2009

PARLIAMENT OF TASMANIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

Royal Hobart Hospital Campus Upgrade

Brought up by Mr Best and ordered by the House of Assembly to be printed.

MEMBERS OF THE COMMITTEE

Legislative Council	House of Assembly
Mr *Harriss* (Chairman)	Mr *Best*
Mr *Hall*	Mr *Green*
	Mrs *Napier*

TABLE OF CONTENTS

INTRODUCTION

The Committee has the honour to report to the House of Assembly in accordance with the provisions of the *Public Works Committee Act 1914* on the -

Royal Hobart Hospital Campus Upgrade

BACKGROUND

This reference to the Committee follows the decision of the Government in May 2008 to not build a new hospital on the 'Railyards' site but rather to redevelop the existing Royal Hobart Hospital over an extended period of time.

In its submission to the Committee, which is Annexure A to this report, the Department of Health and Human Services advises that the Government has committed $100 million over five years to keep the current site "up to standard and provide improved operational efficiency and functionality" and that "the $100 million was not intended to fund the full redevelopment but will address some urgently needed works to ensure service continuity and meet throughput demand. This program will also start to position the hospital functions ready for future funding which will allow major redevelopments to commence."

This reference is most unusual as it essentially seeks the high level approval of the Committee for a strategy for the completion of urgent projects that will be undertaken concurrently and, it was submitted, are essential to meet the hospitals service obligations. There are also a series of minor works and relocations detailed to allow these major components to proceed.

The submission outlined programs to address deficiencies in site infrastructure, describes projects that will occur later in the five year program and the options currently under consideration.

The submission also describes a means of redeveloping the hospital on the existing site while the hospital remains fully operational. The purpose of this description is to place the immediate strategies within the context of future redevelopment options while not seeking to constrain future planning deliberations.

The Committee has a clear expectation that discrete projects within the scope of the Royal Hobart Hospital Redevelopment program which comply with the provisions of the Public Works Committee Act 1914 will be referred by separate reference to the Committee for investigation. The Committee will be pleased to receive an annual report on the progress and forward program of the Royal Hobart Hospital Redevelopment Program in order to maintain an understanding of related activities.

Given the nature of the proposed works, the submission of the Department is printed in full as part of this report.

COST ESTIMATE

Royal Hobart Hospital Redevelopment Provisional Budget ($'000)

	2009-10	2010-11	2011-12	2012-13	2013-14
Leasing and Decanting	1,200	1,000	2,000	2,000	6,200
Project Management	1,000	1,000	1,000	1,000	4,000
Day Procedures and Recovery	500	6,000	2,500		9,000
Womans and Childrens	500	3,000	1,500		5,000
I.C.U.	500	5,000	1,500		7,000
Medical Imaging	1,000	4,000	1,000		6,000
Cath Lab & Cardiology	1,500	500	500		2,500
Central Equipment	50	500	650		1,200
Coordination & Admissions	50	1,000	1,050		2,100
Clinics		1,000	2,500	1,200	4,700
MAPU		500	2,000		2,500
Dialysis, Oncology, Linac			2,000	2,000	4,500
Education		1,000	1,200		2,200
Minor Works	500	1,000	1,500	2,000	5,000
Ward Upgrades	500	500	3,000	6,000	10,000
Sub Acute and Repat	500	1,000	1,500	1,000	4,000
Information Technology		500	2,000	2,500	5,000
Power Supply	800	1,200	500	1,000	3,500
Lifts Upgrade	50	500	1,150	2,000	3,700
Fire Upgrade	1,500	500	500	500	3,100
Kitchen, Loading Dock & Stores	1,600	500	1,000	1,400	4,500
Reticulated Services		100	1,000		1,100
Environmental Services		200	1,000	2,000	3,200
Total	**11,750**	**30,600**	**32,550**	**25,100**	**100,000**
2009-10 Budget Provisions	11,000	17,500	20,500	26,000	75,000

EVIDENCE

The Committee commenced its inquiry on Thursday, 24 September last with an inspection of the site of the proposed works. The Committee then returned to parliament House whereupon the following witnesses appeared, made the Statutory Declaration and were examined by the Committee in public:-

- Peter Alexander, Director Asset Management Services
- Les Burbury, Manager Infrastructure Investment, Department of Health & Human Services
- Michael Pervan, Acting Chief Executive Officer, Royal Hobart Hospital
- Julie Viecieli, Executive Director Acute Operations, Royal Hobart Hospital

Overview

Mr Alexander provided the following overview of the project:-

The work in the existing campus is absolutely crucial and some of the things we did not see today were some of the behind-the-scenes infrastructure projects, and that is essentially electricity supply, continuity of supply and upgrading of supply, hydraulic services and general maintenance and infrastructure issues which are needed to support that. They have to be taken in conjunction with this.

We also have the issue of dealing in an environment that has to operate continuously, so we do not have the luxury of being able to empty out large chunks of accommodation to do that. Essentially the approach has to be to start small and to drive a wedge in to get a bit of space and cumulatively get bigger and bigger chunks of space until in the coming years we have opportunities with the clinical school and with the Hobart Private Hospital perhaps to do major redevelopments on that site.

Today we are coming to the committee with a slightly different approach in that this is still an evolving work. Normally we like to present all the elevations of a fully-developed program. This is and will continue to be a work in progress - $100 million is being provided over five years and we do not have the full answers of everything we need to do or where we can go into the future. We are bringing this in a preliminary stage.

Under the Act, any stage of a project which is part of a bigger project, given that that stage may be under the threshold, has to be brought to the committee and we have a couple of specifics in today's presentation. So there is not the level of certainty about the detail of all the projects going into the future that we might normally have because we haven't had the designs done yet. But it is a well-thought-out program, which has the support of the clinicians and is affordable to the extent that it can be, and it will carry us into the future.

Mr Pervan added:-

… *the Royal on its current campus is not unlike most other teaching hospitals around Australia in that it has grown like a coral reef - it is a number of individual buildings that have been built over a long period of time, sewn together with passageways, as you will have noticed from having to walk up or down inclines, strange little corridors - and converted corridors in the case of the WACS waiting area - storerooms that have been turned into other things and an architecture that reflects its age. Julie pointed out that when large parts of the hospital were built, hospital beds were much narrower and the corridors reflect that. But as you saw in the new paediatric outpatients' clinic, the corridors are now much wider to accommodate contemporary beds.*

The hospital largely also reflects having been built in an era before laptops and technology, in that we have multiple admin and reception areas and places that have been built around a paper records system and booking lists that were actually kept on pad and pencil. A lot of the things that we would do now, that we would address through technology and IT, were not available then, so what we have is a lot of duplicated administrative space where we could have clinical services.

One of the important issues to consider around the Royal and its capacity as a teaching hospital is the total capacity it has. Recently I was talking to a community forum and I was reflecting on my time in Western Australia, where there are three large teaching hospitals all within 15 kilometres of each other. When their emergency departments become full and they have ambulances ramped outside, they go on bypass. They say, 'We will not take any more patients until we have cleared the backlog.' The pressure is then transferred to the other two hospitals and they can actually rotate the demand during the course of the day on very busy days. The Royal does not have that luxury. In fact, increasingly the private emergency department struggles to retain emergency clinical staff, so a lot of that increased demand is coming into us. Similarly, with the numbers of GPs declining in southern Tasmania and the GP work force changing in its demographic and work practices, we are also seeing that compound the demands on the Royal. So what we have got is what we have got - that campus and its space is the piece of paper or the cloth that we have to cut, and we just have to cut it as carefully as we can.

Very quickly moving through what you saw today, that staff cafeteria is demonstrative of how many lives the campus has already had. We were sitting having a cup of coffee in what used to be the central store. Then at one period in time when the infill building was built, the then management decided that a central store would be a waste of money, they could spend the small budget they had on something else on the campus, so the central store was turned into a staff cafeteria and each ward was given a small store room. Now, with lifting equipment for bariatric patients, slings and a whole lot of other equipment - as you saw - which generally ends up in corridors, intravenous pumps, things that weren't around when those decisions were made, we now need a central store again.

One of the other issues raised by our catering manager was the new kitchen equipment that we are getting. Once again, that is reflective of the history of the Royal. They have been requesting new equipment for the kitchens for 10 years and there has always been a higher priority or we have always managed to patch what we have had. We now cannot repair the kitchen equipment we have, so we have had to buy new equipment, which does not fit exactly into the spaces the old equipment was in. Hence, the challenge to try to reconfigure that space to accommodate the new equipment.

None of these issues are unusual in teaching hospitals across Australia - it is just that we are trying to deal with them in a planned, methodical way, as opposed to an ad hoc every-three-or-four-year cycle, as most other places we have been to around Australia have.

With medical imaging - that waiting area - you can imagine what it would be like for patients sitting next to someone who was acutely ill - perhaps vomiting or just generally very sick - particularly if the in-patient waiting area is full of people on beds. It is not adequate and it is not good for patient care or their experience.

With the ICU, space is certainly one issue, but of almost greater importance is the fact that it is bisected by two corridors - an enormous infection control risk and something that has become particularly relevant to us in an age where we are hyper-vigilant for VRE and other hospital-applied infections. If we get an outbreak of that sort of condition in one ICU patient, with those corridors and those public access ways, it makes it very, very high risk for all the patients.

