An External Review of the Cardiac Surgery Services at Morriston Hospital Swansea.

Sept 2013

Stephen Ramsden, independent Chair of the external panel
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Executive Summary

The cardiac surgery service at Morriston Hospital has faced significant problems since it opened in 1997. The Unit has seen large increases in patient activity and new services with capacity and resources always seeming to lag behind. In parallel, very poor working relationships, especially between the Cardiac Surgeons and Anaesthetists, have contributed to issues of low morale and often intolerable working conditions. These issues have been subject to external review in the past, notably by Health Inspectorate Wales in 2006, which made Recommendations, many of which we have repeated in this External review 7 years later. We have heard great frustration about the failure to act on these previous recommendations and some staff fear that this external review will be no different.

It was this background, exacerbated by the departure of Cardiac Intensivists last year(2012), that prompted a decision by the ABM Board to commission this external review by a team of experts, a patient representative and chaired by a former NHS CEO who now specialises in independent investigations as an external consultant. This panel visited the Unit in July 2013 and interviewed key personnel from all disciplines. We also had access to a large number of documents and data submitted and benchmarked by the National Cardiac Benchmarking Collaborative. Individual Review team reports have been included in Appendix 2 for transparency and access to greater detail.

The Report is organised into nine sections based on our Terms of Reference, and each section has a summary of our Findings and Recommendations. A summary of all the Recommendations is included at the end of the Report.

We were dismayed at some of the practices and behaviours raised at many of the staff interviews and meetings. Some of this practice needs to be stopped urgently. The current system can result in important decisions regarding patient management in CITU to be made without involving the whole team – as a result these decisions are sometimes changed. Especially when this involves end of life care, it causes great distress to the nurses and indeed the patients’ relatives, and adds to the frustration of Anaesthetists supporting the unit. We also recommend that the final responsibility for management of patients on the CITU should transfer from Surgeons to Anaesthetists/Intensivists (based in the CITU on a daily basis) as soon as possible. Prior to that happening, we believe a CITU Director should be appointed immediately, together with arrangements for greater continuity of care both in and outside of regular working hours. The approach taken in recent months by Dr Dafydd Thomas has impressed us and hopefully, can be built on to support the essential multi-disciplinary working so essential in this environment.
Working conditions are intolerable for many groups of staff. In addition to the rift between Surgeons and Anaesthetists, the nurses on CITU and all staff groups in theatre are demoralised and at breaking point. Staff complained of bullying and abuse by Surgeo ns, long and pressured working hours, inequitable payment arrangements and perceived lack of leadership which all contribute to this. High turnover, high sickness and low morale are the inevitable outcomes. Leadership at Health Board and Directorates level was criticised by staff for both inaction and indeed actions that make matters worse – the move to generic scrub nurses is perceived as a poor policy that has contributed to the loss of experienced cardiac scrub nurses. The current Directorate arrangements are not working and need to change. The exact model needs to be determined by the Health Board but as a minimum should require the creation of a virtual Cardiac Directorate with leaders from Theatre and Anaesthetics joining the Cardiac service leadership (including the new CITU Director) to run the service. At the other extreme, the Health Board may consider the transfer of all resources from Theatre and Anaesthetics into a new Cardiac Directorate, though there is some resistance to this.

There is a capacity shortfall in CITU but there are also inefficiencies that must be addressed. In the short term, we support the relocation of the HDU to adjacent to CITU to give flexibility and improvement in running an integrated critical care unit. It is inconceivable that a major investment in a new build could proceed without the outcome of the new S Wales Cardiac Surgery Implementation Group’s deliberations. We suggest there are some existing opportunities for joint working with Cardiff and think sub-specialisation will drive this further. We found a multitude of opportunities to improve efficiency and throughput in both CITU and Theatres. In particular the long operating days may be both inefficient and unsafe.

The service appears to offer good quality care and outcomes with mortality rates being comparatively low. However, the recent report quantifying the number of patients who have died while experiencing long waits for surgery is a deeply unsatisfactory situation. We also found a number of other issues with the standard of care, though nothing as distressing as the end of life care arrangements described earlier. We recommend some improvements in clinical governance arrangements to ensure Surgeons, anaesthetists and nurses all participate together and we call for the use of other clinical outcome measures available in existing national audits.

In examining why previous reports had not been implemented, it is fairly evident that the difficulty and complexity of the situation has needed strong leadership to resolve it. That strong leadership has not been evident and the restructuring that has taken place over many years has meant a lack of continuity in senior leadership and structures. We have made recommendations to support the Implementation task including the offer of this external panel returning in 12 months time, or earlier, to formally review progress. We believe that work on teambuilding and culture change is necessary and may require external
input, but ultimately there may be the need to change some of the senior personnel to achieve the sustainable change needed.

In total we make 34 Recommendations, summarised in the final section and highlight those that we think should be implemented most urgently.
Introduction

This external Review of the cardiac surgery service was commissioned by the Abertawe Bro Morgannwg (ABM) University Health Board early in 2013 following many years of clinical, operational and workforce problems. The Board established an internal Project Steering Team to oversee this independent review and they produced Terms of reference which are attached as Appendix 1. They also appointed the independent Review team Chair, Stephen Ramsden, an experienced former NHS Trust CEO, and the six members of the external review team:

Dr Nick Fletcher, Consultant Anaesthetist and intensivist, St Georges Healthcare NHS Trust, London

Mr Philip Gamston, Chief Perfusionist, St Bartholomews Hospital London

Mr Leslie Hamilton, Consultant Cardiac Surgeon, Freeman Hospital Newcastle

Mr Robert Harris-Mayes, Patient representative

Dr Michael Norell, Consultant Cardiologist Wolverhampton

Mr Paul Randall, Senior Cardiac Nurse, St Georges Healthcare NHS Trust London

and

Mr Stephen Ramsden, independent consultant and chair of the Review Team

The Chair visited the Health Board twice before the Review team site visit to the Morriston Hospital Cardiac Centre held on the 8 & 9 July. This was to agree the documentation list and to work through the logistics of the external review and the site visit. The senior nurse member of the panel, Paul Randall, was recruited late in the process and so undertook a subsequent site visit on the 23 July with Robert Harris-Mayes to meet with nursing staff.

All Review team members have produced their own detailed reports, which have been assimilated into this final external review Report.

All have organised their reports into the headings of the Terms of Reference, which now form the contents of this Report:

i) Professional working relationships

ii) Reasons for long waiting times

iii) The efficiency and capacity of the service

iv) The sustainability and cost effectiveness of the workforce

v) The standards of care and the environment for patients

vi) Priorities for developing the service for the future
vii) Appropriateness of current clinical audit and benchmarking arrangements
viii) Consider why the recommendations from previous reviews had not been implemented
ix) Any other issues that the panel feel are relevant

A particular feature of our work has been the continuing reference by staff to previous reviews and the failure to implement recommendations, hence the inclusion of TOR viii) but it hasn’t been possible to ascertain if we have received details of ALL previous external reviews. A timeline produced in 2012 by the Medical Director and subsequently sent to the Review team by the Chief Operating Officer was very helpful in this regard and, to our surprise, external reviews that were referred to by staff as if occurring recently, in fact took place between 2004-6, over 9 years ago!

