

Vale of Leven Independent External Review

Report of the independent external clinical review of anaesthetic services at the Vale of Leven Hospital

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CHAIR'S INTRODUCTION

It has been a privilege to lead this review into the anaesthetic provision for the Vale of Leven hospital. The panel chosen to help me with this review are highly experienced clinicians who have very broad experience across the UK with training and service delivery. They have special skills in assessing the process of healthcare delivery and the impact of changes that have occurred over the last few years on delivering best medical care. They are also experienced in reviewing the variety of models available for delivering health care and the challenges they pose to hospitals and the communities they serve.

The Report describes the background and context in which the review team found itself, the expectations of the Scottish Government, how we set about reviewing the service, the options we considered and our recommendation.

We were asked to consider the feasibility of the current model of anaesthesia provision at the Vale of Leven hospital and the likely implications of variation to the existing model.

We are grateful to those who provided their time, expertise and knowledge in contributing to this process and to the Independent Scrutiny Panel (ISP) for Greater Glasgow and Clyde, much of whose work has been further examined in the process of this review.

My colleagues and I have been impressed by the people we have met, all of whom, without exception, appear dedicated to providing the best service possible to the people of the Vale of Leven and its environs.

This was a short and concentrated piece of work for the review team. Beginning on 30 June and concluding 31 July, the timescale was justified by the need to limit as far as possible the continuing uncertainty felt both by the Health Board and by the affected communities and staff.

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We are confident that our conclusion satisfies the terms of reference as set out for us and we sincerely hope that this piece of work will help in clarifying the future of the Vale of Leven hospital.

**Professor Chris Dodds,
Chair of the independent review**

TERMS OF REFERENCE

The Cabinet Secretary for Health and Wellbeing commissioned this external expert review on the 12th of June to examine the following areas:

- Is it feasible to maintain on-site anaesthetic services at the Vale of Leven?
 - If not, why is this so?
- What steps could be taken to secure the sustainability of anaesthetics?
 - What would be the likely implications of these steps, in terms of costs, clinical quality, and impact on services in other hospitals?
 - Are there any other factors that should be taken into account in consulting on the Board's proposals?

We were also asked to answer these questions clearly, with explanations of how the answers were arrived at; with full regard to the important contextual issues of the Vale of Leven's geographic position for patients, travel issues to any alternative sites, risks associated with all options and workforce considerations.

Note:

We have used these descriptions throughout this report:

Unscheduled Medical care:

This description identifies those patients who present for urgent or emergency care 'out of the blue'. (NHS care which cannot reasonably be foreseen or planned in advance of contact with the relevant healthcare professional, or is care which, unavoidably, is outwith the core working period of NHS Scotland. It follows that such demand can occur at any time and that services to meet this demand must be available 24 hours a day.)¹

¹ Building a Health Service Fit for the Future, Scottish Executive, 2005 (p29)

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Unselected:

Patients presenting directly to the Emergency Services without review by a doctor experienced in unscheduled care.

Selected:

Patients whose presenting condition has been assessed, either directly or via decision support, by a doctor experienced in unscheduled care and an informed decision made on the most appropriate level of care.

Glossary

Care pathway	The complete process (including diagnosis, treatment and care) that a patient goes through, on a step-by-step basis from first contact
CEM	College of Emergency Medicine
Emergency Care ²	the assessment and management of illness and injury where the patient or the clinician thinks there is a need for immediate assessment and care of their problem. This care is provided mainly by out-of-hours services, Emergency Departments and hospitals.
EMRS	Emergency Medical Retrieval Service
EWTD	European Working Time Directive
GEMS	Glasgow Emergency Medical Service
GG&C/ GGC	Greater Glasgow and Clyde (Health Board)
GMC	General Medical Council
Levels of Care ³	Five levels of care were identified in the Kerr Report: 1: Community-provided services such as GP Out of hours, SAS and NHS24 services. 2: Locally provided assessment and treatment services, such as minor injuries, illness assessment, with some diagnostic facilities. 3a: Providing core admitting services. 3b: Providing sub-specialised services 4: Limited number of facilities providing highly specialised services.

² Acute Health Care Services, Academy of Medical Royal Colleges, 2007 (p3)

³ Building a Health Service Fit for the Future, Scottish Executive, 2005 (p30/31)

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MAU	Medical Assessment Unit
MMC	Modernising Medical Careers – a programme of postgraduate medical training introduced in the UK in 2005
Patient episode	A period of care under one consultant
PreAMBLE	The name given to the ‘in-ambulance’ scoring and assessment tool used to identify patients most likely to require treatment at the RAH, rather than the VoL.
RAH	Royal Alexandra Hospital in Paisley
RCoA	Royal College of Anaesthetists
SAS	Scottish Ambulance Service
SACDA	Scottish Advisory Committee on Distinction Awards
SIGN	The Scottish Intercollegiate Guidelines Network. SIGN aims to improve the quality of healthcare for patients in Scotland by reducing variation in practice and outcome, through the development and dissemination of national clinical guidelines containing recommendations for effective practice based on current evidence.
Triage	A process to ‘sort out’ and classify patients to determine priority of need and proper place of treatment.
Urgent Care ⁴	provides the assessment and management of common problems where the patient thinks there is moderate degree of urgency. Much of this care is delivered by GPs and their teams, although GP out-of-hours services Urgent Care and Emergency Departments deal with increasing numbers of patients with urgent care needs.

⁴ Acute Health Care Services, Academy of Medical Royal Colleges, 2007 (p3)

CONTEXT

- The total activity within the Vale of Leven Hospital (VoL) is reported at 100,000 patient episodes a year⁵.
 - There are plans to increase this by investing £18.2 million in a new medical centre at the VoL
 - There is capacity to more than double the number of day case surgery operations
- 5000 of the most acutely ill patients a year already go to the Royal Alexandra Hospital, Paisley (RAH) from the catchment area of the VoL
 - The RAH is located approximately 17 miles from the VoL across the Clyde
 - It is estimated that the additional travel time to the RAH for residents within the VoL catchment will be between 6 and 25 minutes by ambulance.
 - However, travel time is likely to be increased in those instances where the Erskine Bridge is closed. In these circumstances, all traffic to south Glasgow is diverted via the Clyde tunnel, potentially adding up to 2.5 hours to the journey time to Paisley.
- 6000 patients a year are reviewed at the medical admissions unit and of these 4000 are admitted to the Vale as 'Unselected Acute Medical Admissions' after triage by the ambulance and GP services using the 'PreAMBLE' scoring system. Of this 4000 only about 30 a year require advanced anaesthetic skills out of normal hours⁶
- The salary cost of providing this anaesthetic out-of-hours service is over £1 million a year⁷
- This defines the proportion of patients who attend the VoL each year who are dependent on a resident skilled anaesthetic team as 30 out of 100,000 patient episodes or 0.03% of the total hospital activity. In other words **99.97% of the current activity of the hospital does not depend on a resident skilled anaesthetic presence**

⁵ Unscheduled Medical Care at the Vale of Leven Hospital: Draft Consultation Document, NHS GGC, March 2008 (p32/33)

⁶ Dr H Carmichael, Letter to Independent Group, July 2008

⁷ Staff Costs Query, NHS GGC (by email), July 2008

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- The predicted number of patients who would bypass the VoL if selected to do so by their GP working to nationally agreed protocols would be up to 3,800⁸

National aspects:

Clinical safety – care pathways⁹

- The development and publication of best practice in many areas of acute health care clearly defines the optimum standard of care desirable for **all** patients. In the majority of these standards / guidelines, initial optimum care is delivered in centres with access to specialist care with early access to these centres being desirable. Delays caused by admission to a local hospital followed by secondary referral to a specialist centre may be more harmful than a longer travel time with direct admission to a specialist centre.¹⁰ (See appendix two).
- Following the initial specialist intervention, early transfer to a local hospital as part of the ongoing treatment plan may be desirable. This is dependant on having a comprehensively trained and experienced workforce in that hospital to provide this step-down care.