The cath lab - typical of the process we are going through. There is strong clinical engagement from round the consolidation of function. So we are not just looking to expand our bed capacity in the way we are doing things in this process, we are also looking at bringing functions together that have been spread across the campus as a result of decisions that may have been made 10 or 20 years ago.

The WAC service - this is something that is always going to tug at everyone's heartstrings. As you saw, that waiting area is literally a passageway. It is completely inadequate and in some respects it is beyond description. That was a short-term solution reached 10 years ago when, because of a financial crisis, we had to urgently vacate the Queen Alex. That was leased out and the WAC services were put there and configured there as a temporary decision, which became a long-term consequence. So we are looking to put right some of those things that were done - in some cases before most o us were actually working at the Royal.

This is also an opportunity to address needs that have not been addressed before, such as the paediatric and adolescent psych unit. As we heard from the paediatric staff and from Barb Renton, we have very limited space for patients like that and one of our senior psychiatrists said to me in relation to adolescent psych patients, 'It is not safe or appropriate to have them in the adult psych area and you don't want to put them in a ward with Winnie the Pooh on the walls.' It is not good for them; it is a second-rate service to provide them with. With this process we actually have the opportunity to do something that is good practice and what would be required practice anywhere else.

So we are using this as an opportunity to address many, many issues that have been at the Royal for a long time. One of the things I have been doing over the last few months is going through the previous reviews that we have had. Over 30 years there has been a consistent pattern of reviews of the entire hospital, identifying its inadequacies. Many of the reviews recommend a brand new hospital on a greenfield site. That has never been financially attainable and so funds are sought by various governments - not any particular one - to build the infill building or the new B Block or D Block.

There have been decisions made to do what a government can do within its means to address an immediate need. Unfortunately, those plans, particularly with B Block, have never been made with the next step in mind. It has always been a case of 'what is the immediate need, and how can we fix it?' What we are looking to do with this process is set it up so that we are addressing all needs in a systematic way as we move around the campus and to set it up so that we can sustain good patient care at the Royal Hobart Hospital for the foreseeable future.

Priority areas

Ms Viecieli delivered a presentation which addressed each of the priority areas. Ms Viecieli submitted:-

The goal behind the identification of where we should spend the money best was around identifying areas that would give us the greatest increase in capacity for all our future demands, around building

our capability, such as how we are able to do it, and with intelligence how we can be doing more, and also with a view to creating sustainability. These projects in themselves won't be the entire answer towards that sustainability or the capacity but they will go a long way towards addressing issues that we have now and in the immediate to medium term, and will be the foundation blocks for building towards that sustainability.

Endoscopy unit

… we are actually tracking reasonably well with two endoscopy units until recently. We have a terrific bunch of clinicians, and they are working helter skelter and actually clearing a lot of our waiting lists. Then the national bowel screening program was announced and from that point on, with more people eligible for endoscopy treatments, our waiting lists have blown out. With that initiative, there is no way that we can meet that demand with only two endoscopy rooms.

The other issues are our actual floor layout and the GENSA standards, which outline clearly the processes that should be involved in the disinfection of the scrapes that we use for clinical service in this area. Currently, as you saw on the tour this morning, the processing room is completely insufficient and comes nowhere close to meeting those standards.

The third issue there is that as the technology is changing and is available to us now, we are actually not in a position where we can access that technology and increase or change the services we are offering without making changes to those rooms. We could be in a position with the changes that we are hoping to make to widen the scope of services that we can offer through those endoscopy rooms and do more interventional processes in those rooms as opposed to those procedures being done in the main theatre. Those benefits to the patient are obvious because they can be done in day surgery cases, as opposed to needing three to four-day stays.

Those are the current limitations we have. We are looking at increasing the endoscopy suites by one. That will allow us to increase out activity by 30 per cent and would allow us to do an extra 2 000 procedures per year. We would also like to improve the technology in that area so that we can do more intervention work and this will take some of the workload away from our main theatres and potentially our ICU areas.

We obviously need to meet the GENSA standards. These are basic standards around infection control, so they are not standards that are aiming over and above basic infection control measures. We should be in a position where we can at least meet that baseline, which we are not currently in a position to do with our current layout.

The Committee questioned Ms Viecieli as to: first, when such an objective would be achieved; and second, whether the problem would re-emerge in 2015. Ms Viecieli responded:-

Over this course of the project, that is the goal.

(As to 2015) Yes, I believe that in time the third endoscopy room may not even be enough but it is what we can achieve now with our current funding and it would set us up for a period of around five to seven years. But as our population continues to age, and the patients have co-morbidities and rising bowel cancers, it certainly will not be enough further down the track.

… The space is a limitation. What we are trying to do is recognise that we desperately need one more now. We will potentially need another one down the track and in our planning, in our design and spatial layout, we are trying to set ourselves up so that we can grow that additional endoscopy suite down the track without needing to completely redo that space.

Day surgery theatres

In this area we have two day-surgery rooms and again that is not enough for our current needs. We are looking at building a third day-surgery room. The second part of this is our number of recovery rooms. You cannot have a day-procedure room without areas for patients to recover in. At the moment we do not have enough of those recovery room beds and our discharge lounge is completely inadequate. So it is the whole picture where we need to look at all of that. We are looking at building another day-surgery room and that will enable us to do between 1 800 and 2 100 extra cases a year, which would go a long way towards meeting our demand at the moment and would again allow us to meet that demand, probably between five to seven years into the future.

Day surgery is a little different to endoscopy because by definition you have to be pretty much street-fit for day surgery, unlike endoscopy, which means you have increasinging co-morbidities. Although

patients might have increasing co-morbidities, they still have to be street-fit to qualify for day surgery, otherwise they need to be an inpatient with extended periods of monitoring and observation after those procedures. So we will not see the exact same drivers behind the demand as we will for the endoscopy suite. What we will see though are changes in technology and surgical techniques which will mean that more surgical procedures can be done in a day-surgery model through laproscopic techniques and things like that. That would be the driver for day surgeries increasing demand.

Also because we have not had the growth capacity to increase the scheduling in our day surgery, that has in fact limited what the surgeons will attempt to do in day surgery because there is no more space for scheduling of additional lists. So they will still do procedures in the main theatres without a day-surgery model. I think once we get the third theatre, the surgeons then will have more opportunity to practise - not practise as in trial and error practise but practise as in administer their skills - day-surgery techniques. So our day-surgery rate is currently at around 65 per cent and I see our day-surgery rate through technology being able to increase up to around 70 to 75 per cent in the future. That will well and truly take up that capacity of the third day-surgery room, but that will take a lot longer to do.

<u>23-hour unit</u>

The 23-hour unit is an initiative the principles of which are based on removing inpatient demand from our current inpatient units and putting that demand in a space where it frees up those beds. At the moment our recovery areas do not lend themselves to a patient staying as an inpatient overnight - there are no ensuite facilities, there is no shower and there is no beverage bay. If we are going to revisit the recovery beds, there is an opportunity there for us by adding those other functions where, with scheduling in the day surgery, we can identify the specialities that we know have a one-day length of stay or one night and which specialities that we know are at risk at times of patients needing to stay in overnight.

I have worked at hospitals where we have introduced this and the benefits have been greater than we imagined. So the model will be that we will schedule each day. We will identify those patients and book a maximum number to stay in this unit overnight. At the moment, we are saying that we could use between eight and 10 patients. My experience is that, as soon as we put this model up, more and more surgeons will say, 'Hmm - okay'. At the moment they are a little bit hesitant but once it is seen to be working I think they will use it more and more.

So with our current projections being quite conservative, we can put through 2 500 cases a year in the 23-hour unit that will not be using up our inpatient beds. So in terms of our inpatient bed occupancy, we can free up between 2 per cent and 5 per cent occupancy by putting the patients elsewhere in a different model. When we are running it between 95 and 105 per cent occupancy, that 2 to 5 per cent really matters.

The Committee questioned the witnesses as to whether any proposed expansion of this unit would require movement to another location. Mr Burbury responded:-

There is a decision process that we are just beginning to research at the moment which is about the question of whether we extend B Block. Remember you are looking through, down onto the roof of B, so do we raise that two floors or can we wait until a new body of building comes on the bottom corner? In terms of Julie's time frame of five to seven years when we expect we will be in that decision mode where we can say, 'No, we can get through until we have a big block down the corner; or, if not, we will have to do something in B Block.' We do not expect the solutions that we are implementing at the moment to solve all of that problem right through to a 15-year period. We are expecting within that time we will have other planning options and so on. So what we are designing now is something that gets us through this intervening period with comfort and the kind of competence that it is in the right spot and we are doing stuff that can be expanded, so it does not reach a point of failure. It reaches a point where, when the $100 million was identified for this project, it was recognised that it was not all that the hospital needed. So it is within that context.

Mr Alexander added:-

There will be a number of things that we expect to take off-site and things that can go out into clinics and not be done in the hospital at all - sub-acute, which is really pseudo aged care and people waiting for aged-care placements. We already have, I think, including palliative care, 66 beds at the Repatriation site. If we can expand that in another project, we need to get the breathing space in the Royal to continually expand the key services that need to be on that site and work very closely

together. One of the points Julie is making is some of the services are very compatible and can achieve synergies from each other on that site.