During this external review process we were also made aware of some work on cardiac services by the Welsh Health Specialised Services Committee that has implications for the Morriston Centre and for this Review. Of particular relevance is the work on “Mortality of patients waiting for elective cardiac surgery in S Wales” due to be published soon and also the report of the Cardiac Surgery Working Group of the Cardiac services review for Wales. We have tried to avoid duplication of effort and have cross referenced as necessary.
i) Professional working relationships

Findings

F1. The working relationships between the Cardiac Surgeons and the Anaesthetists/Intensivists are very poor and lacking in trust. In the past it was standard practice that cardiac surgeons (and their team of registrars) looked after post op patients in the ICU (the surgical registrar would be resident overnight). In current practice most cardiac surgical units have had increasing difficulty recruiting middle grade surgeons. More importantly the complexity of patients in the ICU has increased, requiring more ICU expertise at the bedside to provide continuity of care. The expert Cardiac Surgeon on the Review team describes a “vicious circle” in which historical shortages of anaesthetic input to the Cardiac ITU (CITU) led to Surgeons having to take full responsibility, which in itself has contributed to a high attrition rate and difficulties in recruiting Anaesthetists/Intensivists to the CITU. The situation in most other Cardiac centres (and in general ITUs the surgeons would not be specifically involved – a so called “closed” ICU) is for the Anaesthetists/Intensivists to manage patients in that environment. The faculty of Intensive Care Medicine seeks to professionalise and strengthen ICU care across all types of unit including Cardiac ICU.

The Anaesthetists view is that they have withdrawn from the CITU in response to being undermined and were indeed pushed out. Some described being blocked by the surgeons when they tried to implement improvements to ITU care. They became demoralised and left for centres where they felt more valued.

There are other ramifications of this lack of trust both on staff morale and particularly on decision making about patient care in CITU, including admission, transfer, discharge and end of life care. The lack of multi-disciplinary decision making on individual patients can lead to patients being placed on an end of life care pathway and then having this decision changed. This is completely unacceptable and must be ended immediately (see Recommendations).

Some of these inter professional relationship issues have been compounded by historic inequitable payment arrangements that persist today. This still exists even with the ending of waiting list initiative work earlier this year. This in part is due to the difficulty in recruiting anaesthetists a factor in the supply/demand market forces.
The recent increased input to CITU by Dr Dafydd Thomas, is seen by all as a positive step forward and he has gained the trust of the Surgeons, helping the move to more multi-disciplinary working.

F2. The nurses both on CITU and elsewhere feel very strongly about the behaviour of the Cardiac Surgeons and have vividly described receiving wholly unacceptable abuse, lack of respect, blame, bullying and arrogance from the Surgeons. They also say that Surgical trainees are frightened of making decisions. The CITU nurses described “constant battles” with Cardiac Surgeons (and surgical trainees). They feel that they have escalated these issues but that nothing is ever done. Stress levels amongst the CITU nurses are high and this has contributed to intolerable working conditions and high sickness levels (12-13%), and a high turnover where experienced nurses move on leaving more junior and less resilient nursing staff.

F3. There are major issues of staff morale including in the operating theatre environment, influenced by some of the above but also by long over-running lists, poor attendance by both consultant surgeons and anaesthetists and by management practice around flexible/generic staffing and inequitable payment arrangements.

F4. Within the group of Cardiac Surgeons, they themselves say “they get on” with each other, but others perceive a lack of working together eg to create standard approaches and pathways. There are insufficient meetings of Surgeons to work together on such issues. The Surgeons are aggrieved at some of their contractual/payment terms and do not feel Health Board leadership have wanted to resolve this. They feel that communications with senior leadership is poor.

F5. Within the group of Anaesthetists there has also been some difficult historical relationships and disruptive behaviour, sometimes motivated by private practice/additional payments. Health Board leadership talk of “being held to ransom” by them. However most of those interviewed seemed to get on with each other. The acceptance of Consultants with CITU anaesthetic sessions being allowed to transfer into General Anaesthetics and the historical withdrawal of junior support from CITU has contributed to the lack of trust from the Cardiac Surgeons. Reasons for the withdrawal of juniors was bullying & harassment, lack of consultant support and also EWTD and the reduction in trainee numbers overall. The new Associate CD is committed to increasing support to the CITU, though acknowledges that there will be financial implications and possible short term disruption to service in executing these plans.
F6. The cardiac service is formed from at least 3 different directorates which adds to the potential for inter professional relationship difficulties. The Regional Specialties Directorate needs to improve the cardiac service but rely on the Clinical Support Directorate (for Anaesthetics) and the Surgical Specialties Directorate (for Theatres). From the documents review undertaken, there is little sign of formal priority to this within their Service plans for example.

F7. The relationships between Cardiologists and Surgeons are very good, with an effective, regular weekly MDT meeting which is well attended and this part of the pathway appears to work well.

F8. The microbiologists no longer do CITU rounds and feel that the Surgeons have previously ignored their advice. This seems to be part of a larger picture of a lack of multidisciplinary team working in CITU.

F9. Staff of all levels in all professions were critical of leadership or management, either to tackle the relationship issues described above or indeed in some cases they are making the situation worse eg theatre staffing policies. Many described “leadership” as “distant” from the clinicians, “laid back” and as “weak” in failing to intervene when issues have been escalated. There has been no formal leader of the CITU which is a serious deficiency.

The Surgeons job plans have not been reviewed for the last 5 years due to an ongoing dispute about SPAs (which has now been resolved).

Recommendations.

R1. The lack of multi-disciplinary team decisions made on patients on CITU especially about end of life care (and discharge to the HDU/Ward) must end immediately. A multi-disciplinary approach to these patients, involving their families should allow these patients to die a dignified death without a protracted stay on CITU. A system enabling referral of any disagreement to senior peers must be in place and used, to avoid such decisions being made and then changed.

R2. A Director of CITU should be appointed immediately. This should be by open competition and an appointments panel with representation from key Anaesthetic, surgeon and Nursing senior personnel should make that appointment, with input from senior hospital management. The new Director will require appropriate training
and a significant number of job planned sessions in a job description designed specifically for this role. Liaison with other Cardiac Surgery centres could inform the design of this role. The appointed individual should attend the Directorate meetings, be accountable to the Clinical Director and be involved in all strategic planning for the directorate.

R3. The appropriate leadership of patients in CITU is with the Anaesthetists/Intensivists and this should be implemented as soon as the new CITU Director feels there are adequate Anaesthetic/intensivist sessions to cover. Decisions should be taken in consultation with the patient’s Surgeon and nursing staff. We are not suggesting a “closed unit” like the general ITU, where surgeons are not involved. Surgeons do, however, need to make themselves available for this to happen. Surgeons said they would support the transfer of patient management in CITU if there was adequate anaesthetic/intensivist input. There should also be a dedicated and detailed daily multidisciplinary ward round on CITU. Consultant to consultant communication should be the norm. Consideration of a separate surgical led 24/48 hour Recovery Unit as identified in a later Recommendation could help this.

R4. Surgeons meetings should be instigated and held weekly to foster team working amongst the surgeons and to avoid differences escalating into significant issues. A regular standard agenda should be used. An early priority will be to standardise some of the current individual preferences eg around discharge/step down, working with surgical practitioner, post-operative pain management etc.

R5. There should be zero tolerance to incidents of bullying, abuse and intimidation. Directorate and Health Board leadership must respond and intervene when issues are escalated to them. Persistent offenders need to be subjected to the Health Board’s disciplinary procedures. This should be made clear and Consultants and other senior staff should be further implored as role models, to set an example around professional behaviour and mutual respect for each other.

R6. Opportunities must be found to reinforce the multi-disciplinary team approach and the vital contribution made by all constituents of that team. An example is the Clinical Governance meetings (M&M, clinical Audit etc.) referred to in vii) below in which Surgeons meet separately to Anaesthetists and Nurses are excluded through being too busy. Management need to create the correct environment and opportunity for staff to participate in these clinical governance meetings. All disciplines should come together regularly in such Clinical Governance meetings. There should be shared chairmanship and discussions should be minuted and agreed.
Another example would be to encourage the anaesthetists and surgeons all do a colleague (all grades) 360 appraisal / multi-source feedback exercise (they will all have to do one for their revalidation in any case).