Anaesthetic workforce issues

- In the United Kingdom, there are approximately 500 doctors training in anaesthesia within each year of the training scheme. The majority of these wish to train and practise in a sub-speciality, such as intensive care medicine, pain medicine, cardiac or paediatric anaesthesia. Very few trainees just follow the 'general' training programme alone, and they are spread across the entire UK.
- The number of consultant posts advertised annually varies unpredictably. At present there are many jobs being advertised because funding has been released to expand consultant numbers to help deliver on the 18 week target.

⁸ Patient Routes to the Vale of Leven Medical Assessment Unit, NHS GGC (by email), July 2008

⁹ Guideline 93 – Acute Coronary Syndromes, SIGN, February 2007

¹⁰ Better Coronary Heart Disease and Stroke Care: A Consultation Document, Scottish Government, 2008

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Even the most well respected major teaching hospitals are failing to attract sufficient applicants of appointable standard.

- Resident on-call is very unusual at present for either established or newly appointed consultants and, where it is used, it is a very expensive solution in both financial and service costs.
- Consultant migration between hospital posts does occur more often than in the past, but these are still rare events. Often such moves raise concerns about the individual consultant's motives unless clear family or social reasons are apparent.
- Run through training (as part of Modernising Medical Careers) will further restrict flexibility in training output. However, these numbers will be released in a predictable manner over the next 5 years.

European Working Time Directive (EWTD) issues

- The requirement for the UK to meet the European Directive on Working Time by August 2009 will have profound effects on both doctors-in-training and in-service posts.
- The impact on experiential training (workload and experience) that follows the reduction in time for training means the doctors completing their training programmes will be far less experienced than those of only a few years ago. This is true across all medical specialties.
- This reduction in experience has two effects:
 - Those supervising training have an increased service burden to carry as less is delivered by doctors in training.
 - The capacity for the delivery of expertise to patients is reduced and will only be regained as doctors-in-training gain experience and progress towards independent practice.

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- The cost of delivering the current on-call service will increase, as many more doctors will be necessary to deliver a EWTD compliant service. This will apply to career doctors as well as those in training.

Postgraduate Medical Education and Training Board Article 14 route to the Specialist Register

- The change in access to the specialist register by recognition of experience as well as training has allowed many doctors who could not pass the criteria in place under Article 9 (where time in training was the only eligibility criteria) to access the register by an alternative route. This has opened the way for non-consultant doctors to plan their careers and to gain the necessary experience over time to apply under the Certificate of Equivalence route to the Specialist Register (CESR).
- The creation of the Specialty Doctor grades (1 & 2) allows career progression based on planned activity.
- Posts which do not visibly encourage and enable these processes will have great difficulty in attracting and retaining applicants.

Scottish perspective:

Remoteness

- In common with many parts of the UK, Scotland has areas that are geographically isolated from specialist centres. The guidance provided by the Remote and Rural Steering Group's report¹¹ is applicable throughout the UK but has been particularly useful in generating this report.
- The community hospital document¹² identifies that urban locations are just as likely to require a community hospital as geographically remote areas.

¹¹ Delivering for Remote and Rural Healthcare. NHS Scotland, 30 Nov 2007

¹² Developing Community Hospitals - a strategy for Scotland, Scottish Executive December 2006, (p4)

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- The list of services that could and should be provided locally defines an active and thriving local hospital service (See table 1).

Community Hospital	Vale of Leven
Scheduled Care (planned care)	Scheduled Care (planned care)
Day case surgery	Day case surgery
Pre-admission assessment and post-operative care	Pre-admission assessment and post-operative care
Day care and rehabilitation	Day care and rehabilitation
Diagnostics and treatment	Diagnostics and treatment
Outreach clinics and GPs/health professionals with a special interest	Outreach clinics and GPs/health professionals with a special interest
Remote consulting and reporting	Remote consulting and reporting
	Obstetrics and Gynaecology
	Oncology
	Chemotherapy
	Palliative care
Unscheduled Care (unplanned care)	Unscheduled Care (unplanned care)
Community Casualty Unit	Community Casualty Unit
GP Out of Hours Hub	GP Out of Hours Hub
Investigations before, or instead of transfer	Investigations before, or instead of transfer
Stabilisation prior to transfer	Stabilisation prior to transfer
Local special skills development	Local special skills development
	Acute Mental Health

Table 1: Comparison of services provided at a Community Hospital and the Vale of Leven

- The exact range of services to be delivered at the redesigned Vale of Leven would be dependant on local needs and regional services. These should be developed by Greater Glasgow Health Board in accordance with the principles outlined in the Kerr Report fully utilising modern technologies (such as TeleHealth) to deliver specialist services whilst minimising both staff and patient requirements for travel.

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- Whilst the patient population will be screened to assess the appropriateness of having their care delivered locally, in a small number of patients unpredictable complications will arise. Therefore, one of the core requirements of such a hospital is a retrieval team that can provide a timely and highly-skilled service to enable seriously ill patients to be transferred to a specialist unit for treatment.
- The trial Emergency Medical Retrieval Service appears to be a suitable service although it does not plan to support retrieval by land in the near future. This service may be well placed to give decision support by Emergency Medicine Specialists, well versed in Emergency Anaesthetic skills, to local staff on initial treatment and stabilisation prior to arranging transfer by the most appropriate modality

Scottish Ambulance Service

- Prompt and appropriate support from a properly resourced ambulance service is essential for the delivery of acute unscheduled health care.
- This may be difficult to provide when there are large geographical areas to service, and when the availability of crews is reduced because of long-distance calls. These may take crews away from their base for several hours.
- The exact provision of SAS resources (e.g. vehicles and level of manning) may need to be adapted to integrate with any change in provision of medical services at the Vale of Leven (e.g. potential increase of paramedic manned Rapid Response Units (RRU) for initial assessment of patients).
- Triage, through the use of scoring and assessment tools, backed up by decision support may help in both the diagnosis and treatment aspects of care and the decision on where to take the patient.¹³ Such systems must be employed across the service for consistency and may involve the use of advanced telemedicine support direct to the crew.

¹³ Better Coronary Heart Disease and Stroke Care: A Consultation Document, Scottish Government, 2008 (p11)

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- Return transport for the patient to a more local 'community' hospital when appropriate should be part of the planned admission process / patient pathway.