Ms Viecieli resumed:-

Women's health clinics

…a lot of these services are spread across the hospital. Most of them are on level 3 but, as you can see, the spacing is quite deficient. As Mike alluded to before, we moved across from the Queen Alexandra long before my time here. I think I recall a 60-bed allocation into an 18-bed allocated ward and since then demand has grown tremendously. That means our length of stay has shortened dramatically. This has flowed out into our women's health clinics because these are essentially our outpatients' departments for any gynae demands that women have. Most of the women we see are high-risk women with a lot of health co-morbidities. What that means is that the consultations take longer and the amount of investigations they need are more complex. The rooms are not family-friendly and they are not women-friendly. You often have five to six people in those consulting rooms by the time you have a medical officer, an obstetrician or a gynaecologist, medical student, assisting nurse and a support person - which women tend to take along - and the patient themselves. The facilities are very poorly laid out due to the lack of the space. In terms of hand washing and the examination, when you often have women needing to be on stretchers, it doesn't lend itself to either efficient examination or good infection control. We also have a lack of rooms, such as we had in the paediatric clinic, so what we have there are increasingly long waits in order to be seen by a specialist through these rooms.

What we are finding with the increasing co-morbidities and the fact that one-third of our pregnancies are teenagers, who are high risk, there are a lot of socioeconomic and drug and alcohol issues. We are not able to run the clinics that we need in order to best look after the demand. We have services that we could be running, such as maternal foetal medicine and complications of early pregnancy services, but we are simply unable to house because we don't have the room. We would like to address that by having an increased number of consulting rooms and have them at a size where we can allow the women and the staff some easier working conditions and better experiences during their consultation. We would like to have an increased number of rooms so that we can reduce the waiting areas. We can do that - we have a good training program, we have the registrars but we just don't have the consulting rooms. We would like to offer more of the tertiary services that, as a tertiary referral hospital, we are capable of but we are limited because we don't have the space.

There are two parts to the maternity unit: the in-patient unit and the pregnancy assessment centre. The pregnancy assessment centre speaks for itself. There is a space of 25 square metres with up to 70 women going through that space in any day. In that back room you would have at least six or seven women at any point in time; two of them will be on a stretcher, the rest are in chairs. Because we run addicts and high-risk women there are a lot of questions that need to be asked by medical nursing staff around what's happening with that woman's care throughout that pregnancy, what her history is. That is incredibly sensitive news - because they are high-risk women, what is happening with their baby needs to be shared with them. But there is absolutely no privacy in 25 square metres divided by seven women at any one point in time. Women in that space need to have their baby monitored, the heart beat measured and internal examinations. They are on a stretcher within that 25 square metres having an internal examination with a flimsy curtain separating them from five other women, and with the medical officers saying what they're going to be doing because they need to inform the patient and with everybody else in that room hearing. It is completely unacceptable.

We are currently running the maternity unit at 97 per cent occupancy. What this means is our length of stay is much shorter than our demographic need. We could argue that the length of stay is quite right, but that is when we benchmark against other hospitals. Those other hospitals have four or five regional hospitals they decant their patients to once the immediate birth period is over. Women will be transferred to a regional hospital for another three- to four-day stay. We don't have that at the Royal. Our demographics are such that we have a reasonably high mix of high-risk women with drug and alcohol problems and that point in time in the hospital is their only chance to bond with the baby, to establish breast-feeding and to get used to the baby. When we shorten the length of stay in order to keep up with the demand, we are taking that opportunity away. As much as we can try to build community supports to help manage that risk and to ensure that the women still get support, we don't have that infrastructure in Tasmania and we don't have the midwives. The average age of our midwives is 50 and they're starting to reduce their hours; they don't want to work full-time any more, so that is a real challenge for us. To spread the services out across the community is not something that, realistically, we'll be doing very easily. We don't have enough single rooms as inpatient rooms and, as I mentioned during the tour, we don't have any isolation or negative pressure rooms.

Normally, when we staff the maternity patients, we will run on a nursing/patient ratio, depending on what is wrong with the woman or what part of their journey they're in. If they are birthing, there will be a midwife at times for that one patient otherwise we might work between two patients. Ordinarily the ratio will be 1:4 on a day shift. If we have to move patients out to another area of the hospital to be birthed or because they need antenatal admission, we have to deploy a midwife out to that space, which is pretty much one on one. In terms of pandemic and winter, that becomes quite challenging. During the last winter our sick leave was much higher than normal, almost double the rate of normal sick leave, so in terms of having enough midwives to cover the service is really challenging, let alone having midwives outreaching because we can't house negative pressure or isolation in our current maternity unit. That means that we end up using more double shifts, which again is a challenge when the average age is 50-plus.

The area is not family friendly. We have no stretcher beds built into those rooms for the support person to stay. So whether the support person is a partner or husband, it doesn't matter. In terms of finding support for those mothers, we aren't able to house them.

With the bed demand and the occupancy at 97 per cent, what happens is that we end up having to delay our inductions of labour or our caesarean sections on occasion. From a woman's perspective, when she's anticipating that this is the birth date of her child, she has geared everything up, all of the support is up, for that birthing time. When we delay that by two or three days, we have interrupted that whole psychological process where the woman is preparing for the birth, so we have fractured that journey for her. All the statistics will say that predisposes that woman to post-natal depression because she's not in control, she is not empowered, she hasn't progressed along the pathway that was anticipated. We are really challenging those women at that point.

The Committee questioned the witness as to how many additional beds were required. Ms Viecieli responded:-

… *The modelling shows that for our current demand, for us to be at around 85 per cent occupancy, which gives us that flex up and flex down and which is the place where the hospital is in a position to be efficient, we need an additional 12 to 17 beds for the maternity demand. That will allow us to travel through to 2013 on the modelling. If we hit 2013 and we are 85 per cent occupied, then we go into the space where we are starting to build that occupancy into the future, past that.*

Paediatrics

The major challenge for paediatrics is around not only its current occupancy but also the fact that we have no adolescent services provided. This service is not provided anywhere in Tasmania, let along the Royal Hobart. So, because we are the tertiary referral centre, we have the opportunity to establish an adolescent service here. The Royal has commenced this in that we have funded the employment of a psychiatrist. We have funded the position for a psychologist and clinical nurse consultant for adolescent mental health. We advertised those latter two positions recently and were unsuccessful. So we are recruiting a headhunter to recruit those positions.

… *Currently when adolescents do need admission we try to get them into the paediatric ward but it is not anywhere nearly as successful as we would like it to be and often those adolescents are bedded elsewhere on the campus as inpatients. That is obviously not a good model. So what we would like to do is build the 10-bed adolescent area. The adolescent area will be for all adolescents including adolescent mental health patients.*

The adolescent mental health patients form into two groups. One of those groups is those patients who have psychotic mental health illnesses and unfortunately there are quite a few of those and that number is growing. Those patients need secluded rooms so that they can create no self-harm and those rooms are stripped down and there is nothing there that they can hurt themselves with. It is not always appropriate that they socialise with the other adolescents in the acute stage of their illness, so they do need their own separate recreation room.

The other adolescent mental health patients often come with other co-morbidities, such as cystic fibrosis, eating disorders or diabetes. We need to normalise those patients as much as possible, so they need to be bedded in with the remainder of the adolescent unit while their other medical problems are addressed.

With the creation of the three positions, all of those other medical conditions do have those mental health needs. In addition to that, we also want to bring in our adolescent pregnancies because those

young mums also have a number of psychological challenges ahead of them that they are experiencing at the time, so this mental health team will go across that. We are hoping that, with the 10-bed adolescent unit, we remove the patients from the adult areas, we do not have to bed them in with babies at times and that they can have a service that caters for their needs.

The Committee questioned the witness as to why there was proposed to be no separation of adolescents who are mental health patients from other adolescent patients. Ms Viecieli responded:-

One of the challenges we have is that we have never had an adolescent service; we have never had an adolescent mental health service. At the moment, with the modelling that we have been able to do, we feel that a 10-bed unit is a good starting point. We have no data to work with at this time; we have our inpatient bed load and our inpatient useage but in terms of the mental health component, what we have is projections. We do not have a track history because we have not had a service and have not been able to admit the number of children who need admitting to have their mental health issues addressed. Those have been managed in a very ad hoc manner with the best of what was available. So we are not in a position to say - whether we are going to need 20 mental health adolescent beds - we do not know.

Medical imaging.

… *Essentially our services have outgrown that unit; it is an old unit. We need a PET scanner and a new angiography suite. We don't have enough ultrasound capacity so we have more demands than we can meet. We haven't had enough staff to do the diagnostic work so that has created a backlog and delays in our diagnostics. What we have found when we have mapped our patient journey and length of stays with our medicine patients, because we have a lack of diagnostic capacity on weekends, some of our patients will have a two-day length of stay because they get none of that work-up or intervention or diagnostic work because we can't access the diagnostic equipment during the week. What we are looking at doing is getting us up to date, looking at our increasing our capacity in terms of the volumes that we can get through - and this will be quite important as our population ages and as those co-morbidities start to impact us more and more - looking at our angiography and doing a little bit more interventional work here, particularly vascular. We are also bringing that into our cath lab, more scanning and ultrasounding. That means that with the PET scanning and improved ultrasound we will be able to do more of our treatments here locally as opposed to sending patients interstate for what we need to do now.*

The Committee questioned the witnesses as to whether there was a need for a new PET scanner. Ms Viecieli responded:-

I haven't been privy to (financial case) information. Clinically, the benefits are significant in terms of diagnostic, the level of interventions we can do and the treatments we can do locally. Financially, my understanding - and this is not from this particular business case, but in general - is that with the PET scanner the number of patients we can do is dramatically increased, particularly with the technology of this particular PET scanner. It is out there on the cutting edge, so the number of cases that we can do is significant. In terms of the ongoing cost, because we can diagnose earlier and because we don't have to transfer interstate, because we can do the interventions here and because we have the angiography suite and soon the cath lab, we will be able to do more interventional work as opposed to the main theatre work or inpatient day work. In terms of having patients in hospital, we will be able to reduce those costs significantly.