R7. The Cardiac service should have more control of the vital resources (of theatre staffing and anaesthetists/intensivists) required to optimise care for patients. There are a variety of management models even in the centres represented in the external Review Team. In some, the Cardiac services have whole control of theatre staffing and Anaesthetists/Intensivists; in others the cardiac service relies on a support service from other directorates, as at Morriston.

The current arrangements are not working well enough and so some change is needed urgently. Changes in theatre staff skill mix have contributed to the attrition of experienced scrub nurses and the Health Board need to acknowledge the skills needed in Cardiac Theatres.

A minimum urgent requirement is to have a formal senior management team with senior Anaesthetic and theatre management to join the cardiac centre management in jointly running the cardiac service. Health Board leadership should ensure in their annual Service plan approvals and performance reviews that all relevant directorates are held to account for cardiac service performance, not just the Regional Specialties. (this doesn’t appear to be the case currently).

Formal service level agreements could also help the current situation.

It is for the Health Board to decide whether these resources should be physically transferred into the Cardiac service, bearing in mind the resistance to that happening. An alternative option of transferring Cardiac Surgery into Surgical Specialties Directorate could also be considered but would have similar resistance and consequences of potential fragmentation. Whichever management model is chosen, all those leading elements of the service must be held to account for the delivery of the improvements that are needed and highlighted in this Report.

R8. Health Board leadership need to urgently review the proposals drafted by the Associate Clinical Director on increasing Anaesthetic sessions to Cardiac Surgery. It is understood that this is by increasing cardiac sessions in the job plans of existing consultants, meaning they reduce their commitments to other specialties. This is normally the model in Cardiac centres with the majority of sessions (about 2/3) being in cardiac anaesthesia/ CITU but a small component in non-Cardiac anaesthesia. Recruitment to any vacant posts should consider a specific commitment to job planned Cardiac ITU time.
R9. The microbiologists should be encouraged to reinstitute CITU ward rounds and help to further improve infection control practise on the unit. This would also be part of an overall strengthening of the CITU multidisciplinary team. They should also be involved in the creation of post op antibiotic prophylaxis protocol and CITU antibiotic protocol.

R10. The Health Board needs to initiate proper formal job plan reviews with the Cardiac Surgeons immediately. In particular the 12 hour 3.3 session days may not be the most efficient practice, especially if they are not there for parts of this long day. Benchmarking against other cardiac surgical units – 2.25 sessions would be a norm for 2 cases (though we recognise that a session is slightly different in Wales compared to England).

R11. The Health Board need to seek to equalise the current inequitable payment arrangements for different staff groups especially for additional work, and out of hours.

ii) The reasons for long waiting times to access the service and measures that should be taken to address this

Findings

F1. Recent reviews undertaken by the Delivery and Support Unit in June 2011 and by the Cardiac Surgery Working Group in March 2013 have attempted to help the Health Board and Cardiac Centre plan the to deliver the Welsh standard of 26 weeks maximum waiting time for cardiac surgery. ABM have had a number of patients waiting longer than 36 weeks, the absolute maximum in the national target. The DSU report recommended that the Health Board would need to reduce its waiting list to below 165 patients in the first instance to less than 100 patients in the medium term. The report highlighted a 9 week period in 2010 in which the waiting list grew by more than 50% and highlighted operational problems such as the CITU capacity issues, infection outbreaks affecting the ability of the Health Board to
deliver. Increasing CITU capacity and reviewing Theatre throughput was recommended and the Health Board approved an Action plan to deliver this. The more recent Cardiac Surgery Working Group report suggests that cardiac surgery demand would remain stable over the next 5-10 years though the nature of the patient population will continue to become older with more co-morbidity. These older patients are likely to have longer lengths of stay on ITU and ward. This review called for an increase in CITU capacity and the ring fencing of some resources to improve throughput. This report also highlighted the inability (because of size) of the two S Wales units to sub-specialise in the way the Liverpool unit has done to the benefit of N Wales Cardiac patients.

F2. We were shown a recent draft report by the Welsh Health Specialised Services Committee, due to be published soon “Mortality of patients waiting for elective cardiac surgery in S Wales”, which has further analysed waiting list data since the above report. It illustrated that the Health Board have succeeded in reducing the >36 weeks waiters to 16 from a peak of 98 in 2011. However their target was to eliminate these long waiters by end March 2013 so in that sense they have failed and the achievement may have come at a price of an overall increase in the numbers of patients on the waiting list to a four year high of 394. This suggests the selection of patients has been towards long waiters, in accordance with national policy but there is a real risk that the problem of capacity meeting demand may challenge the sustainability of this strategy in 2013/14 when, it is understood that the extra capacity traditionally relied on in the form of waiting list initiatives has been stopped.

F3. Of even greater concern is the analysis of deaths on the waiting list undertaken in this Review by WHSSC. Following validation by the Trust the final report will show that significant numbers of patients have died while waiting for cardiac surgery at Morriston hospital, a major deficiency in service and a tragedy for the patients and relatives concerned. This compares with no recorded deaths on the waiting list in N Wales 2011/12 and a view that “it is extremely rare”. However the data is not routinely collected for England.

F4. The implication of this for this external review is that, whilst the mortality rates for the Morriston cardiac surgery service are relatively low and compare favourably with the rest of England & Wales, these deaths on the waiting list are not being taken into account. Further analysis of these deaths is being undertaken, the case mix and the admitting/selection practice may reveal further intelligence to help the Board to understand this and take remedial action.

F5. The implication of these reports for this component of the Terms of Reference is that the historical long waiting times may have occurred for a variety of reasons including i)
capacity at Morriston being inadequate to cope with the demands and ii) efficiency and throughput at Morriston being lower than possible to maximise what capacity there is. We will turn to these factors in the next two sections.

**Recommendations**

R1. The Health Board should urgently receive a further analysis of the deaths on the waiting list in recent years to assess the case mix, position on waiting list, selection practice and potential impact on in hospital mortality rates. This is in addition to the validation exercise already done.

R2. The Health Board should assess whether its capacity and performance will meet the known and predicted demand for the rest of 2013/14, without the continuation/renewal of waiting list initiatives in the second half of the year. They should ensure they are implementing the recommendations of the DSU and any recommendations from this Review that follow in the next two sections.

iii) **To report on the efficiency and capacity of the service to meet present and projected demand**

**Findings**

F1. It is clear that there is insufficient capacity across all areas of the Cardiac Surgery service – ward, CITU and High Dependency – and many feel this has been the case since the Centre’s inception and the continuing increases in workload over the years including the introduction of thoracic surgery. Some attempts have been made to increase the capacity over the years but traditionally, the annual contract (increasingly influenced by national waiting times targets), has relied on waiting list initiative activity. This has been controversial as it has contributed to the relationship issues described in section i) (eg through inequitable payments), it has added to staff stress in Theatres and CITU and it has frustrated management, who believe there are some inefficiencies in the service. The Review team found many examples of inefficiencies and suggest that a number of urgent
changes would help the efficiency and throughput, though it is also likely that increased CITU capacity is also needed.