Transport

- The potential risk of dying in an extended ambulance journey can be a concern and is dealt with in the appendix to the section on Clinical Safety. However, at present, subgroups of patients (e.g. children, surgical cases etc) have routinely bypassed the Vale since the redesign of services in 2004. The panel are unaware of any audits undertaken following the implementation of these bypass protocols to determine their clinical safety. Verbal evidence implied that clinical safety problems had not arisen since their introduction.
- The Panel note concerns raised by several interviewees with regards difficulty crossing the Clyde to access RAH (e.g. intermittent closure of the Erskine Bridge in poor weather conditions, traffic congestion in the Clyde tunnel). Whilst the infrastructure of Scottish roads is not within the remit of the Panel, the Scottish Government may wish to note these comments. In clinical terms, appropriate protocols for diversion to a hospital north of the river in such circumstances should be put in place to avoid unnecessary prolongation of journey times and facilitate early release of SAS resources.

Local issues

Clinical / social priorities

- Aging populations increasingly choose to define their healthcare preferences by advanced directives for example. Knowing about these informs the clinical decision making process and may divert an unselected patient from the RAH to the community hospital at the VoL. Examples might include end-of-life and palliative care.

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- General Practitioners are ideally placed within their communities to be aware of these directives or able to identify if they are in place. With the development of the Vale as a centre for Community Care, integration of primary and secondary services should be facilitated. As a co-ordinating centre for the management of long-term conditions, the current trend for inappropriate utilisation of acute services should be minimised.

Demographic impact

- The changes in population numbers and age profile¹⁴ in the VoL are similar to many parts of the UK. Caring for patients as close as possible to their homes will be supported whenever it is safe and in their best interests.
- The predictions on population changes within the VoL between 1984 and 2024 show only a marginal increase in numbers.

Employment / deprivation aspects

- The Scottish Index of Multiple Deprivation (SIMD) data identify that Helensburgh and Lomond (H&L) and West Dunbarton (WD) have areas of deprivation, although not as many as Greater Glasgow. The specific employment deprivation figures for H&L are 5% and average income within WD is the lowest in the West of Scotland.
- It was made clear to the review team that the VoL enjoys high retention of non-medical staff and is a major employer in the area.
- Losses of employment opportunities within the VoL catchment area are highly significant with this background level of deprivation.

¹⁴ *The Health of the People of Helensburgh and Lomond* – NHS Highland, June 2007, and *Health Needs and Health Services*, West Dunbartonshire Community Health Partnership, February 2007

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PROCESS

The work of the review team was split into 3 discrete phases:

Stage One: A literature review

Stage Two: Interviews with key personnel from NHS Greater Glasgow and Clyde, the VoL and others

Stage Three: Options appraisal and reporting

During stage one, the review team analysed a selection of documents, studies and articles from NHS Greater Glasgow and Clyde, and UK and international journals. The aim of which was to gain an understanding of the context of the approaches adopted at the VoL and to compare these to good practice across the world.

The key findings from our literature review were related to three areas:

- Risks of transfer / ambulance time
- Population demography and health needs
- Documentation relating to the VoL, ISP and GG&C (including direct submissions from patient groups)

Following the literature review, we visited the Vale of Leven hospital and met with a number of staff from both NHS Greater Glasgow and Clyde and the VoL. In addition, we called upon the expertise of other experts in anaesthesia, particularly those from the Royal College of Anaesthetists in Scotland. The aim of this stage of the review was to gain first-hand knowledge and opinions of those most closely involved in service design and provision in the area.

A full list of the people we spoke to is attached at Appendix 5.

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The key points from our conversations were:

- That the anaesthetic service is unsustainable on site
- Safe provision of level 2 care to selected unscheduled medical admissions under the care of GPs
- Concerns about the continuing provision of level 3 care at VoL
- Need for the Emergency Medical Retrieval Service to be actively involved to provide advice to VoL clinicians and/ or provide resuscitation and retrieval
- Transfer concerns have largely been addressed (although further work with SAS is needed).

Finally, we formulated a list of potential service provision options for the VoL. In doing so, we have explored what we believe to be the full spectrum of reasonable options available to the NHS GG&C Health Board in considering the shape of future services at the VoL. The following pages provide more detail of the options under consideration.

OPTIONS

Standards and equity:

There are unequivocal standards for the delivery of unscheduled medical admissions, and these have been acknowledged by all involved in this process.

Failure to observe these standards cannot be defended without clear and consistent reasons and delaying implementation of these standards is detrimental to the health of the population involved (e.g. treatment of hyper-acute stroke within 3 hours in centres with direct or telemedicine access to specialist facilities and expertise).

Whilst individuals will always have the right to select the level of care of their choice, even if this is of a lesser quality than standards proscribe, this must not influence the provision of optimal level of care for others. There is a common misconception that relocation of certain specialist services outwith local hospitals reduces the quality of services available locally. Measures should be considered to fully inform the local population of the reasons behind and the positive benefits of any redesign measures to encourage appropriate use of services.

We have included here the standards accepted by the major relevant reports on unscheduled medical admissions, from Scotland and the UK, to avoid any lack of clarity about the support needed wherever unscheduled medical admissions occur within the UK

“The issue of ‘clinical safety’ is difficult to define and to quantify. It may hinge on anecdotal experience. However, it must be recognised that the overwhelming majority of clinical opinion is now that unscheduled medical admissions should not be handled where there is no immediately available anaesthetic cover and critical care and in most instances no ready access to acute surgery.

In describing the “Local Hospital” in its model of acute care services based on population need the Academy of Medical Royal Colleges (2007) say:

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“The patient needs 24/7 access to a facility able to provide the initial assessment, treatment and stabilisation of most serious conditions...as a minimum...full emergency medicine (A and E) service, acute medical beds... intensive care unit...”

“The defining characteristic of any emergency hospital is 24-hour presence of intensive care which may be difficult to maintain without on-site operative surgery.”

“The College of Emergency Medicine and the British Association for Emergency Medicine strongly believe that in order to provide a safe service an emergency department requires 24-hour support by doctors skilled in critical care.”

Acute Health Care Services. Academy of Medical Royal Colleges – 2007

“Acutely ill patients should not be admitted to hospitals which do not have critical care...hospitals which do not have critical care and diagnostic services should be reconfigured to provide intermediate or step down care.”

Isolated Acute Medical Services. Royal College of Physicians (L) – 2002

The Kerr report, while acknowledging that there could be exceptions in certain special situations, stated that for Level 3:

“...where we provide assessment, diagnosis and treatment services for those patients likely to require medical (and surgical admission)...the following services should normally be provided:

- ✿ *General surgical 24/7 receiving service*
- ✿ *General medical 24/7 receiving service*
- ✿ *Anaesthetic services on a 24/7 basis including general critical care services”*

Building a Health Service Fit for the Future. Kerr D, SE – 2005”¹⁵

¹⁵ Report by the Independent Scrutiny Panel On Proposals for Health Service Changes in the Clyde Area, Independent Scrutiny Panels, December 2007 (p25-26)

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The following options have been reviewed with these standards in mind.