Messrs Burbury and Pervan added:-

Mr BURBURY *- I will just quote Michael Carr explaining to me that the PET scanner is also a CT scanner and in the afternoon it operates as a CT scanner. It is several generations at least beyond the one that was installed in the Hobart Private Hospital. It is quite a different machine.*

Mr PERVAN *- A draft business case is with the department at the moment. The benefits of the Royal having its own and having it integrated into our picture archiving system and our digital medical records are immense. Basically, a clinician with a few mouse clicks will be able to get up the patient's record, their PET scan, all their radiology and pathology tests. At the moment we can't integrate with the private scanner; it is a return to the old X-ray films on light boxes. Les is quite right, just in the last two years there have been three generational improvements in PET technology and the prices of the machines have halved. They have come down in price dramatically, thanks largely to the Japanese health system that refused to buy the machines unless the manufacturers halved their prices. In terms of the speed they take and how much of the radioactive isotope the patients require, there have been*

two massive leaps forward. It used to be an hour to do a full body PET scan - a large PET scan, with a considerable amount of isotope. We are now using a third of that amount of that radioactivity and we are doing it in 15 minutes. There are all sorts of technology around time of flight, which is the latest thing that all the clinicians are emphasising, but it all comes down to how long the patient has to lie still, how long it takes to get their scan done and how quickly we an integrate that imaging with other images so that we can identify the progress of their disease and what is happening with them.

One of the reasons why you need a combined PET-CT image is that the CT scans will give you an image of structure. A PET scan gives you metabolic process, so you can see how the tumours are growing and how they are interacting with the body. That is a very important type of image, moving forward.

Moving into the future, there is also the relationship with the Menzies when they purchase a cyclotron and start producing their own isotopes, both for research with the Royal and for clinical purposes. At the moment we would be flying a particular type of isotope FDG across Bass Strait in the morning and doing patients with that one. There are other types of isotope in use at Peter McCallum and other cancer centres that have even shorter half-lives but produce different sorts of images. So it just opens up a whole range of diagnostic work that we can do and enables us to keep more patients in Tasmania rather than sending them to the mainland.

While sending them to the mainland has, up until recently, cost us the cost of travel and accommodation for the patients, recent changes by the Commonwealth to the Medicare billing for PET-CT has meant that in the last couple of weeks I have just had my first bill from the Royal Prince Alfred for a PET scan.

…So the benefits are quite substantial. The Medicare billing, particularly with the machine like the one we are looking at and the research relationship with the Menzies, makes it economically quite attractive for us to get into. It also comes back to cost, which is always a consideration in medicine of course, but the bigger consideration is how quickly and clinically efficiently we can get a patient through their diagnostic processes and get them on treatment or get them managed through their care. With a statewide radiology and imaging system - RIS/PACS - that is about to go out for tender as well, we are getting that all integrated into one IT system, as opposed to having to bring in bits and pieces and try to tack images onto it.

The Committee questioned the witnesses as to whether costs were rationalised by cor-operative arrangements with private health service providers. Mr Pervan responded:-

Absolutely. I do not want to participate in some of the politics around that. I would rather leave that to politicians. But we do have a very strong and, indeed, an excellent relationship with the private providers, particularly Calvary. There have been times - and I vividly remember this because it was a great Christmas day last year - when we had a number of machine failures at the RHH and our friends at MIA and at Calvary stepped in and enabled us to move public emergency patients to them for MRI, CT and any scans that we needed. I have always had a very good business relationship with the local director of MIA, particularly in preparing the arrangement for PET scanning next door - we work very closely with them. In addition to public patients, there is a large private patient demand out there and one of the things I am always very aware of when it comes to Hobart Private and Calvary is that their first duty to their board, to their shareholders, to whoever, is to provide private patient care. Legally that is what they are compelled to do so when they do help us out, it really is out of a feeling of collegiality, or something like that. They do help us out. There have been times when we have transferred patients to the ICU at Calvary when we have been full, when we have had great need, and we have those relationships working very effectively on a daily basis. But primarily they do exist for private patients.

… When I talk about the capacity of the Tasmanian system, I am not just talking about the Royal, Clarence and our public health units, I am going all the way out to our neighbours, Hobart Private especially, Calvary, St Johns and St Anne's - any facility that is around. They have different drivers and different needs they have to meet but certainly they are all part of the equation.

***…** the changes that we are putting forward are the money that we know we have, the demand that we know we have, and the opportunities that we have to make the most of that. What is left of the hospital and health infrastructure fund, which is what the opportunities to increase services for cancer patients is all about, is a discussion that is between the three area health services, the Menzies, the Department of Health and Human Services and a few other people, looking at the moment at putting in a bid for a*

regional cancer centre and of course as far as the Commonwealth is concerned, Tasmania is a single region.

Department of Critical Care Medicine

The Department of Critical Care Medicine is our intensive care unit and our high dependency unit. In our walking through there this morning you could see that the unit was around 30 years of age. It was previously designed as a coronary care unit and, again, our demand has outgrown that space. We have some structural constraints there which prevent us from expanding. One of the problems we have at the moment is that our demand for the intensive care beds is higher than we can currently provide. This current layout of the intensive care unit is quite squeezed together which, in the context of the decision-making in the past, was probably the best decision that could be made at that time. However, we have an opportunity here to do something about that. Our beds are incredibly close and modern standards would say that the beds there should be at least 5 metres apart, but I think if you recall this morning, intensive care beds are around 3 metres apart. In terms of infection control, that is a risk. In terms of the amount of equipment that we can fit in there and the technology we can access to support those patients, the space limits that. What we would like to do is look at our demand into the future. We recognise in looking at that that we can't possibly build 45 beds at the moment, nor would we be able to staff them. Looking at a narrower scope and not reaching out as far as 2021, but looking at a five- to seven-year period, we have looked at the envelope we have to work with and the space around it that we can play with and we feel that we can get an additional 12 beds. What we recognise is that, although in the very long term that's not going to meet our demand, we can expand the intensive care unit now, design it so that the beds can be used for intensive care beds or high dependency beds so that we have a bit more flexibility in that space, which we don't have at this point in time. Then, if the decision is made and the funding is available and we look at relocating the intensive care area to elsewhere on the campus, what we leave behind opens up a number of options for us. Which of those options we'll pick up we haven't decided yet. It is too early in the piece. What we do know is that we could designate that area for a coronary care area. We could run it as a high dependency unit which specialises in neurology or renal. There are options there for us into the future as to how we can use that space if we decide to build an intensive care unit to meet that future need in seven years' time. That is where we are looking at the moment. The current bed capacity simply limits our surgical activity, full stop. We are completely constrained by the lack of intensive care beds for our cardiothoracic patients.

…At the moment there are 15 … every month we exceed that quota (and) they either go to Calvary or we cancel the surgery. Every month we cancel between four and six cases of surgery. A lot of that is cardiothoracic work because we cannot bed them in the intensive care unit. From the patient perspective, that is not good - if you know you have a serious cardiac condition and you cannot have your theatre work done because there is no bed.

…The other thing that we are well aware of is that the technologies will change within the next seven to 10 years as well. So we do not want to make decisions now that are going to close off accessing those technologies and bringing them into something new that we will build. So we want to look at those and see where it is going into the future.

You saw the lack of storage space and we have spoken about the infection control issues. We had some issues recently around that, where it really did impact on our service delivery. At one point we had to close a unit. So the fact that is has a public thoroughfare through it is almost unheard of. But we have one and that is influencing our decision around the cath lab and we certainly need to close that corridor. In an intensive care area, where you have your most unwell, there is a public corridor through the middle of it.

The central coordination unit: this is an interesting little unit because, on the face of it, it looks like a much softer priority than some of the hard-core clinical demands. But this unit is quite central to our function and our bed access issues and our patient flow issues. So it is made up of a number of different functions that you can read there. A component of this work is that transit lounge. This transit lounge is pivotal to accessing beds into the future. So what we would like to do is set ourselves up for success. At the moment we discharge between 40 and 45 patients a day.

***…** What want to do is have support persons or ambulances being able to easily access that transit lounge. So ground floor is best for that, so that they can pull in, go into the lounge, collect their loved ones, put them in the car and take them home with ease of access into that unit. If we have it up on the fourth floor or seventh floor or ninth floor, that becomes logistically much harder.*

So with the 40 to 45 patients that we discharge a day, those beds account for around 9 per cent of our bed occupancy each day. Culture and practice has been that when a patient is ready for discharge,

they will stay in those beds waiting for their partners or support persons to finish work for the day and then they will pop in and pick them up. So that is an entire day that a patient is occupying a bed that we cannot access for a surgical patient, we cannot transfer a patient from the emergency department into that bed because this patient, who is clinically fit for discharge, is sitting there quite comfortably using that bed.

What we would like to do is have the transit lounge. Once patients are ready on the ward to be discharged they will be transferred to that lounge. It will be staffed by two nurses and it will have a shower and toilet facilities. It will have a beverage bay so that they can get cups of tea and coffee. It will have recliner beds…and the capacity for beds so that we can decant from the inpatient areas to the transit lounge so that we can access those beds much earlier in the day.