F2. **CITU/HDU.** NCBC data clearly demonstrates that Morriston is an outlier in terms of cancelled cases due to no ICU bed available. The modelling work undertaken by Swansea University suggests another 4 ITU beds are needed (albeit using a low bed occupancy rate) but the Health Board/Directorate have been unable to agree an option to provide these beds, even though they accept the need. The Review team have heard and determined that there are a number of factors which are barriers to optimum use of current CITU capacity:-

- Delayed discharges from CITU in response to fears by individual cardiac surgeons regarding inadequate level of nursing and medical care combined with geographically distant HDU facility. There are no agreed protocols for guiding decision making and discharge from CITU (or at least no evidence of these)
- The separation between CITU and HDU (and on a different floor) prevents flexible use of beds and appropriate escalation and de-escalation
- Daily changing ICU rota reduces continuity of care, poor handover and deferred decision making
- Inadequate out of hours intensive care cover resulting in delays to sedation withdrawal and extubation, this is compounded by late finishes in cardiac theatres (8-9 pm) with delays to progression of the second case in CITU
- Possible bed blocking by cardiac surgeons to prevent cancellation of their own cases a couple of days down the line. A similar point was made about surgeons’ labelling Cardiac cases “urgent” or “emergency” to gain priority over competing access to CITU/HDU eg with thoracic surgeons. This behaviour, whilst unacceptable, is encouraged by the capacity constraints and inefficiencies in the system. Clearly each surgeon is fighting for priority for their own patient but it creates many problems.
- Considerable variations in practice in post-operative CITU care. Decisions are not arrived at by Consultant consensus, indeed as stated in section i) decisions are often changed and overruled for poorly understood clinical reasons
- A repeated message from CITU and HDU nursing staff was that surgeon’s control over admission and discharge had a negative impact on activity and throughput
- Increased bed occupancy and length of stay by the pursuance of futile treatment strategies when end of life care is more appropriate. We heard of some patients remaining in CITU for long periods, over 200 days in one case, which is of concern.
- Delayed inter-hospital repatriation partly because of delayed referral
- Lack of fast track programme
- The cardiologists use the general ITU and so do not impact on the CITU which gives an advantage of there being fewer unpredictable emergency admissions.

F3 **Theatres** The long theatre days are an issue – some units in the UK do this but this is to facilitate “three case days” or to mix sub specialised complex surgery with more routine
work. It is apparent that some theatre lists over-run – this puts enormous pressure on staff and they cannot be expected to be as efficient and safe after 12 hours of working. Management have said that these over-runs have reduced in the last 12 months and this is something to continue to monitor and action (as is the increasing number of early finishes).

From the experience of our team, the expectation of a 12 hour list would be 3 cases (given a reasonably quick “turn around” between cases) certainly it would be normal to achieve 2 cases in a 8.30 am to 5 pm day. At Barts their lists are based on 4.75 hours per case, they utilise an overlap so that the 2nd case is being anaesthetised while the 1st case is closing. Lists start promptly there at 8 am.

It was suggested that some surgeons take a long time eg over bypass operations and reliance on middle grade surgeons to finish off the operation adds to the inefficiency. Analysis of the SCTS database illustrates a caseload broadly in line with other Centres. The situation in Theatres is exacerbated by poor time keeping and poor supervision of trainees with consultants apparently sometimes doubling up running outpatients and surgery simultaneously. This should be addressed as part of the job planning/appraisal process.

The WHO theatre checklist, especially the pre-incision time out, is not always being undertaken and respected by the Surgeons.

There are also difficulties in planning the staffing of operating lists influenced by the daily assessment of anticipated bed availability on CITU, usually requiring the Consultant cardiac surgeon to make his own assessment. In other centres, this is overcome by a system of the Clinical Director prioritising the theatre list the day before and then having a theatre coordinator (senior sister) who liaises with CITU.

The cardiac theatres are working a six day week, which presumably was introduced to maximise the use of CITU/HDU capacity, but it leads to some inefficiencies in theatre utilisation mid-week. The introduction of the 6-day week was also used to incorporate the WLI lists while simultaneously reducing enhanced payments for theatre staff. This increased the bad feeling between the groups when clinicians are receiving additional sessional pay and theatre staff are on basic rates, polarising the views regarding perverse incentives.

This also negatively impacts on stretched rotas and rest time. No additional staff were recruited to cover the extra shifts in fact the opposite has occurred with experienced cardiac staff leaving and being replaced with generic theatre staff.

Some consideration should be given to reversing the 6 – day week to take the pressure off stretched rotas, reduce stress on staff and concentrate on improving, skill mix and other efficiencies in the week. Since our visit, we understand that the 6 day week has now been ended.
The removal of a 6 day week would also allow for CITU to clear over the weekend. Complex cases could be moved to the end of the week to allow for longer in CITU if necessary.

The availability of experienced scrub nurses has been reduced by the policy of seeking generic working, which has created serious issues with skill mix and a perception of a lack of respect from management and surgeons towards theatre staff which has led to poor morale and staff shortages. The Review team are doubtful about the management view that “competencies in cardiac can be reached in 6 months”, certainly not for on call requirements.

The above has led to staff grievances and poor morale, which isn’t conducive to efficient working.

F4. **Thoracic surgery** is also inefficient, with one surgeon reporting that because of the timing of his operating list, his patients’ length of stay at 6 days, is approx. double what it could be because of inactivity at the weekend. The two surgeons very much feel that the priority for resources always goes to the cardiac surgery service. The neighbouring service in Cardiff is seen as a threat, when there may be merit in more collaboration between the two centres for thoracic surgery.

F5. **Increasing capacity**. We were told that there had been 16 options considered for redevelopment that incorporated a larger CITU and “all had been rejected” by the Directorate. This was later clarified to an outcome that the Architect had suggested that the option of a complete new build was the most cost effective option.

This was a fairly informal options appraisal undertaken over a year ago and the commissioning of this External Review appears to have been the only action taken to move forward.

The Health Board recognise that proposing a complete new build would require strategic consideration of the cardiac service to the S Wales population, as Cardiff also have capacity issues and the Cardiac Surgery Working Group have already proposed :-

"An implementation board is formed to develop options for the future planning and shape of services across South Wales to determine a strategy to meet the challenges identified in this review to providing a sustainable, high quality and equitable service in the long term."

Inevitably, contemplating a new build option would take time and it is important that the Health Board and Directorate implement short and medium term changes in parallel with any long term option of new build. Avoiding planning blight is essential.

The Intensivist, Dafydd Thomas, outlined to us such a short term option of moving the HDU to the short stay cardiology unit which is right next door to the CITU. This would give the
flexibility to manage the two units as one, giving an increase in ventilator capacity, though it would not give the extra 4 beds suggested by the modelling work.

**Recommendations**

R1. The surgical HDU should be relocated to adjacent the CITU in the place of the Cardiology short stay/daycase unit. (The Clinical Director is concerned about this Recommendation as it may compromise the efficiency of the Cardiology service- we acknowledge this but feel it is the right location for the HDU). This could serve as a surgically led fast track and 24-48 hour post-surgical HDU. Patients who need to stay longer than 24 hours who are not suitable for ward care could progress to the CITU. There should be funding of an appropriate nursing skill mix to escalate numbers of ventilated beds if required.

R2. Thoracic surgical patients could be accommodated in dedicated level 1 beds with enhanced nurse ratios, in order to increase capacity for cardiac surgical cases. In the medium term closer collaboration with the Cardiff thoracic service should be formally explored.

R3. Suitable fast track cardiac surgery patients should be identified pre-operatively and detailed to an enhanced recovery type pathway. Theatre scheduling should be designed so these patients were extubated early and were ready for ward care early the next day. These extubated patients can actually go to a level 1 fast track unit on the ward if the ward capacity allows and the skill mix is appropriate (1:1 ICU trained nurse ratio). This would help to create more level 3 beds as they are normally ventilated for a very short time. This is usual practise in the UK where a fast tracking service exists.