1. Re-establish a full level 3 (Kerr) acute clinical service including surgery, maternity, emergency care and an intensive care facility
2. Develop a new acute unit at an existing hospital site north of the Clyde for admission of unselected medical admissions from the VoL catchment
3. Maintain the current provision with resident 'consultant' cover
4. Develop intermediate level cover – speciality doctor with dedicated distant consultant supervision
5. Complete the proposed Lomond Integrated Care Pilot and provide off-site consultant anaesthetic cover
6. Remove all medical admissions from the VoL
7. Retain selected medical admissions but divert all unselected medical admissions

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OPTIONS

NB all options are based on information received or examined by the review team

ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
1	Re-establish a full level 3 (Kerr) ¹⁶ acute clinical service including surgery, maternity, emergency care and an intensive care facility	<p>This option has the least feasibility because surgical, obstetric-led and emergency medicine services are embedded in the RAH at all levels.</p> <p>The most critical ones issue is the impact of the EWTD on senior medical staff and the demands placed on them by the increasingly inexperienced doctors in training.</p> <p>Scotland has one Accident and Emergency department for every 149,000 people, compared with one for every 239,000 of the population in England. The current population served by the VoL is less than 100,000¹⁷</p> <p>The standard of care (SIGN) for many complex conditions is direct admission to an acute centre with the appropriate facilities and expertise. These are provided within Glasgow and will not return to VoL from a patient safety perspective</p>	<p>The ability to recruit into the VoL alone is highly unlikely. There have been 2 unfilled medical consultant posts for the last 5 years (in other words prior to the move of the acute services of surgery, emergency medicine and consultant delivered maternity care). The feasibility is close to zero and the ability to sustain these as stand-alone posts must be considered zero.</p> <p>Problems of recruitment and retention also affect support services such as biochemistry and pathology.</p>	<p>The primary reason for the surgical, maternity and emergency medicine transfers in 2004 was the inability of the staff at that time to be confident in maintaining their clinical skills with such a limited workload. This has not, nor will not, change.</p>	<p>8 on call tiers (1x Senior + 1x Junior in surgery, maternity, anaesthesia and emergency care).</p> <p>£4-6 m pa staff costs plus infrastructure costs</p>	<p>Activity lost from Paisley as all patients who currently bypass the VoL (c5000 acute medical and surgical + all maternity) as a result of the changes of 2004 would return to the VoL.</p> <p>Struggling to cover on call cover at RAH</p>	<p>Would require external recruitment and/or relocation of staff from other hospitals.</p>	<p>No significant issues</p>	<p>This option has been reviewed because it was raised by the ISP.</p> <p>We do not believe this to be a credible option but agree it does form the basis on which other options may be considered.</p> <p>The presumption of activity increasing sufficiently to regain teaching accreditation at VoL is also untenable</p>

¹⁶ Building a Health Service Fit for the Future, Scottish Executive, 2005 (p31)

¹⁷ Building a Health Service Fit for the Future, Volume 2: A Guide for the NHS, Scottish Executive, 2005 (p93)

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ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
2	Develop a new acute hospital north of the Clyde for admission of unselected medical admissions from the VoL catchment	The proximity of hospitals north of the Clyde to provide or re-provide the entire range of acute services for the VoL should be explored to see if a sustainable model could be delivered. The other hospital that presently provides some acute services (Western) is due to be re-located in the next 5 years.	Clydebank already provides all cardiac surgery and increasingly interventional cardiology for GG&C. The acute medical aspects of this could be built upon to provide unselected medical admissions cover for the VoL catchment area without the transport problems of concern to the local population. However, this would require a fundamental review of the existing arrangements re special trust status – would require specific legislative action.	Excellent – emergency medicine, cardiac and anaesthetics onsite	Significant – this option calls for a large scale 'new build'	Impact on acute admissions at Paisley and reduction of pressure on Western Will require detailed work up by GGC	Would require external recruitment and/or relocation of staff from other hospitals.	Resolves, to a degree, the transport concerns of the resident population	This option was raised by the ISP report and does not appear to have been comprehensively considered

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ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
3	Maintain the current provision with resident 'consultant' cover	<p>There are several models that could be used to maintain this provision:</p> <ul style="list-style-type: none"> The maintenance of the locum cover Use of consultant expansion and job planning to provide such cover from the pool of consultants at the RAH or GG&C hospitals Recruitment of a cohort of mature experienced consultants to provide this cover as their major on-call responsibility <p>If there is the funding available (approximately £600K / year) it would be possible to create cross-site (i.e. across 2 or more hospitals) job plans to provide resident cover to the VoL for these 30 patients / year or to provide a stand-alone rota of senior consultants who may wish such a quiet on-call.</p>	<p>The activity level identified by the evidence presented to the anaesthetic review team is that approximately 1 patient a week requires the skills of an anaesthetist.</p> <p>The ability to recruit to such jobs in the UK has proved very difficult and unless 5 or more were appointed the risks related to illness / leave would be unacceptable.</p> <p>In the mid 1990s, there was a shortage of consultant anaesthetists and many small hospitals failed to recruit despite offering the maximum salary and inducements equivalent to a SACDA award. Even established major training centres could not attract applicants for split site (i.e. on the same site, but some distance away) posts.</p>	Good	The 'value for money' aspect of this is probably unjustifiable	Minimal	Direct appointments to the VoL are less likely (than direct appointments to RAH or a joint appointment to RAH +VoL) to be successful as there has been an unfilled medical consultant post for over 5 years (before the current reduced activity) at the VoL.	As now.	We do not believe this to be either practical or sustainable. We discussed cross-site working with the Clinical Director for Anaesthesia (Clyde as it was) who had already tried this with no success.

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ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
4	Develop intermediate level cover – speciality doctor with dedicated distant consultant supervision	<p>It may be possible to recruit a cohort of speciality doctors to provide this intermediate level care. They do not need to be anaesthetists; they could be from emergency medicine or acute medicine.</p> <p>They will need consultant cover, again from their parent speciality, but this can be distant level supervision</p>	<p>This may become possible in the short term as the impact of the current changes in medical manpower become stable.</p> <p>The reduction in number of Fixed Term Specialty Training Appointment posts in Scotland will provide a temporary increase in available but inexperienced doctors.</p> <p>The competition for these doctors will be intense as the impact of the EWTG affects service delivery.</p>	Poor – there will be intense competition for these doctors and it is unlikely that this post would be considered a premium post	High	None	The majority of doctors entering these types of posts will be looking at the possibility of moving to a CESR route to the GMC Specialist Register. The level of activity at the VoL would prevent them achieving this and they would be unlikely to apply, or remain	Negligible	The likely workload identified under this option would require support in the form of advice from consultants outwith the VoL. In these circumstances, telemedicine would be an appropriate solution. However, support during practical procedures, such as management of acute airway problems may be problematic and has yet to be validated.

