison between health boards and regional planning groups is needed.
- Multi-disciplinary forums should be an obligate component of the service and required quality assurance.
- An "elective first" model must apply everywhere. This implies that elective surgery should not be handed over to the specialist group, leaving the local surgeons with emergency care. There should be no emergency service without elective surgery being performed in-house. Elective practice must be maintained to support emergency experience.
- There is a potential for a single appointment from a specialist centre to work with multiple district general hospitals.

#### 4. Levels of Care

- These levels must be applied flexibly.
- The level of care available varies according to the experience of the individual surgeon on call each night.
- A four tier model akin to the emergency care framework is required.
- This approach will be risky if applied too strictly. Hospitals may find a prescriptive approach intimidating and therefore work at a lower level than might otherwise be the case.
- Better definition of what is required for each level is needed.
- This is purely an organisational model and requires local interpretation and application.
- Level 3 needs split up.

#### 5. Transfer/Transport

- The implications for families and the ambulance service could be enormous if local services are withdrawn.
- Retrieval teams could be overwhelmed by sick children who are not critically ill if local care is not provided.
- The costs of transport will be huge and outweigh the costs of any staffing solution.
- Neither retrieval teams nor local clinical teams will have the sufficient capacity to transport unwell but not critically ill children.

#### 6. Care Pathways

- Primary Care needs to be aware of these.

- These are advisory only, and avoid making recommendations on head injuries.
- Each region should stylise the guidelines for their own needs.
- The pathway of care should start earlier.
- These fail to address assessment and diagnosis.

### **Recommendations**

- These should be re-numbered with emphasis put on the service considerations.
- No. 7 is mandatory.
- There are two elements to recommendation 7 that should be separated.
- Multi-disciplinary forum is essential for each hospital.

### **Remote and Rural Considerations**

- Are experienced anaesthetists sufficient for provision of care in acute and common situations, e.g. a 3-year-old with a buttock abscess requiring incision and drainage or a fracture. The obligate presence of a paediatrician in this situation is unnecessary and air /sea transfer of such cases is likewise not in the interests of child or staff.
- An outreach service is the only feasible supportive model for these hospitals.
- Telemedicine is key to supporting in-house function.

### **Further Considerations**

- Resource and financial implications have not been referred to.
- The timescale needs better definition.
- Don't forget 12 to 16-year-olds in your conclusions.

## 7. Conclusion

The working party reviewed all comments and where appropriate re-drafted the report or left them as freestanding advice in this section.

**GEORGE G YOUNGSON PhD FRCS**  
**Professor of Paediatric Surgery**