The transfer of accountability for patient management to Intensivists/Anaesthetists in CITU referred to in section i) above is aimed to improve decision making and minimise conflict, which should have an impact on efficiency in CITU (linked with a surgically led fast track HDU described above). (This has already been recommended earlier)

R4. CITU should ultimately move towards a weekly rota system to improve continuity of care. Improved continuity of care and dedicated consultant cardiac intensivist presence is important to rebalance decision making. Junior support needs to be improved. We considered the option of creating Advanced Nurse Practitioners in CITU. However our recommendation would be to concentrate on establishing a medical team responsible for the CITU, increasing the numbers of senior Nursing staff as part of the skill mix review, and then explore the possibility of recruiting ANP’s at the Morriston if proven to be both clinically and financially effective in one or more established Cardiac units in the UK.
R5. Expedite the creation of protocols to standardise and speed up decision-making. It is understood that the CITU Development Group was tasked with doing this but have failed to gain Cardiac surgeon support into the process. This is unacceptable and a cardiac surgeon should be designated to contribute to this process on behalf of colleagues. The following would be a useful starting point and already exist in most Cardiac centres:

- Have a discharge protocol for step down from CITU to HDU, so patients well enough to leave CITU/HDU do so and do not block beds for elective activity.
- Have a protocol for repatriation of CITU/HDU patients who are not in the catchment area of Morriston Hospital back to their local ITU once they have recovered from the cardiothoracic aspect of their care.
- Protocol for the moving of patients local to the Morriston Hospital to the general ITU once they have recovered from their cardiothoracic condition.
- Have multi-disciplinary team meetings for patients for whom end of life care is deemed appropriate, allowing them to die in a dignified way, with as little pain as possible.
- Have a protocol for theatre priority of patients having surgery when capacity is tight, obviously with a focus on emergency and urgent operations but also to get the best out of what capacity is available, so decisions are taken away from individual clinicians.
- Standardise antibiotics policy.

Once agreed, failure to adhere to protocols should be escalated to senior Clinical Leadership/management. It is not always correct to always follow protocols, there may be some exceptions, but deviating from the protocols must be a senior decision.

R6. The Directorate should institute a system of regular checking patients staying on CITU for long periods, to ensure they are being managed in the most appropriate way and environment.

R7. There needs to be further thought and careful planning of operating lists to match the capacity gains from the above short term changes. This will require the greater control of cardiac theatres by the cardiac service, as described in section i) above as it also requires improved staffing and skill mix, and efforts to improve morale and reinforce the vital contribution of all members of the team.

Not putting high risk/complex long stay cases all on one day or at the beginning of the week where they can block CITU beds for the rest of the week is an example of smoothing the capacity to match the demand.

It is recommended that a Project manager be designated to manage the changes in theatre scheduling and staff improvements with some Service improvement support perhaps from the Delivery and Support Unit, if there isn’t sufficient expertise within the Health Board. The
theatres project should include a review of the 6 day working arrangements and the long 12 hour days. A further review of skill mix in theatres should be undertaken in consultation with the cardiac surgical service.

R8. The long term capacity resolution may well need a major new build and the process for considering this will inevitably need to be linked to the new S Wales Implementation Board being established. It is important that this is seen as an urgent parallel priority for the Health Board to pursue as the short and medium term gains from the above Recommendations are not likely to be sustainable long term solutions.

iv) To report on the sustainability and cost effectiveness of the workforce

Findings

F1. We have reported on much of this in previous sections. The morale of key staff groups such as CITU nurses, Theatre scrub nurses and other theatre staff, Anaesthetists (as evidenced by the turnover rate) and even some of the surgeons is at a worrying low level, influenced by the working relationships and conditions.

F2. The current staffing model of the CITU is not sustainable – inadequate anaesthetic/intensivist input (which has contributed to the surgeons managing patients, out of line with other CITUs in the UK) and the relatively poor junior anaesthetic support are not sustainable in the long term. Recruiting to this service has been difficult because of the reputation of difficult relationships and Intensivists/AAnaesthetists not being allowed to manage patients in CITU. There is a perception amongst some that candidates for consultant posts have been deliberately put off proceeding or that inadequate attempts have been made to recruit. The plans drafted by the Associate CD to increase input to CITU are encouraging signs of serious intent to improve this situation. There should be a resident junior anaesthetist/intensivist on the CITU at all times. Consideration should be given to having advanced critical care nurse practitioners as it is likely that junior anaesthetic staff numbers in training are being further reduced.

Nursing skill mix in CITU is also poor, there are lots of junior nursing staff with few numbers of band 7 sisters/charge nurse (2 in total). This is not only disproportionate to most cardiac ITUs in the UK but also inconsistent with the skill mix in the general and Burns ITUs in the same hospital.

F3. Cardiothoracic theatre scrub nurses are another key group in which current arrangements are not sustainable. Cardiothoracic surgery is highly specialised and stressful,
(particularly in cardiac surgery when the “cross clamp” is on, the heart is ischaemic and so being damaged – time is of the essence). It is therefore vital that a cohesive team who all understand the technical details and needs of the operation are available. Perfusionists do not want to work extra sessions, they would like to work efficiently during the week and this leads to reliance on locums at the weekends.

F4. The inequitable payment arrangements between Anaesthetists, Surgeons and Nurses/others is expensive and has contributed to the low morale and difficult relationships. There is a perception that cases delayed during the working week might be delivered as a waiting list activity at the weekend, with the higher rates of pay attracted. This has not been as much of an issue since the end of the Waiting list initiative activity in March 2013 but there is a fear that more will be needed in the future.

Recommendations

We have already made recommendations in previous sections that will help the sustainability of the service – stronger leadership will be required at all levels to achieve the sustainable workforce needed – new CITU Director, greater control over dedicated cardiac scrub nurses, more formal accountability for delivery of these priorities by other Directorate leaders (or transfer of staff into Cardiac service if this alternative, more radical model is chosen), and equalisation of inequitable payment arrangements between staff groups. We make only one new recommendation in this section.

R1. Undertake a nursing skill mix review on the Cardiac ITU/HDU to bring them in line with comparative centres and other ITUs within the Health Board.

v) To report on the standards of care and the environment for patients.

Findings

F1. Environment The Review team recognised that the “footprint” of the unit results in cramped conditions. The HDU was empty when we visited but the space available causes staff some concern. There is a shortage of side rooms on CITU to isolate patients who constitute infection control issues. The fragmentation between CITU and HDU has already been mentioned in earlier sections. The Unit appeared clean and tidy considering the pressure placed upon it. Some areas could do with renovation or redecoration. Storage areas for equipment and supplies is limited.
Standards of care

- The SCTS database shows an overall mortality rate of 2.02% (national average 2.6%) and this review was not prompted by concerns over high mortality or standards of care. A caveat is that the unit is relatively small so a small change in outcomes would result in a significant alteration in the position.

- In addition our first impression is that patient experience in general is good with patient complaints being restricted to issues such as food and ward temperature. In view of some of the known problems in capacity, working relationships, and overturned end of life care decisions, it is a tribute to the staff that they have been able to maintain a good level of care.

There are however a number of areas of concern we have about the standards of care and we now list these.

- **Infection control** Despite serious untoward incidents and Directorate leadership commitment in Action plans to improve, there are still too many examples of staff, especially Cardiac Surgeons, not complying with hand hygiene policies. The absence of regular Microbiologist ward rounds and the “reactive role” on the Infection prevention & control nurses should be addressed.

- **End of life care** The Review team were dismayed to hear the reports about the absence of multi-disciplinary team decision making about end of life care, leading to decisions being made and then changed. We heard from several sources that this is quite common. Futile treatment was pursued in patients who all subsequently died. Analgesia and sedation were withheld at the insistence of some of the cardiac surgeons and conflicting and contradictory messages regarding prognosis were provided to patients and relatives. End of life care is clearly identified by the GMC and Intensive Care Society as an important area.

- **Serious Clinical Incidents.** There have been serious incidents relating to airway problems in CITU patients and a lack of resident anaesthetic cover on CITU.