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ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
5	Complete the proposed Lomond Integrated Care Pilot and provide off-site consultant anaesthetic cover	<p>This is a practical and safe programme for the provision of GP level care/level 2 in a Community Hospital. The Community Hospital Document¹⁸ identifies that these may be urban as well as Remote and Rural.</p> <p>It is the unselected nature of some medical admissions that require the presence of an anaesthetist not the selected cases seen by the GEMS doctors.</p> <p>The need for an effective retrieval team will remain if this option is chosen – time is important for many acute medical illnesses and prolonged waiting times for the retrieval team is a concern.</p>	<p>Despite many of the local GEMS doctors being 'trained' to take part in the LIC the majority of cover is by four doctors.</p> <p>Data presented confirm that over 50% of the cover for the VoL is by 4 doctors out of the 18 possible.</p> <p>This is clearly a risk for its sustainability if the number willing to take part with anaesthetic cover is such a small proportion of those available – how many will take part when such cover is removed?</p> <p>Sustainability would be improved by telemedicine support</p>	<p>Excellent for level 2</p> <p>However, we think that the balance of risk to the infrequently presenting but severely ill patient being admitted to the VoL where they will require immediate transfer is not acceptable.</p>	<p>Within existing costs</p> <p>£183k to maintain LIC</p> <p>c. £450k additional staff costs</p>	<p>Remote support required from RAH /EMRS consultants.</p> <p>Evidence provided to the anaesthetic review team indicates that around 30 retrievals per annum would be required. It is likely that these patients would be transferred to the RAH.</p>	<p>Redeployment of 3 locum anaesthetists.</p>	<p>Serious concerns remain around the capacity to retrieve and transfer seriously ill patients in the absence of immediate anaesthetic support.</p>	<p>The inescapable fact of the proximity to the expertise in Glasgow cannot be ignored. The continuation of such a scheme would be better in more remote areas where the major centres are not in close proximity.</p> <p>The literature on the risk of dying with an extended transfer time is equivocal, and the only paper that describes such a risk has been rightly criticised.</p>

¹⁸ Developing Community Hospitals – a strategy for Scotland, Scottish Executive December 2006, (p4)

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ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
6	Remove all medical admissions from the VoL	<p>The ability to move all acute medical admissions from the VoL has been shown to be practical as all acute surgical, consultant-delivered maternity and Accident & Emergency (A&E) admissions currently bypass this hospital.</p> <p>It is unclear what impact this increase in demand will have on the RAH as the EWTD restricts even further the anaesthetic on-call capacity.</p> <p>Other specialities may be able to offer this cover – acute medicine or emergency medicine for instance</p>	<p>This option is sustainable provided the on-call commitment can be covered.</p> <p>The receiving hospital does not have to be the RAH.</p> <p>We are not clear how much the historical boundaries and the financial pressures have isolated the consideration of an enhanced emergency care provision North of the Clyde from the GG&C strategic planning process.</p> <p>It is likely that the strategic planning for GG&C was well established when the merger occurred with Argyll & Clyde.</p>	<p>Dependant on ultimate destination.</p> <p>Excellent at RAH where full level 3 service is provided.</p>	<p>Largely within existing resources, though additional investment in SAS will be required.</p> <p>There is sufficient capacity to deal with the additional patients expected from the VoL.</p>	<p>In the region of 6000 additional patient contacts per annum.</p> <p>Although the review team has received assurances that the RAH has capacity to deal with the additional numbers, the planning assumption did not include the impact of the EWTD.</p>	<p>Redeployment of 3 locum anaesthetists.</p> <p>Likely impact on staff in MAU.</p> <p>Additional staff will be required by SAS to facilitate the increased numbers of longer journeys.</p>	<p>Will require investment in the SAS and local transport systems to ensure that relatives are not left at the receiving hospital late at night with no clear means of returning home. Given the increasingly elderly nature of the catchment populations for the VoL this needs a clear commitment</p>	<p>This is the option promoted by the NHS GG&C Health Board.</p> <p>This will reduce morale even further at the VoL.</p> <p>The standard of the highways between the catchment area and northern Glasgow is also sub-standard and requires investment and improvement to ensure the timely and safe transfer of these patients</p>

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ID	Option	Feasibility	Sustainability	Clinical Quality	Cost	Impact on other hospitals	Workforce considerations	Transport Issues	Additional comments
7	Retain selected unscheduled medical admissions but divert all unselected unscheduled medical admissions	<p>The GEMS (Glasgow Emergency Medical Service) doctors currently screen the acute medical patients and this process can be safely used as a filter whereby seriously ill patients will be transported directly to definitive care whilst selected cases will be admitted under the care of the GEMS / Local GP Practice team into the VoL.</p> <p>Where there are national guidelines on the standards of acute care – STEMI / Stroke / GI bleeds for instance – these must be diverted to the best unit for these conditions.</p> <p>These are the same selected cases that have been safely managed locally in the VoL since 2004.</p> <p>All patients referred by a direct 999 call or through NHS24 should be classed as 'unselected' and go direct to definitive care at RAH.</p>	<p>This provides a safe and sustainable system where all selected patients (by the local GEMS doctors) remain under the excellent care of the LIC team.</p> <p>The small number of directly admitted patients will, by default, be admitted to a comprehensive acute unit capable of providing 24 hour emergency medical, surgical and intensive care support (the RAH, for example).</p> <p>The use of emergency cardiac retrieval ambulances to provide interventional cardiology within the boundaries of GG&C must be reviewed to ensure equitable provision to the VoL in the event that this option is pursued, to ensure that the increased number of patients bypassing the VoL are transported to a place of definitive care as quickly as possible.</p> <p>This is a sustainable and cost-effective solution that balances the need to provide care locally for as many patients as possible whilst delivering appropriate specialist care to those who need it.</p>	Excellent level 2 care	Removes one tier (anaesthesia). The current cost of anaesthesia is £1.1m. Increased costs for the SAS are likely.	<p>The impact on the level 3 facility (whether that be RAH or another hospital) is likely to be less than under the model proposed by NHS GG&C.</p> <p>It is anticipated that the maximum impact would be up to 3,800 additional patient contacts per annum, though in practice it is likely to be fewer.</p>	<p>Redeployment of 3 locum anaesthetists.</p> <p>Potential impact on MAU staffing if reduced intake is protracted.</p>	<p>Will require additional investment by SAS to ensure capacity is available to cover the increased numbers of longer journeys to the RAH and to provide transfer back to the VoL for step-down care.</p>	This is the preferred option of this expert panel

CONCLUSIONS

The terms of reference for this review were clear and have been set out in full on page 4 of this report. Briefly, our task was firstly to determine whether it is feasible to maintain on-site anaesthetic services at the Vale of Leven. Secondly, in the event that the maintenance of on-site anaesthetics was not found to be feasible, we were asked to identify what steps could be taken to secure the sustainability of anaesthetics for patients within the Vale of Leven catchment area.

The review team have considered the available evidence and, mindful of the requirement for a clear and well-referenced recommendation, we have weighed this evidence carefully.

In respect of the first question, **it is the unanimous view of the review team that the continued provision of anaesthetic services at the VoL is not sustainable in the short, medium or long term.** We have reviewed all possible steps to secure anaesthetic services at the Vale of Leven and, as indicated in the options appraisal, we were not able to identify a feasible and sustainable model of delivery for the VoL.

Of the options reviewed, it is the unanimous view of the review team that option 7 – the retention of selected unscheduled medical admissions at the VoL, with all unselected unscheduled medical admissions diverted to a suitably equipped hospital (such as the RAH) – represents the optimal solution and ensures that the benefits of a local hospital can continue to be felt by the residents of, and visitors to, the VoL and the surrounding area. An explanation of the potential impact of option 7 at the Medical Assessment Unit is set out in Appendix 1.

Furthermore, in view of the close proximity of the Vale of Leven to Glasgow, the review team are unanimous in their view that the continued delivery of the Lomond Integrated Care pilot for unselected, unscheduled acute medical care at the VoL – in its original formulation – should not proceed. We agree that it is a practical model, with potential application across remote and rural areas of Scotland and are of the opinion that any further piloting of such a model should be continued in such a setting.