The other users of this area will be discharging from the 23-hour unit. The protocols will be that the patients in the 23-hour unit would be transferred to the transit lounge at around 7 a.m. every morning so that they can be collected there. They can have a shower and be served breakfast in the transit lounge so that we have those beds free for the day activity.

… *We could have earlier access to 9 per cent of our beds each day.*

For the floor metreage and the amount of infrastructure, it is quite a small cost for that whopping 9 per cent benefit.

The Committee questioned the witnesses as to why the proposed 23-hour unit would be more efficient than the short-stay unit associated with the Department of Emergency Medicine. Ms Viecieli responded:-

Completely different staffing requirements. To staff the emergency short-stay unit in the Emergency Department there are medical and nursing staff. The 23-hour unit, depending on the ratios, will need two nurses - a registered nurse and an enrolled nurse - it will not need medical staff. It is essentially an inpatient unit but only running for 12 hours a day, at night time. We have already got staff there by day, so we just need to put two staff on for night duty to access patients being able to stay there.

Central equipment store

… we did have a central equipment store but that position was undone. What we have found in the meantime is that we have individual clinical ward areas and they have their own individual processes for ordering equipment. Nurses are fabulous at hoarding equipment because they don't want to be without that hoist when they need it, so they will hide the hoist in the back corner of the ward. Another ward might need a hoist to lift a patient, finding out which wards have a hoist - you have to be in the hospital for a while to know all those sorts of secrets. What we find is that we have bits of equipment lying everywhere across the campus without a library system of use of that equipment so we are missing opportunities in terms of working out what equipment we need to buy. We are not maintaining the equipment as we should be doing, we are not accessing the equipment as easily as we could be so what we will be doing is looking at establishing a central equipment store. We have done a full business case on this. I have worked at a hospital where we have established this and we have had a bit of a travelling tour and seen the benefits. With the central equipment store, we would like to establish it so that there is an area for receiving equipment that is, say, dirty. The equipment is cleaned, dismantled where it needs to be recalibrated and set up so that it is fit for use again, and put into the storeroom with a tracking system so that we know where the equipment has gone and so that we can measure what the requests are for particular pieces of equipment which will inform our procurement of equipment.

We can also look at standardising equipment across the campus. We have a number of different pumps for different medications; we have a number of different types of mattresses and wheelchairs. We need to standardise those so that we can get better benefits out of contracting. We need to standardise our service agreements around that equipment procurement and the maintenance and servicing of that and all of those things will be the function of the central equipment store. In terms of risk management, I think it offers us better risk management financially and better clinical risk management because the equipment is well maintained. It is allows the clinicians more predictable access to the equipment, which again impacts on safety. We have looked at some of the savings we can make by looking at our mattresses and whatnot and with the standardisation of equipment and with better tracking, we were in a position where we could access $1 million to $1.5 million worth of savings. I think that is quite conservative. I think once we get it running and we get more practice at running a central equipment store with some really sound business processes underpinning it we will improve those savings.

With the cath lab, Tony Bell gave his history to that this morning. So the equipment in the cath lab was due for replacement about now. We had a problem with our intensive care area. We had an infection outbreak in that space and when we looked at that and revisited the fact that the corridor through the intensive care area which leads to the cath lab, is our main point of access, it gave good enough reason for us to rethink the decision of simply refurbishing the cath lab as it is currently located in the Hobart Private Hospital. That was a pretty tough decision because we had made some financial commitment to that space. In that window of time, the decision not to have the new Royal Hobart Hospital was announced and so, in that space, we had a perfect opportunity to challenge that decision.

Once we revisited it with a different context in mind - that we are not moving to a new site, that this is our site - then the decision needed to be changed. So we engaged with the cardiologists. They were quite reluctant and nervous about cancelling the refurbishment of the cath lab because the equipment in the existing cath lab is quite old and they were very much looking forward to having some new equipment with new technology and clearer visibility. But in a great leap of faith they have agreed to stopping the previous decision and allowing an alternative decision to be made.

When the previous cath lab was designed, maybe it met the standards then and maybe it did not, but they certainly do not need the functional requirements now. We cannot have a scrub area with cleaning equipment in the same space.

We also have changing demographic needs. We have an ageing population and we all know that they are going to have more co-morbidities and cardiovascular concerns are right up there with the new predominant co-morbidities that we are looking at. So in revisiting the decision it was decided that we would relocate the cath lab elsewhere into the Royal Hobart Hospital and locate it such that we could completely change the model of care. Historically, our cath lab has been used only for cardiac work, whereas, we can use that for cardiac and vascular work, as is done elsewhere.

We have put up that we will have two cath labs because we think that will be what our demand is and if we incorporate vascular work, between the vascular work that we can do in the cath lab and the vascular work we can do in medical imaging, we are well positioned for that future demand without overinvestment.

Our preferred location is on level 4, close to our theatre suite because, as we do more interventional work, which has not historically been done here because the equipment and technology has not allowed the accuracy and the visibility, with new equipment we will be able to position ourselves so we can undertake greater levels of interventional work. Being located next to a theatre suite is the safest location for those patients in the case of an adverse event happening.

***…** Cath labs are usually projected to last between seven and 10 years. So I suggest this one would probably not last any longer than that in terms of the technology because we have already bought the equipment for the first cath lab. We have not bought the equipment for the second. Possibly the equipment we buy for the second would last us past that 10-year time frame, but the technology that has already been purchased for the first cath lab probably will not get us past the 10-year time frame.*

Service delivery outcomes

In summary, looking at the service delivery outcomes, if we break it down to areas of capacity and capability in works towards our sustainability, with the priority works that we have looked at, we have identified that if we were to go ahead with this, we would increase the Royal Hobart's capacity to do procedures by at least 8 000 procedures a year, and they would be split across the cath lab, endoscopy, day-surgery unit - looking at the 23-hour unit.

By moving patients into different models, we would access 15 per cent of our current bed occupancy. So that would be freed up and we would have that 15 per cent where currently we are sitting anywhere between 90 per cent and 106 per cent occupied. So that would bring that occupancy down, which would make us sit where hospitals should be sitting, at somewhere around 85 per cent occupancy, to be as effective as they need to be. It does not take us back as far as we would like but it does get us away from this highly occupied edge that we are in and it does buy us a buffer while we do more work to create status sustainability.

We will also be able to access increased occasions of service for our medical imaging, our women's health clinics, as mentioned here, plus the non-acute clinics that Les is working on elsewhere. With our capability we will have the savings that we can make through the central equipment store, we will

have increased standardisation of equipment, so we will be able to do the management of our equipment much more intelligently. We will actually have increased capability in terms of the quality of service we have because we will be compliant with the standards. With that comes the management of risks associated with being in breach of those standards and we will also have much more capability in terms of our diagnostics and the technologies we can use for interventions.

In terms of sustainability - these areas, and the enabling strategies work towards establishing the Royal Hobart Hospital campus as an acute-care service base. It also initiates the establishment of a non-acute service centre… It also enables us to have capacity with the changes in where we place the occupancy for growth for that five- to 10-year period of time, depending on which service we are talking about, and it dramatically improves our bed access and patient flow.

DOCUMENTS TAKEN INTO EVIDENCE

The following document was taken into evidence and considered by the Committee:

- Royal Hobart Hospital Redevelopment Program – Submission to the Parliamentary Standing Committee on Public Works, September 2009

CONCLUSION AND RECOMMENDATION

The Committee was impressed with the proposed schedule of works within the context of a $100m budget over 5 years, which forms the plan for the future management of the site. This is designed to keep the current site up to standard and improve operational efficiency and functionality but is not to be seen as a full redevelopment which may follow, pending future funding. The Committee has hitherto not received a reference at such an early stage of planning but appreciates the motivation for some formalisation of approval for the general direction of the development in order to provide certainty.

The need for the Project was clearly established, however the Committee reinforces its expectation that discrete projects which fall within the scope of this reference will be individually referred to the Committee in accordance with the provisions of the Act.

Accordingly, the Committee recommends the project, in accordance with the documentation submitted, including the specified assumptions and constraints as outlined, at an estimated total cost of $100,000,000.

Parliament House
Hobart
30 October 2009

Hon. A. P. Harriss M.L.C.
Chairman

APPENDIX A

Royal Hobart Hospital Redevelopment Program – Submission to the Parliamentary Standing Committee on Public Works, September 2009 – Department of Health and Human Services (Business Services Network – Facilities Management)

Department of Health and Human Services
BUSINESS SERVICES NETWORK - FACILITIES MANAGEMENT

Tasmania

ROYAL HOBART HOSPITAL

REDEVELOPMENT PROGRAM

SUBMISSION TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

September 2009

Executive Summary

Document Purpose

This purpose of this document is to outline to the Parliamentary Standing Committee on Public Works (PSCPW) the objectives and program to commence redevelopment of the Royal Hobart Hospital on the existing site.

This submission seeks recognition of the enabling and preparatory works which need to commence as a matter of urgency. Future submissions will provide detail and seek approval for major component projects within the program as design solutions are developed.

Project Objectives

In May 2008 the government decided not to build a new hospital on the Railyards site but to redevelop on the current site over an extended period of time. The government committed $100 million over five years to keep the current site up to standard and provide improved operational efficiency and functionality.