**Recommendations**

We have already made recommendations in section i) calling for a multi-disciplinary team approach to decision taking in CITU about end of life care and transfer/discharge for
patients. We’ve also highlighted the need to bring the HDU and CITU together on the same floor. We have no new Recommendations to make on environment and standards of care.

vi) **The Priorities for developing the service for the future.**

Opinions are divided about the impact of interventional cardiology on the future need for cardiac surgery. TAVI (trans-catheter aortic valve implantation) is likely to increase, thus reducing the need for conventional surgery. Coronary artery stents for angioplasty (PCI) are in constant development and the natural history of coronary heart disease is falling. Our team are of the view that the increase in PCI procedures would definitely not lead to a reduction in cardiac surgery in general.

The WHSSC report states:-

“The mix of cardiac surgery operations undertaken is changing towards a higher proportion of more complex procedures. There is a falling proportion of isolated coronary bypass grafting and an increasing proportion of valve and multiple procedure operations (eg valve +/- bypass)... older more co-morbid patients will tend to have longer lengths of stay on CITU and ward”

“A modern service should be able to offer the full range of minimally invasive techniques and access to a hybrid theatre.”

“Particular areas ....where development is needed across S Wales including surgery for thoracic aortic aneurism, a minimally invasive mitral valve service, and surgery for atrial fibrillation( often combined with mitral valve surgery)

“Planning for future provision of cardiac surgery will need to recognise the separation from thoracic surgery .Cardiac surgery is more closely aligned with interventional cardiology and vascular surgery; thoracic surgery with respiratory services.

The report adds comments about MDTs

- “Appropriate MDT structures need to be in place across all sub-specialty areas of cardiac surgery to provide quality assurance and robust decision making processes.
- The structure of formal MDT meetings is currently variable across the three centres (Appendix 1).
- The capacity to sub-specialise and the robustness of decision making processes in South Wales could be improved if the range of formal MDT structures could be extended, particularly to complex valve surgery and aortic surgery.”

The expert Cardiac Surgeon on our panel supports these views about MDTs and has published an editorial comment on the question of sub specialisation in cardiac surgery.
Mitral valve repair, regarded by some as a marker of quality in a Cardiac surgery unit. Suggests units create mitral valve teams with each surgeon undertaking >25 cases per annum. Surgical practice becomes more concentrated with less variation and better outcomes for patients.

Aortic dissection – concentrate in surgeons with an interest in aortic surgery. A small team could offer 24 hour emergency rota (cases often come out of hours). This is unlikely to be possible in smaller centres and a more radical solution would be for regional units to work together to form such a rota.

Post infarction VSD – concentrating the expertise will provide benefits for patients. His article quotes a study in Toronto with 42,000 patients. Two surgeons accounting for 53% of the work had a mortality rate of 20%, the remaining 7 surgeons had a mortality rate of 45%, in line with that from the UK STS database. Such specialisation is possible in large units and reconfiguration may be the best option for improved clinical outcomes.

He also suggests a sub-specialist tram for elective aortic surgery – the team in Liverpool (serving North Wales) have done that very well.

NCBC data from 2011/2012 indicate that Swansea holds a regular weekly MDT meeting but not all patients considered for revascularisation are discussed. There is also video conferencing from cardiologists in Hywel Dda Health Board so their patients can be discussed as well. The volume of cases investigated is such that the capacity of the MDT is easily exceeded. As a result the majority of patients entering the cardiac surgical pathway are discussed outside this structured environment, in ad hoc, one-to-one meetings and do not necessarily go into a formal or systematic MDT process. This system is nevertheless effective and seen as satisfactory to the referring cardiologists who were interviewed.

As interventional and surgical practice becomes more subspecialised, these meetings will need to be kept under review. For the present, and acknowledging the long surgical waiting list and the understandable concerns engendered by it, all patients accepted for elective or semi-elective surgery should be discussed in this forum. In addition to demonstrating transparency of the decision making process, it will also serve to derive a consensus view as to the priority of each case on the waiting list; that recommendation should then be documented.

**Recommendations**

R1. The Health Board need to build these development opportunities into their service planning processes, strongly positioning themselves in the planning meetings to take place in the Implementation Board being established.

R2. Review MDT arrangements to try to discuss all patients accepted for elective or semi-elective surgery and other non-surgical priority patients in this forum.

vii) **The appropriateness of current clinical audit and benchmarking arrangements**

**Findings**

F1. It is to be commended that the unit is involved in the national benchmarking programme and this should continue. The data and presentations have been shared at Directorate/Sub directorate level, though some nursing and anaesthetic staff hadn’t seen it. This is probably a consequence of these staff groups not attending key Governance forum.

F2. The unit outcomes are good in terms of mortality (though note caveats we have placed on this), however this is a crude measure of quality and other outcome measures should be investigated. The SCTS database contains measures of morbidity which are indicators of quality:

- Time to extubation
- Infection
- Length of ITU stay
- Re-operation for any reason
- Deep sternal wound infection
- New post-operative neurological dysfunction
- New haemofiltration/dialysis post operatively
- In addition the use of blood and blood products should be audited on a regular basis

F3. There is a business plan (including appointment of an audit clerk) for entry into the ICNARC national intensive care database, for which there is now a cardiac module. There is
now public disclosure of ICNARC data and this will enhance the accountability of the CITU. There appears to be some frustration about not knowing how to progress this process.

F4. There is a monthly clinical governance meeting, which has a good variety of M&M, incident/complaints review and clinical audits. However, anaesthetists/intensivists don’t attend the surgeons meeting, and surgeons don’t attend the Anaesthetists. CITU and other Nurses don’t have time to attend. There has been previous criticism of the lack of clinical audit/governance in cardiac surgery and management believe this has improved. There is room for further improvement in the process by the inclusion of Anaesthetists and Nurses. Data completeness features as an ongoing problem.

F5. There is poor incident reporting, many of the examples of poor practice such as end of life decisions being overturned, would be the subject of serious incident reports in most Trusts but nurses in CITU said they have stopped doing so as they are not acted upon. These incidents should also be raised at the monthly clinical governance meetings but are not.

F6. Some, but by no means all, of the deficiencies reported in this Review, feature on the Risk Register and this should be used as a live document by both the Cardiac service, the Directorate and the Health Board.

Recommendations

R1. Utilise existing NCBC database with more directorate staff exposed and to influence service plans and service improvements. Also utilise the SCTS database for the purpose of benchmarking quality standards and similar service improvements.

R2. Expedite the appointment of an audit clerk (or it could initially be done by a nurse while awaiting the appointment of a data clerk) to support the ICNARC database entry ( and possibly some of the above NCBC and SCTS databases).This should be implemented and was recommended in the 2006 HIW Report. Further improve clinical governance arrangements with regular meetings involving Surgeons, Anaesthetist/Intensivists and Nurses etc. This should be possible to achieve with goodwill and management support. (This was recommended earlier)

R3. Consideration might be given to having the mortality cases presented by a consultant other than the one responsible for the case. Also use of NCEPOD grading of standard of care could be used, with identified action to be taken if care is less than ideal.

R4. Consider deploying a culture climate survey with staff eg in CITU and Cardiac theatres to measure the culture of safety, teamworking, trust and respect,
communications, feedback etc and systematically seek to improve the culture score by adoption of known strategies to improve these components. The Texas climate survey is one such tool available from Pascal metrics (details can be provided).

R5. Ensure the deficiencies and risks identified in this Report are included on the Risk Register and it is used as a live document.

R6. Insist upon the regular reporting of serious incidents such as overturned end of life decisions in CITU, ensuring management action is taken and escalation to the highest level if necessary.

viii) **Why Recommendations from previous reviews had not been implemented**

**Findings**

F1. It isn’t entirely clear what previous reviews have taken place. Many staff referred to the Edgecumbe group work as if it was a recent exercise but it would appear that this took place in 2004. There was a report produced by Mrs B Owens, Royal Belfast advising on appropriate management structure for cardiac theatres dated Feb 2003, 10 years ago. Also handed over to the Review were two other reports from 2006 – The Information Centre Data validation report and the Health Inspectorate Wales Special Assurance Review of cardiac surgery at Swansea NHS Trust.