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We cannot, in good conscience, recommend that patients who have called NHS 24 or dialled 999 but not undergone direct or decision supported medical triage should be admitted to the VoL. Equally, if they have been triaged as being in need of (or potentially in need of) specialist care (including anaesthetic intervention), it is not in their best interest to be treated locally but to travel the additional distance to a facility at which all necessary services are available. This approach is in keeping with recently published Scottish Government policy intentions¹⁹.

Patients who have been assessed, either directly or via decision support by a medical practitioner experienced in unscheduled care (and local admission protocols) as appropriate for admission to a supported GP acute unit may continue to be safely admitted to the VoL.

The weight of available evidence indicates that the additional transfer time involved to Glasgow hospitals is highly unlikely to significantly affect the outcome in the small number of patients involved. The use of the limited low-grade evidence that further travel increases the risk to the patient to suggest that current practice in the VoL represents the best care available is not only disingenuous, but ethically questionable.

¹⁹ Better Coronary Heart Disease and Stroke Care: A Consultation, Scottish Government, July 2008

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Appendix 1 - Information On Potential Impact At The Medical Assessment Unit (MAU)

The total activity at the Vale of Leven in 2007/08 is reported as 100,000 patient episodes per year. Around 6000 patients were referred to the Medical Assessment Unit (MAU) during this period; representing only 6% of the total current patient contacts at the Vale. Of the 6000 referrals to the MAU, some 3700 patients were admitted to the hospital. Of the other patients, 2100 were discharged and 245 were referred to another hospital. The table below shows the detailed numbers.

Attendances and Admissions at the Vale of Leven Medical Assessment Unit 1 April 2007 – 31 March 2008 (source: NHS GGC)

Source	No of attendees	Discharged	Admitted	Transfer in VoL	Ref RAH	Ref other	Died	Not known
Dentist	10	4	5	0	1	0	0	0
Emergency rescue services	569	177	367	0	20	1	4	0
Employer	33	22	10	0	1	0	0	0
General Practitioner	1848	506	1,263	10	58	5	2	4
Minor injuries	50	36	13	0	1	0	0	0
NHS 24	214	72	133	0	8	0	0	1
Not known	328	79	231	0	15	2	1	0
Occupational health nurse	1	0	1	0	0	0	0	0
Other	471	144	304	0	16	4	3	0
Out of hours GP centre	153	44	103	0	5	0	0	1
Police	61	36	22	0	3	0	0	0
Referred by other hospital	56	12	44	0	0	0	0	0
Same hospital	112	50	59	0	2	1	0	0
School	9	6	1	0	2	0	0	0
Self	2217	960	1,144	4	85	15	3	6
Social services	6	3	3	0	0	0	0	0
Total	6138	2,151	3,703	14	217	28	13	12

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Under the review team's preferred option for the future, 'unselected' patients (those who have not consulted a GP/other suitably qualified clinician in advance of attendance) **will not be seen** at the MAU. It is therefore expected that unselected attendances (such as those resulting from 999 calls and NHS24) will bypass the Vale. This represented 903 cases in 2007/08 (0.9% of total activity at the Vale).

The MAU received 2219 'selected' patients in 2007/08 (those who have consulted a GP/other suitably qualified clinician in advance of attendance). This represents 2.2% of total activity. Of those patients, 1482 patients were admitted. It is impossible to say what proportion will continue to be referred to the MAU as this is dependent on GP confidence in the system and the referral protocols (yet to be established).

In addition, the 2217 self-referrers (2.2% of total activity) will, under the Review team's preferred option, be rerouted to the Minor Injuries Unit/GP Out of Hours service. As the MIU/GP OOH is located within the Vale, the net effect on overall activity will be nil. If MIU/GP OOH refer patients for assessment and admission, it will be realistic to assume that a significant proportion would be referred to the MAU at the Vale but that some will be sent directly to a hospital with more developed acute facilities, such as the Royal Alexandra Hospital. Until protocols are agreed and systems are embedded, it is difficult to predict the extent to which patients will be selected for admission to the Vale.

Furthermore, we need to factor in that there is insufficient routing data for 799 attendances (those recorded as 'other' and 'unknown' in the table above). For the purposes of the flow charts that follow, these attendances (and the 535 admissions that resulted) have been removed from the calculations leaving total attendances at 5339 and admissions at 3168.

Having carefully considered the data, the review team takes the view that should their preferred option be implemented, one can expect that **future admissions will range between 36% and 83% of existing levels**. At the 83% level, the assumption is that only the unselected cases (i.e. 999 calls and NHS24 call) would not continue to be dealt with by the MAU. This assumes that GPs do not modify their referral pattern and patients continue to present themselves at the Vale as at present. At the 36%

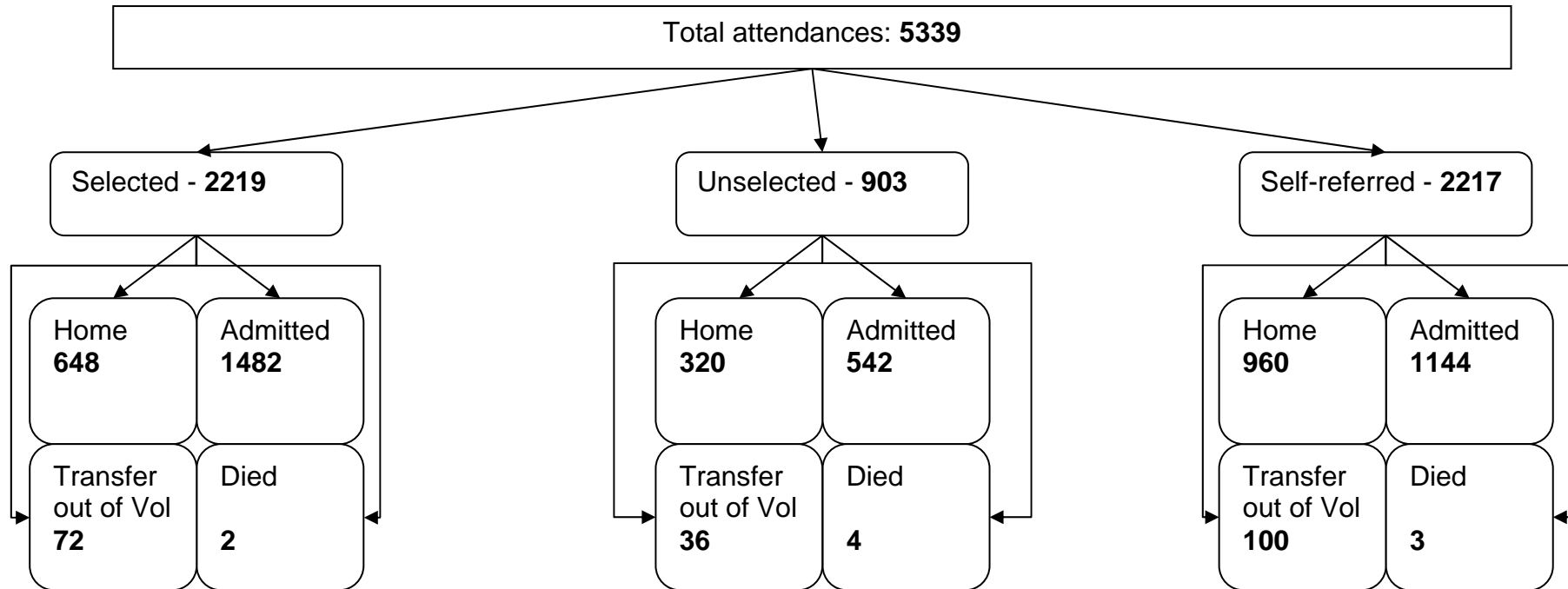
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level, it is assumed that GPs refer no cases to the MAU and the only admissions are patient who self-present at the VoL.