The $100 million was not intended to fund the full redevelopment but will address some urgently needed works to ensure service continuity and meet throughput demand. This program will also start to position the hospital functions ready for future funding which will allow major redevelopments to commence.

Project Program

Described in this submission are the immediate strategies or most urgent projects that will be undertaken concurrently and are essential to meet the hospital's service obligations. There are also a series of minor works and relocations necessary to allow these major components to proceed.

The submission outlines programs to address deficiencies in site infrastructure, describes projects that will occur later in the five year program and the options currently under consideration.

The submission also describes a means of redeveloping the hospital on the existing site while the hospital remains fully operational. The purpose of this description is to place the immediate strategies within the context of future redevelopment options while not seeking to constrain future planning deliberations.

PSCPW Approvals

It is requested that the PSCPW confirms that:

1) projects within the Royal Hobart Hospital Redevelopment program will be treated as discrete and only require consideration by the PSCPW if they individually exceed $5 million in value; and

2) the submission of an annual report on the progress and forward program of the Royal Hobart Hospital Redevelopment Program will be sufficient for the PSCPW to maintain an understanding of related activities.

Table of Contents

1 Overview

1.1 Program Initiation

On 18 May 2009 the Premier and the Minister for Health announced the Cabinet decisions that a new hospital on the Railyards site has been ruled out due to the prohibitive up-front cost and that the Royal will be redeveloped on its current site over an extended period of time. The government provided $100 million over five years to keep the current site up to standard and provide improved operational efficiency and functionality.

This submission discusses the deployment of the $100 million and the strategies to position the campus in readiness for major redevelopment as funds become available.

1.2 Background

During the latter half of 2008 the Royal Hobart Hospital (RHH) developed an interim Strategic Asset Management Plan (SAMP) for the purposes of keeping the site in operation while the proposed new hospital was built on the Railways site. In the course of developing the interim SAMP, analysis was undertaken of the existing facility capacity and patient flow patterns along with an extensive consultation process which lead to the identification of the asset constraints that were inhibiting the efficient delivery of services. This was aided by updated demographic demand projections compiled for the new hospital project.

Subsequent to the Cabinet decision to remain on site, the hospital executive reviewed the most urgent steps required to meet demand and deliver service needs, generally reinforcing and focusing the recommendations within the interim SAMP. The notable addition was Womans and Childrens which had not been incorporated within the interim SAMP as there was little scope to significantly improve their operational context within the timeframe and funding expected to be available at the time, and new paediatric clinics were about to be opened along with some remedial works which would in part, address their concerns.

1.3 Assumptions and Constraints

This project, particularly in relation to the $100 million, is based on some specific assumptions and constraints, namely:

- The intention is to achieve best practice and contemporary standards of design in those areas redeveloped under this program; however the constraints of budget and physical premises will necessitate some considered compromises.
- It is not expected that there will be a significant funding increase within the five year planning period, although it is hoped that commitments will be made for major redevelopment requiring extensive planning within this period.
- The Repatriation Centre is expected to take an increasing role in providing a range of predominately sub-acute and clinical services along with its current primary health role.
- The community based Integrated Care Centres at Rosny (Clarence), Glenorchy and Kingborough are expected to be coming on line during the five year planning period.
- Some areas of the Clinical school will become available as UTAS progressively move to the Menzies Centre although this will not meet all their accommodation requirements, space is still required for fourth and fifth year staff and nursing staff.
- The Hobart Private Hospital is expected to remain leased to a private operator and not be available for inclusion in any strategy within the planning period.

- Recurrent funding for service delivery and normal maintenance and operational funding for the hospital is not included in this program.

2 Program Management Plan

2.1 Governance

Delivery of the program during its inception phase will require the active engagement of (initially) eleven major project groups most of which have a very strong service delivery component. The structure for this phase recognises and encompasses the role of service delivery planning through the Coordination Group as well as the conventional project team. It is expected that as the program progresses, particularly in relation to the documentation and delivery of construction projects, the governance structure will place an increasing emphasis on the conventional project group, project manager to steering committee linkages.

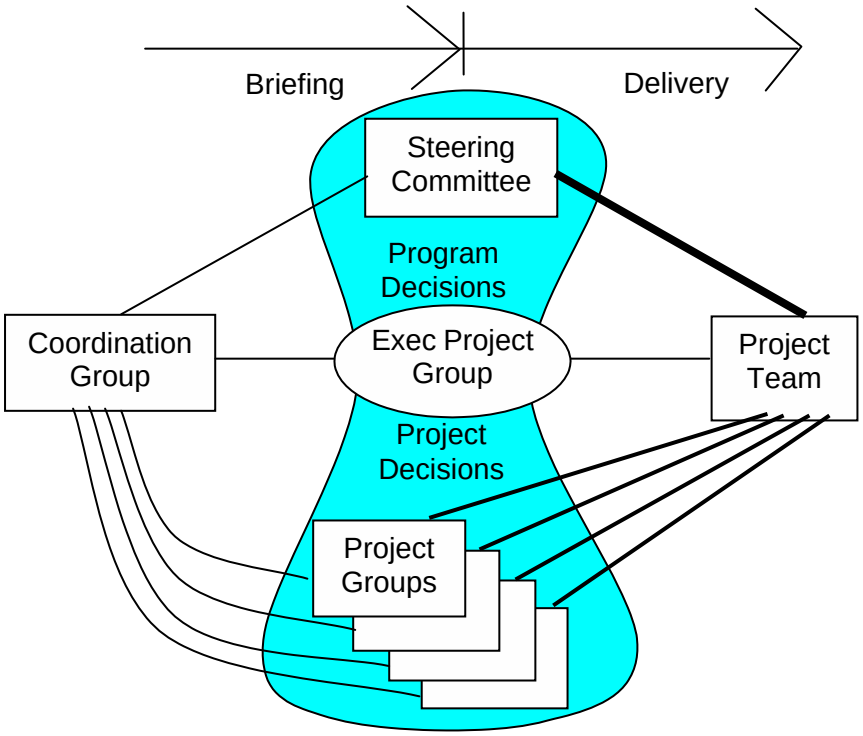


Figure 1: Governance Structure for the Royal Hobart Hospital Redevelopment Phase One

2.2 Structure

2.2.1 Steering Committee

Charter	The Steering Committee is responsible for policy and resourcing decisions essential for the delivery of project outputs and the attainment of project outcomes. It is also responsible for ensuring appropriate management of the project components including risk monitoring, quality and timeliness.
Chair	Hospital CEO
Members	Executive, 2 X coordination group members, Asset Management Services

Executive Support	Project Team
Tasks	- Initiate and monitor project groups - Communications within hospital - Budget and Program authorisation and oversight - Approvals on campus planning and final sign offs as required. - Program priorities and scope delineations
Frequency	Fortnightly dependent on milestones

2.2.2 Coordination Group

Charter	Project representation and coordination with an emphasis on clinical and operational coordination. Disseminate Steering Committee directives and formulate recommendations.
Chair	Nominated executive
Members	Nomination from each project group, project team
Tasks	- Sustain an awareness of the program and Steering Committee objectives - Ensure liaison between projects - Initiate and monitor inter – project working groups
Frequency	Fortnightly

2.2.3 Project Team

Charter	Provide executive support and contract management for the delivery of the program.
Chair	Nominated executive, project manager
Members	Project team, generally staff assigned to manage the program and/or projects
Tasks	- Executive support to Steering Committee, consultant and coordination groups - Project procurement - Program resourcing (people, expert advice etc) - Compile program and manage budget and timeframes - Monitor program and prepare reports - Source specialist advice as needed - Undertake special projects
Frequency	Weekly initially then fortnightly

2.2.4 Project Groups

Charter	Manage individual projects
Chair	Nominated business owner
Members	Determined by the chair plus project team support and relevant consultants
Tasks	- Interpret the scope of the project for the specific area - Service continuity planning - Liaise with any service change initiatives - Provide briefing material required by architects - Design - Coordinate sub-project groups
Frequency	Weekly initially then fortnightly.

2.2.5 Executive User Group

Charter	Provide quality assurance and support for the consultants and user groups. Ensure integrity between the design concepts being developed by the respective user groups and the hospitals long term ability to sustain the service.
Chair	Nominated executive
Members	Nominated executives, project manager, consultants
Tasks	- Quality assurance - Ensure best practise in design and operations - Risk management
Frequency	To match the user group meeting program

2.3 Roles and Responsibilities

In addition to the roles and responsibilities outlined under Structure, the following roles and responsibilities should be noted.

2.3.1 Project Sponsor

The Project Sponsor has ultimate accountability and responsibility for the project. The Sponsor oversees the business management and project management issues that arise outside the formal business of the Steering Committee. The Sponsor also lends support, by advocacy, at senior levels, and ensures that the necessary resources (both financial and human) are available to the project.

The Project Sponsor has delegated authority of the Steering Committee to assist with business management and project management issues that arise outside the formal business of the Steering Committee.

2.3.2 Project Business Owner(s)

The Business Owner(s) is responsible for managing the project outputs for utilisation by the Project Customers. The Business Owner(s) must be satisfied that the project includes all of the outputs necessary for outcome/benefits realisation. Each output must be specified and delivered fit-for-purpose. During the development of the project outputs, the Business Owner(s) also may be required to contribute resources to the project, in order to ensure that the outputs are being developed satisfactorily. This involvement is continuous from the early conceptual stages through to reviewing and/or testing the completed products.