F2. The ABM Medical Director produced an excellent timeline in an internal report in 2012. This tracks the history of the Unit since its inception in 1997 and also summarises the various reviews that have taken place.

F3. The perception, from virtually all staff interviewed, is that “nothing has happened” following these reviews and reports and a real hope/expectation that this External Review will lead to substantial changes in staff working conditions and patient care.

F4. The Owens 2003 Report led to the return of theatre scrub nurses to the Theatre management after it was felt they were transferred to Cardiac without consultation.
The 2006 HIW report did contain many (21) recommendations (and a subsequent Action Plan) and many that have been repeated in this External Review. In particular they were critical of decision making in CITU; of medical staffing in CITU; of nurse staffing in theatres; of the lack of multidisciplinary team working; of all clinical governance processes; of management and leadership arrangements; and of consultant behaviour. The Medical Director’s internal report suggests their recommendations and Action plan was lost in the transition to subsequent organisations including ABM.

The 2006 Data validation visit praised the database that the cardiac unit had developed but felt it had become under resourced for the current and future needs. Our external review has come to a similar conclusion 7 years on but that is also recognition of the continuing demands for benchmark and audit data to help improve the quality and efficiency of care.

With respect to the Edgecumbe group work, the internal report states the group are occupational psychologists who were engaged to develop better working relationships. They used a variety of intensive counselling, psychometric and psychological testing of staff. The work had already stopped when HIW began their investigation in 2006. Their report refers to a “Cardiac Code of Behaviour” being agreed but we found no evidence of this in use when we interviewed staff. It is unclear what happened to that process, the internal report is quiet on the outcome, though from the views we have picked up in our interviews and staff meetings, they certainly failed to achieve better working relationships.

F5. So why were the recommendations, particularly from the 2006 HIW report not implemented? The most obvious answer is “because they are difficult “! It is clear that the changing NHS structures in Wales( as in England) has led to difficult situations like this being neglected in the transition. The loss of organisational memory through an array of structural changes in the regional and commissioning tiers was seen as a factor in the failure to pick up problems in Mid Staffs Hospital.

Many (but by no means all) of the recommendations require strong Board level/executive leadership, it was said that there have been 9 CEOs since the Cardiac unit was built. The form of Directorate configuration and leadership has also changed many times during that period, with the current regional specialties directorate only coming into being two years ago. But many of the senior personnel in the service have been around for many years, some from the time the unit was built. Why have they allowed this situation to persist? Why have the behaviours described in section i) been allowed to continue?

There is some evidence of intervention through formal or informal action being taken through the disciplinary route but it is apparent that local directorate and specialty leadership have either not been empowered to tackle such issues or have been too weak to do so. There may also be an issue of limited time allocated to Clinical Directors to lead.

The HIW report states “..We found little evidence of constructive attempts to resolve problems at the Clinical Directorate or Divisional level, and little coherent leadership from those involved. Members of the Executive were involved almost immediately and many
divisional and directorate managers and clinicians were only tangentially involved in resolving the position...”

Many senior staff interviewed said they had not seen this HIW Report and were unaware of what its findings or Recommendations were. However the report has been available on the internet since it was published and so is in the public domain.

F6. The issue of capacity was, surprisingly, not flagged in the 2006 reports, yet all longstanding senior staff have said the Centre was too small from the start and certainly the CITU seems to have been the bottleneck identified in historical difficulties in meeting waiting time targets and smooth patient flow through the service. The 2011 DSU Report certainly raised it for urgent action and the Directorate/Health Board response was to ask the Morriston Planning Group to oversee the Action plan and generate options for resolution of the CITU capacity issues. This was over two years ago and the main outcome is the Swansea University modelling work and the internal options appraisal exercise for additional capacity. This considered 16 options which were all rejected, with a view that a new build was needed. We believe it is essential that the short term option of relocating HDU alongside CITU and the changes in working practice described in section iii) should be implemented urgently and in parallel to any planning process required in a new build.

**Recommendations**

In view of the previous failures to implement the actions from previous Reports, especially the HIW 2006 report, the External review team agreed to make some Recommendations about the Implementation of our Report’s recommendations. It is also likely that there is a relationship between the capacity constraints and the poor working relationships so that improvements on one of these dimensions may help the other, so prioritising the recommendations and moving quickly on those that can, will be a positive signal to the workforce.

R1. This Report should be made available to all staff in the cardiac service. We are heartened that the AMB Board are to receive the Report at a Public Board meeting and that is the transparency we believe is needed. Of course, we recognise that there is some sensitive information in the report and we have been critical of many aspects of the Unit. But we found that all staff want to see the Unit succeed and improve from its current perilous position.

R2. In addition to the Project Steering team, we believe that dedicated project management will be needed to oversee the implementation of our Recommendations. This may be helped by some external senior support to coach and support the internal change process.
Some of the Recommendations from earlier in this Report will also help the implementation
- Creation of wider Cardiac management team to include leaders from Theatres and Anaesthetics (or transfer of resources into a new cardiac directorate if the Health Board decide to pursue that model)
- Dedicated Project manager (with external Improvement advisor support) to oversee improvements in Cardiac Theatre efficiency and workforce improvements. They should join the cardiac management team.
- Urgent appointment of CITU Director, who should join the Cardiac Management team
- Review of time available to Clinical Director and Cardiac Surgeon Lead clinician to lead
- Systematic measurement of culture and work on improving this with the aid of an external company such as Pascal metrics

R3. There needs to be clear lines of accountability. Recommendations need to be clearly allocated to individuals who need to be held to account for the delivery of those actions. The Board ultimately should see regular progress reports and must take responsibility for creating clear and robust reporting lines for ALL professionals involved in cardiac services.

R4. This external review panel should be re commissioned to visit again in 12 months time to see and report what progress has been made.

R5. There is a need for courageous leadership. These are incredibly difficult relationships and service challenges, that have resisted change for a decade or more. Sometimes you only resolve such intractable, dysfunctional relationships by changing the people and it may well be that the Health Board conclude that some of the key people involved in these relationships need to leave to allow the Cardiac service to finally develop in the way the vast majority of staff wish it to.

R6. The introduction of Dr Dafydd Thomas to CITU has begun to have a positive impact through a personal style that has earned him respect and has started to build bridges with the Cardiac Surgeons. Care should be taken in the implementation of this Report’s Recommendations to build on this and not jeopardise the progress he has made. This may be further enhanced with a new consultant anaesthetist to start in CITU in August.

ix) Any other issues the panel feel are relevant
i) The Coronary Care Unit is continuing to manage acute strokes due to their experience of administering thrombolytic therapy. Most UK centres now manage acute stroke patients in dedicated hyper-acute stroke units. If this were the case at Morriston Hospital it would free up capacity for the primary PCI service or take the strain from the HDU with the evolving TAVI service.

ii) We did not spend any time looking at the actual Cardiac Surgical ward but heard that nurse competency/skill mix may be an issue that may deter earlier discharge from CITU/HDU.

iii) There seems to be little staff training and development other than statutory training. This may be a reflection of financial constraints and the inability to free staff from busy pressured jobs, but it is a serious deficiency in moving the cardiac Service forward.

iv) Having said that, we were impressed with the supernumerary nature of the two Surgical trainees i.e. not compulsory resident at night, probably unique in the country and gets over the problems caused by EWTD.

v) One interviewee mentioned a patient user group but otherwise the important contribution of patients and family seems very low profile. They could have a powerful and positive influence, for example on the issues around end of life care we have described earlier.