In reality, we can expect a figure somewhere in between those levels and for planning purposes, we might expect at least half of those currently admitted to continue to be admitted. What we do know is that GPs at the Vale expected to transfer c10% of their acute medical admissions to RAH during the first phase of the Lomond Integrated Care Pilot, however in practice the number has been much lower. It is possible, however, that GPs may become more risk averse without the benefit of full-time onsite anaesthetics. This is one reason why it is difficult, at this stage, to predict accurately the impact of the Review Group's preferred solution – hence the significant level of tolerance on the estimates above.

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Current Situation



Selected: GP, GP OOH, MIU, Hospital

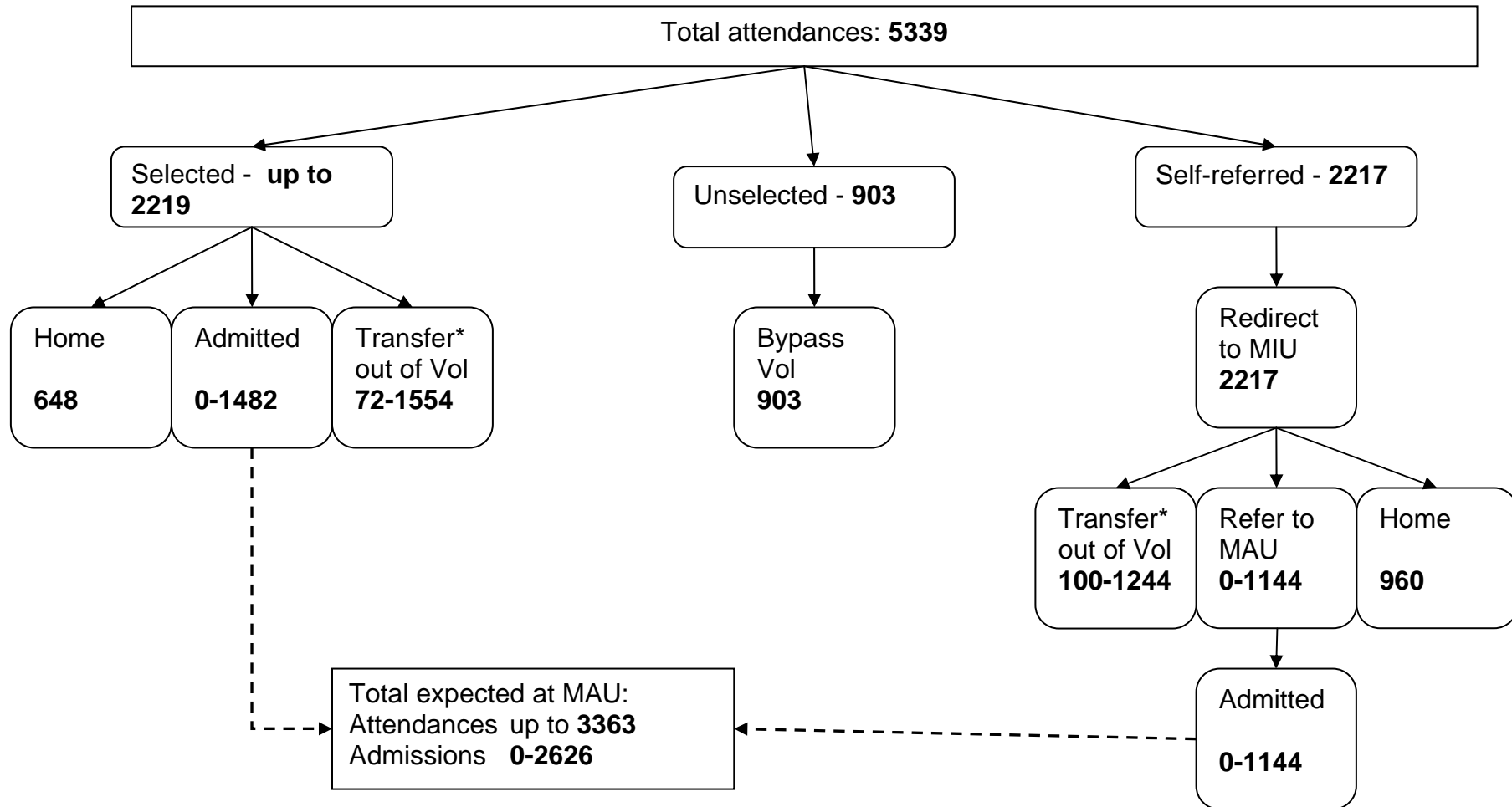
Unselected: Dentist, 999, Employer, NHS 24, Occupational Health Nurse, Police, School, Social Services

Self referred: Walk-in attendees at MAU

Transfer out of Vol To the most appropriate place of definitive care

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Future Scenario



* transfer out of Vol = to the most appropriate place of definitive care. The range will be dependent on GP decision making.

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Current and projected figures for attendances and admissions at the Vale of Leven MAU

A. Now

Source	Attendances	Admissions
Unselected	903	542
Self referral	2217	1144
Selected (GP Assessed)	2219	1482
Total	5339	3168

B. Future if GP referrals stay the same

Source	Attendances	Admissions
Unselected	0	0
Self referral – via MIU / GP OOH	1144	1144
Selected (GP Assessed)	2219	1482
Total	3363	2626

C. Future if no GP referrals

Source	Attendances	Admissions
Unselected	0	0
Self referral – via MIU / GP OOH	1144	1144
Selected (GP Assessed)	0	0
Total	1144	1144

It is the view of the review team that the most likely outcome lies between scenario B and C.

Appendix 2 - Clinical Safety

The highly emotive phrase “patients will be dying in ambulances” is invariably heard whenever re-design of services, resulting in increased need for transfer of patients, is proposed. Groups opposed to change make an assumption that increased travel times will inevitably lead to increased deaths in time dependent emergencies. This assumption does not reflect the true complexity of developing systems to deal with unscheduled emergencies in a variety of settings. **The aim should be transport of the right patient to the right place at the right time to achieve optimum outcome.**

Unscheduled emergencies may be time dependent, facilities dependent, expertise dependent or any combination of these. (For example, choking is a time dependent emergency requiring immediate intervention. A stroke patient needs rapid access to a brain scanning facility for effective treatment. A ruptured aortic aneurysm requires the expertise of a vascular surgeon). In an ideal world, all patients would have immediate local access to the medical facilities and expertise they require. This model is impossible to achieve. Equally, it is pointless to state that totally risk free transfer is achievable, as unpredictable events will always occur. Therefore, the risk of transfer must always be balanced against the benefits for the patient resulting from the transfer.