2.3.3 Project Manager

The Project Manager is contracted by the Project Sponsor and Steering Committee to deliver the defined project outputs. They are responsible for organising the project into one or more sub-projects, managing the day-to-day aspects of the project, developing the Project Execution Plan(s), resolving planning and implementation issues, and monitoring progress and budget. The Project Manager will:

- Develop and maintain the Project Business Plan and a Project Execution Plan(s)
- Manage and monitor the project activity through detailed plans and schedules
- Report to the Project Sponsor and Steering Committee at regular intervals
- Manage (client/provider/stakeholder) expectations through formal specification and agreement of goals, objectives, scope, outputs, resources required, budget, schedule, project structure, roles and responsibilities

The Project Manager will be supported by project team members as required to ensure adequate support and interface with stakeholders and all user groups.

2.3.4 Reference Groups

Reference groups operate independent of this program plan, but provide vital input, establish priorities or implement programs which substantially influence the program delivery and outcome.

For example there has been a need identified for an Information Technology (IT) reference group as there are a number of interdependencies associated with IT including:

- ICU Patient Monitoring – enabling the monitoring of patients within the ICU but also in other wards offsetting limits in the number of ICU and high dependency beds within the ICU.
- Admissions Discharge - common electronic admissions and discharge software enabling these processes to be rationalised and combined where appropriate, in particular on Level 4.
- Equipment Management – tracking and managing equipment.

Equipment is a significant problem throughout the hospital. One aspect of the program involves establishing a central equipment store which will draw equipment out of wards and other unsatisfactory storage areas. A tracking and management system will also need to be put in place to ensure adequate maintenance and efficient use. The redevelopment also provides an opportunity to standardise and upgrade equipment across the site.

Other critical reference groups include the 'front of house' group that is looking at how clients and visitors enter the hospital, are welcomed and directed, right through to the admissions and discharge processes. There are currently multiple points of admissions, no formal discharge or pick-up area and numerous assembly points for the various clinics scattered throughout the hospital, often requiring clients to stand in line in the middle of a main thoroughfare which is not only undignified but potentially obstructive to urgent traffic.

2.3.5 Consultants and Contractors

Consultants and contractors will be engaged for various tasks during the program. All aspects of their interaction with the program or individual projects will be governed by the respective commission brief, specifications and contracts which will be prepared consistent with the Project Business Plan.

2.3.6 Communications

Communications other than those described within the Project Business Plan are the responsibility of the Hospital and DHHS administration.

2.4 Reporting Requirements

Current reporting requirements are:

Reported by	To whom	Reporting requirements	Frequency	Format
Project Manager	Steering Committee	Program Status Report	Monthly	Written and verbal
Project Manager	Coordination Committee	Project Status Report	Monthly	Written and verbal
Project Manager	Steering Committee	Project Business Plan	As required to retain currency.	Written and verbal
Project Team	Executive	Weekly running sheet	Weekly or as required	Written and verbal
Project Manager	DHHS Executive	Financial and program status report	As required to retain currency	Written

2.4.1 Reports to the Steering Committee

The Project Manager's regular report to the Steering Committee will include the following:

- Status of the project
- Milestones for the last reporting period
- Milestones for the next reporting period

- Program milestones / timeframe report on an exception basis relative to the Project Business Plan
- Program Budget report dissected to at least project level
- Issues report (including areas of concern, specific problems, and any action that needs to be taken by the Steering Committee)
- Risk management report on an exception basis relative to the Project Business Plan, including mitigation strategies
- Project by project summary report

3 Planning

3.1 Planning Framework

The context in which the redevelopment of the RHH is being undertaken is summarised in the following statistics:

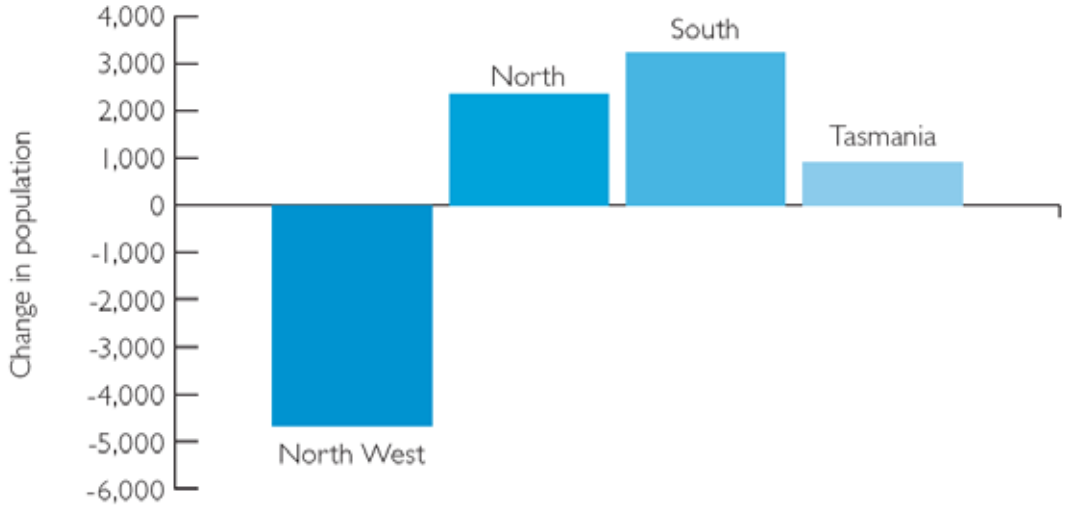
Tasmania is a relatively small state within which the RHH is the principal tertiary hospital with the next recourse being interstate. This places an unusual obligation on the hospital to provide a full spectrum of specialist services and a 'place of last resort' capacity.

Tasmania has a dispersed population of approximately 500,000. The population is generally older, poorer and less healthy than those of the mainland Australian States and Territories. This poses a major challenge for providing a health system in an economical and proficient manner.

Tasmania's population is projected to increase by 3.2% between 2006 and 2021 but the greatest growth is in the South as demonstrated in the projection below.

Figure 2: Changes in population by region 2006 to 2016

(Tasmania's Health Plan – Clinical Services Plan: Update May 2008, p. 16)



Source: ABS, DoHA. Projected Resident Population on 2001 statistical local area (SLA) Boundaries (ASCG 2001) as at 30 June 2002–2022.

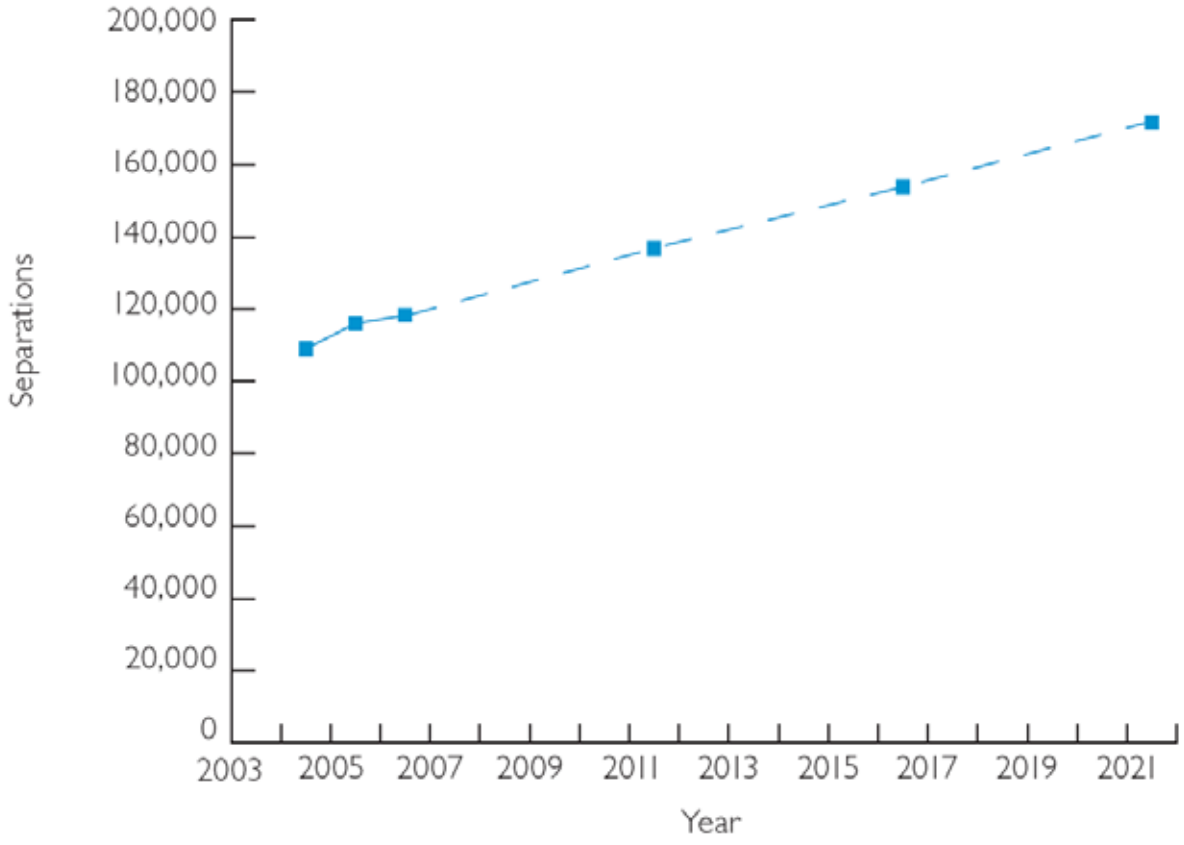
The life expectancy at birth of Tasmanians is about 1.3 years lower than the Australian average. Compared with the national average, Tasmania has higher proportions of the population who report a long term health condition, who are obese, who smoke and who die from smoking-related disease.