Summary of all Recommendations

1. Instigate a multi-disciplinary team approach in CITU to any decision to place a patient on end of life care . . URGENT
2. Appoint a Director of CITU. URGENT
3. The management of patients on CITU to be with the Intensivists/Aanaesthetists, not the Cardiac Surgeons. This should take place when the new CITU Director determines the Intensivist/Aanaesthetist cover is adequate. Daily multidisciplinary CITU rounds should commence immediately.
4. Weekly Consultant Surgeons meeting should be held, with the first priority to work on protocols to standardise arrangements for discharge/step down etc. URGENT
5. Zero tolerance on bullying, abuse and intimidation. Immediate action from Directorate/Health Board management.
6. Clinical governance meetings to be held with Anaesthetist and Nurse input. This is part of the multidisciplinary working needed and should be implemented within 3 months of this report. 360 degree appraisal to be considered.

7. The Cardiac service should have more control of the vital resources (of theatre staffing and anaesthetists/intensivists). Health Board leadership should consider and decide the management model but should immediately require the appropriate leadership from Theatres and Anaesthetics to join with other leaders of the cardiac service in a virtual ‘Cardiac Surgery Directorate’. URGENT

8. Health Board leadership need to urgently review the proposals drafted by the Associate Clinical Director on increasing Anaesthetic sessions to Cardiac Surgery. URGENT

9. The microbiologists should be encouraged to reinstitute CITU ward rounds.

10. The Health Board needs to initiate proper formal job plan reviews with the Cardiac Surgeons immediately. URGENT

11. The Health Board need to seek to equalise the current inequitable payment arrangements for different staff groups especially for additional work, and out of hours.

12. The Health Board should urgently receive the further analysis of the deaths on the waiting list in recent years to assess the case mix, position on waiting list, selection practice etc. URGENT

13. The Health Board should assess whether its capacity and performance will meet the known and predicted demand for the rest of 2013/14, without the continuation/renewal of waiting list initiatives in the second half of the year. URGENT

14. The surgical HDU should be relocated to adjacent the CITU in the place of the Cardiology short stay/daycase unit. This could serve as a surgically led fast track and 24-48 hour post-surgical HDU. There should be funding of an appropriate nursing skill mix to escalate numbers of ventilated beds if required. (Planning this will be URGENT)

15. Thoracic surgical patients could be accommodated in dedicated level 1 beds with enhanced nurse ratios, in order to increase capacity for cardiac surgical cases.

16. Suitable fast track cardiac surgery patients should be identified pre-operatively and detailed to an enhanced recovery type pathway. Theatre scheduling should be designed so these patients were extubated early and were ready for ward care early the next day.

17. CITU should ultimately move towards a weekly rota system to improve continuity of care (Intensivists/Anaesthetists).

18. Expedite the creation of protocols to standardise and speed up decision-making. URGENT

19. There needs to be further thought and careful planning of operating lists to match the capacity gains from the above short term changes. This should include reviewing
6 day working, 12 hour days and cardiac theatres nurse skill mix. Instigate a Cardiac Theatres Project team with support of dedicated management and Improvement support. URGENT

20. The long term capacity resolution may well need a major new build and the process for considering this will inevitably need to be linked to the new S Wales Implementation Board being established. The initiation of this is URGENT

21. Undertake a nursing skill mix review on the Cardiac ITU/HDU to bring them in line with comparative centres and other ITUs within the Health Board. URGENT

22. The Health Board need to build these development opportunities (described in the section) into their service planning processes, strongly positioning themselves in the planning meetings to take place in the Implementation Board being established.

23. Review MDT arrangements in the light of increasing sub specialisation and discuss all patients accepted for elective or semi-elective surgery and non-surgical priorities in this forum.

24. Utilise existing NCBC database with more directorate staff exposed and to influence service plans and service improvements.

25. Expedite the appointment of an audit clerk (or it could initially be done by a nurse while awaiting the appointment of a data clerk) to support the ICNARC database entry.

26. Consideration might be given to having the mortality cases presented by a consultant other than the one responsible for the case. Also use of NCEPOD grading of standard of care could be used, with identified action to be taken if care is less than ideal.

27. Consider deploying a culture climate survey with staff eg in CITU and Cardiac theatres to measure the culture of safety, teamwork, trust and respect, communications, feedback etc and systematically seek to improve the culture score by adoption of known strategies to improve these components.

28. Ensure the deficiencies and risks identified in this Report are included on the Risk Register and it is used as a live document.

29. The Report should be made available to all staff in the cardiac service. URGENT

30. In addition to the Project Steering team, we believe that dedicated project management will be needed to oversee the implementation of our Recommendations. This may be helped by some external senior support to coach and support the internal change process. URGENT

31. There needs to be clear lines of accountability. Recommendations need to be clearly allocated to individuals who need to be held to account for the delivery of those actions. The Board ultimately should see regular progress reports. URGENT

32. This external review panel should be re commissioned to visit again in 12 months time to see and report what progress has been made.

33. There is a need for courageous leadership, and it may well be that the Health Board conclude that some of the key people involved in these relationships need to leave
to allow the Cardiac service to finally develop in the way the vast majority of staff
wish it to.

34. The introduction of Dr Dafydd Thomas to CITU has begun to have a positive impact
through a personal style that has earned him respect and has started to build
bridges with the Cardiac Surgeons. Care should be taken in the implementation of
this Report’s Recommendations to build on this and not jeopardise the progress he
has made.
Appendix 1  Terms of reference

External Review of the Cardiac Surgery Services at Morriston Hospital, Swansea.

Background and Context

Following a review of cardiac surgical services by the Welsh Affairs Committee of the Westminster Government and the completion of an option appraisal exercise by Touche Ross in the early 1990s, a specialist cardiac centre was developed at Morriston Hospital Swansea to host cardiac surgery and interventional cardiology. The unit opened in October 1997, and for the past 15 years has been delivering these clinical services to the mixed urban and rural population (c 1 million) of mid and south west Wales.

Whilst the Unit has had consistently good audited outcomes there have been a number of clinical, operational and workforce problems that successive organisations have been unable to resolve.

The Health Board Executive and the clinical teams wish to find resolution to assure the continued delivery of a high quality cardiac surgical service.

This review has been commissioned by the Health Board with the full support of the commissioners.

Membership

The panel will be led by an independent Chair appointed by the Board.

The panel will be invited from nominees from the relevant professional society. It will consist of:

Consultant Cardiothoracic Surgeon
Consultant Cardiologist
Consultant Cardiac Intensivist/Anaesthetist
Senior Cardiac Nurse
Senior Perfusionist
A Patient Representative

Approach

The approach to the review will need to be agreed with the Independent Chair and panel once appointed. It is envisaged that the panel would have access to past reports and performance data in advance of their visit.

A visit of two to three days would be arranged to interview key personnel.
Adequate time for preparation, evaluation and report drafting will be resourced by the Health Board.

**Terms of Reference**

The Board asks the panel to reach conclusion and make recommendations to address the following issues:

i) The external review panel are asked to assess the professional working relationships along key components of the cardiac surgical patient pathway and outline what additional measures may be required to improve the service.

ii) The reasons for long waiting times to access the service and measures that should be taken to address this.

iii) To report on the efficiency and capacity of the service to meet present and projected demand.

iv) To report on the sustainability and cost-effectiveness of the workforce.

v) To report on the standards of care and the environment for patients.

vi) The priorities for developing the service for the future.

vii) The appropriateness of current clinical audit and benchmarking arrangements.

viii) The report should consider why the recommendations from previous reviews had not been implemented.

ix) Any other issues that the panel might feel are relevant.

**Timescale**

It is envisaged that a report will be presented to the Health Board by 1st July 2013. (subsequently changed to 5 Sept 2013)