Evidence has been steadily accruing that clinical outcome for specific medical emergency conditions (e.g. heart attack, stroke, bleeding ulcers, respiratory conditions etc) are optimised if initial management is undertaken in specialist centres. In some cases, there is clear evidence that immediate transfer to such centres with limited immediate intervention results in the best risk/benefit ratio (e.g. transferring a patient suffering a heart attack directly to a centre providing emergency Primary Percutaneous Coronary Intervention(PPCI) within 90 minutes significantly improves outcome and decreases hospital stay). If direct transfer is not

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possible within determined time frames, the risk of prolonged transfer time may be mitigated by intervention in transit (e.g. administration of clot busting drugs to heart attack patient by a pre-hospital practitioner²⁰²¹). The risk/benefit for each individual patient may vary depending on a multiplicity of factors (e.g. the patient themselves, time of day, traffic and weather conditions, the competence of the healthcare professional dealing with the patient, ambulance availability etc.). Any unscheduled care system developed must take account of local factors.

Therefore, the independent panel's literature review of evidence concentrated on two main areas:

- a) the evidence in the medical literature with regards to:
 - 1) optimum management of specific conditions
 - 2) generic studies into the effect of transfer on outcomes
- b) applying the evidence to the specific setting of the Vale of Leven.

In considering the medical literature, there is robust guidance available on optimum pathways for treating specific medical conditions. However, the majority of these guidelines utilise evidence obtained in controlled conditions and may not produce similar results when applied in various settings²². Therefore, it was essential that such evidence was considered in light of the demographics involved in the Vale of Leven.

The panel made its decisions based on the **weight** of evidence available. For example, there is strong evidence from Scotland that direct transfer of trauma cases to large centres results in better outcome for the vast majority of individuals. However, much of the evidence reviewed regarding unscheduled medical

²⁰ D.K. Pedley, K. Bissett, E.M. Connolly, C.G. Goodman, I. Golding, T.H. Pringle, G.P. McNeill, S.D. Pringle, and M.C. Jones. Prospective observational cohort study of time saved by prehospital thrombolysis for ST elevation myocardial infarction delivered by paramedics. *British Medical Journal*. 327(7405):22-6, 2003 Jul 5.

²¹ Better Coronary Heart Disease and Stroke Care: A Consultation Document, Scottish Government, 2008 (p16)

²² The Decision Framework for STEMI- www.decisionframework.org, (accessed July 2008)

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emergencies did not arise in Scotland and, therefore, the panel assessed the volume, quality and applicability of the available evidence in making its decisions. Lack of unanimous evidence in some areas does not infer that the panel's decisions are not valid. In the past, individual studies, showing contrary outcomes from the majority of evidence, have been cited to justify delaying redesign pending further "study". It is the panel's opinion that further traditionally regarded high-level evidence of efficacy (Meta analysis, RCT) is unlikely to emerge in the near future and that a decision on the future of health services in the Vale of Leven should be made based on current evidence. **Further delays in redesigning services, whilst debating the quality/applicability of the evidence, is likely to result in suboptimal outcomes for a range of patients due to deficiencies inherent in the traditional systems of unscheduled care currently employed in Clyde.**

Appendix 3 - Scenarios

Case One

A middle aged patient with chest pain is seen at home by a primary care practitioner. The patient is transferred to the Vale of Leven and assessed as suitable for reperfusion therapy at the PPCI centre at Clydebank. The patient awaits retrieval by the Clydebank ambulance and is in extremis on arrival. He survives but with marked cardiac morbidity. Current practice in other areas of Scotland involves direct discussion between the Primary Care Practitioner and the PPCI centre combined with telemetry of the patient's electrocardiogram. An early decision is made on the best pathway for the patient. Outcomes may include direct transfer to the PPCI centre, immediate pre-hospital thrombolysis prior to transfer, transfer to another hospital for non-specialised medical care or even discharge back to GP care. This system has already demonstrated improved outcomes in terms of mortality, morbidity and length of hospital stay²³.

Case Two

A 65 year old woman with moderate Chronic Obstructive Pulmonary Disease calls NHS 24 and an ambulance is despatched. The patient is scored using PreAMBLE and found to be borderline for direct referral. She states it would be easier for her family, if she were treated locally. She is transported to VoL for assessment. Arterial blood gases suggest she is tiring. Secondary transfer to RAH is requested but takes 80 minutes to arrive. Despite maximal therapy en route, she continues to deteriorate and requires intubation and ventilation in the ICU; total hospital stay in RAH is 10 days.

The same patient is scored but then discussed with the duty unscheduled care doctor prior to departure. The doctor has access to the patient's Emergency Care

²³ McLean S. Egan G. Connor P. Flapan A D. Collaborative decision-making between paramedics and CCU nurses based on 12-lead ECG telemetry expedites the delivery of thrombolysis in ST elevation myocardial infarction. *Emergency Medical Journal* 2008;25:370-374

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Summary / notes, which demonstrate a trend of unscheduled home visits over the prior 2 months. Advice is direct transfer to RAH. She is assessed jointly by a Respiratory Physician and an ICU consultant and aggressive therapy instituted early with Non-Invasive Ventilation in a High Dependency setting. She improves and does not require ventilation. She is transferred back to VoL two days after admission for ongoing care.

Case Three

An 80 year old lady lives alone but has very near relatives and good social care at home. She is suffering from mild dementia, and has a history of smoking all her life. Over the last couple of years she has discussed with her family and her GP about her wishes if she should become seriously ill and needed intensive care. She is adamant that she does not wish any 'heroic' medical treatment especially being ventilated.

Overnight she has become confused and has been found wandering in the street in her nightclothes. Her neighbour has called her daughter and the GP. He sees her and diagnoses an infection, possible in her kidneys. He arranged to admit her to the Vale for medical and nursing care. She has appropriate investigations performed in the Vale and she is reviewed there by a visiting consultant within 12 hours of her admission.

Two days after starting antibiotics she is much better and able to be assessed for returning to home with increased support.

This lady had an unscheduled episode of illness, but was reviewed and the selection of where it was best to treat her was made by her GP and the family.

Appendix 4 - Review Team Members and Secretariat

PANEL

Professor Christopher Dodds	Chair of the Review Team Royal College of Anaesthetists
Dr Peter Nightingale	Royal College of Anaesthetists
Mr James Ferguson	Consultant Surgeon in Emergency Medicine NHS Grampian

SECRETARIAT

Ms Zoë Woods	Scottish Government
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Appendix 5 - Meetings held by Panel members

The Panel met and took evidence from:

Dr Brian Cowan	Medical Director, NHS Greater Glasgow & Clyde
Ms Helen Byrne	Director of Acute Services Strategy, NHS Greater Glasgow & Clyde
Mr Stuart Reid	Planning Manager, Clyde, NHS Greater Glasgow & Clyde
Dr Hugh Carmichael	Consultant, General Medicine, Vale of Leven Hospital
Dr Patrick Trust	Clinical Director, West Dumbarton
Dr Brian McLachlan	GP
Dr Nick Dunn	GP
Dr Ed Robertson	GP
Ms Mary Morgan	General Manager, Vale of Leven Hospital
Dr John Dickson	Associate Medical Director, Clinical Director Anaesthetics
Dr Douglas McCrudden	Clinical Director and Consultant Physician
Dr Paul Wilson	Educational Advisor, Royal College and NES for the West of Scotland
Dr John Colvin	Royal College of Anaesthetists
Mr James McGrath	Paramedic, Scottish Ambulance Service, South West Division

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