Nationally, Tasmania has the second highest death rates for cancers overall and for circulatory diseases; the second highest incidence of respiratory cancers; and the second highest rates for accidents and intentional self-harm.

Tasmania is expected to experience a significant increase in chronic/complex health care needs with the ageing of the population, particularly over the next 10 to 20 years.

The Tasmanian public acute health system will need to manage significant projected growth in demand for inpatient services. Resident demand for all public acute health services in Tasmania's south will increase by 47.4% separations and 41.7% bed days between 2006-07 and 2021-22.

Figure 3: Forecast increase in separations to 2021



There is major growth projected in chemotherapy, medical oncology and haematology.

Projection data indicates an increase in resident demand for outpatient services in Tasmania's south of 8.8% to 139% from 2006 to 2021.

The projected impact on the RHH is that by 2021 the number of separations at the RHH will increase by 47% and the bed days at the RHH will increase by 42%

As the State's major tertiary referral hospital and the provider of most single and statewide services, the RHH will have to accommodate the majority of this high-growth in demand. This will require significant expansion of hospital infrastructure.

3.2 Context

The Cabinet decision, announced on18 May 2009, that a new hospital on the Railyards site had been ruled out has significantly changed the planning context for the existing facility from one of 'keep safe and operate' to a three tiered planning context. Firstly there is a need to keep the existing services operational, secondly to commence a process of positioning the site for its long term role, and thirdly to commence the investigation and planning for long term redevelopment.

The $100 million provided over five years provides little more on an annual basis than the hospital typically requires to keep its facilitates in serviceable condition and undertake modest upgrades. The unique context is the ability to plan assured of a minimum resource without the need and disruption of bidding each year for funding.

The interim SAMP developed in the latter part of 2008 in the context of the New Royal Project, proposed works that addressed the most urgent needs and would return a benefit within the nominal 5 to 7 year timeframe that the hospital was expecting to continue providing services on the current site. The underlying investigation and planning for those projects remains valid but the level of upgrade will change in recognition that the resultant upgrade will be in operation for longer.

Another impact of the new facility not proceeding is the spring effect. Functions that may have accepted their inadequate facilities for the time it would take to construct the new hospital are looking to address their problems now there is no other avenue. As a consequence there is pressure to increase the space required closer to contemporary guidelines as well as improving the functionality of the fitout.

The New Royal Project and the new facilities it would provide was an opportunity to introduce new clinical 'cultural' practices. The interim SAMP was not expected to provide the additional space required to achieve the transition. Although the imputes of new facilities is no longer there, the necessity to achieve best practice and continual improvement remains.

3.3 Bed Block

The hospital frequently experiences a situation where there are patients being admitted to the Emergency Department, but there is no capacity on the wards to absorb them; not dissimilar in principle to a traffic grid lock. The 'ramping' of ambulances unable to discharge their clients is one consequence. Cancellations of surgical cases due to the lack of a receiving bed is another.

The problem is more pronounced in winter due to the increase in patients requiring admission for medical conditions that require a stay longer than is commonly associated with these conditions. There is also a weekly peak as emergency admissions continue through the weekend when there is reduced medical and diagnostic staff available to treat and discharge patients. The problem is compounded by beds being committed to geriatric and slow stream rehabilitation patients for whom more appropriate accommodation is not available.

The two graphs below, one showing daily admissions and the other daily discharge patterns for each day of the week, demonstrate how admissions stall each day.

Figure 4: Daily admissions for each day of the week

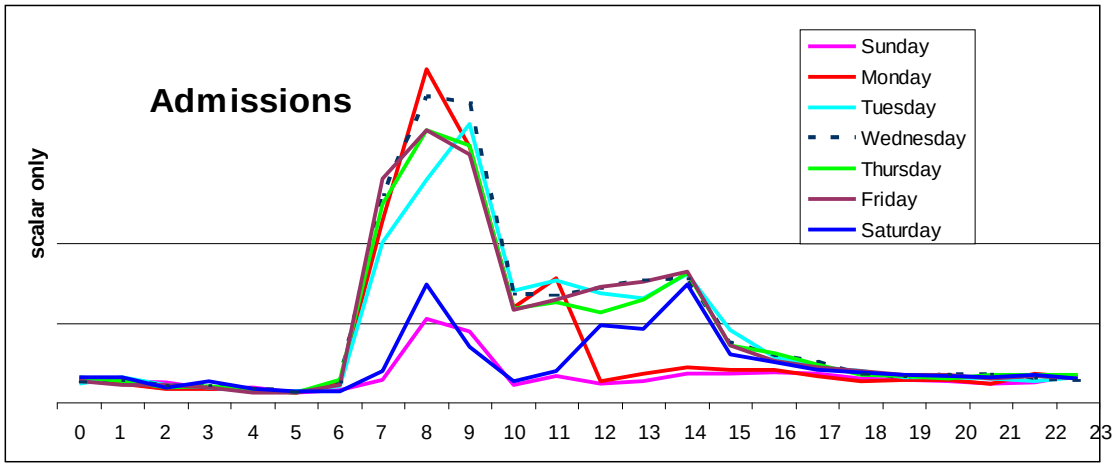
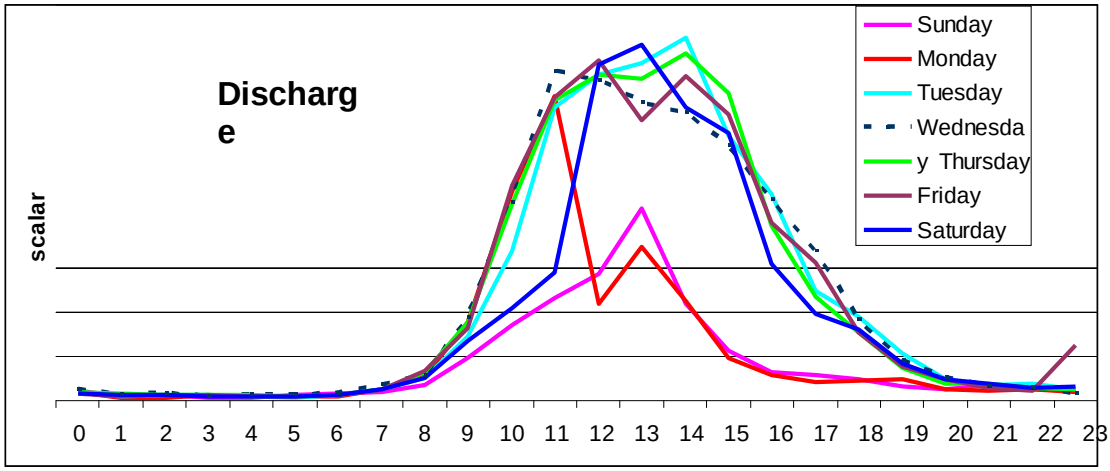
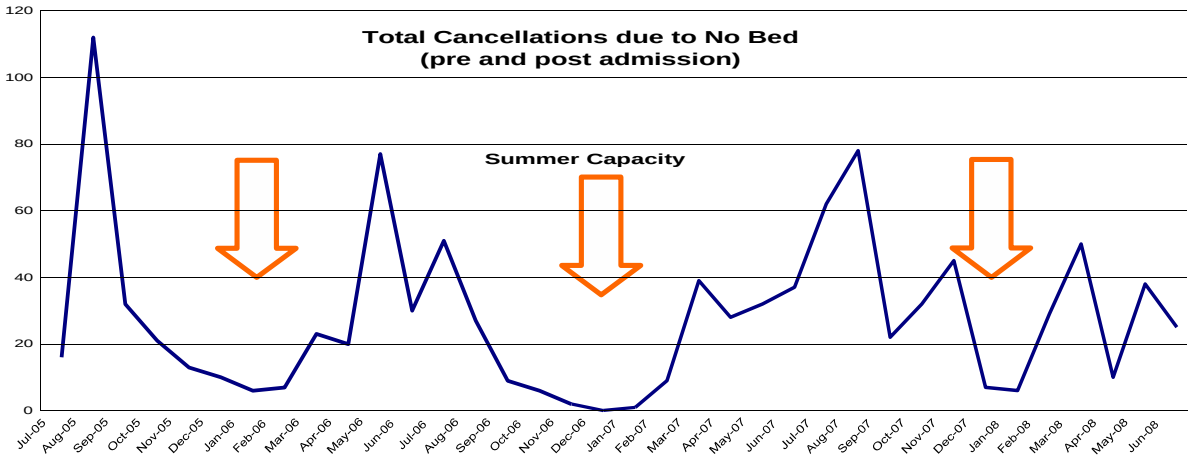


Figure 5: Daily discharges for each day of the week



The following graph showing total theatre cancellations due to no available beds demonstrates the winter peak as a consequence of the seasonal demand on medical services absorbing surgery and Intensive Care Unit (ICU) beds.

Figure 6: Total theatre cancellations



The hospital has in recent years undertaken a range of initiatives to manage and address the problem both physically and operationally. For example, the Emergency Department pro-actively assesses and treats minor incident patients so that they can be discharged as early as possible freeing up treatment space. A short stay unit has been established to manage circumstances that do not warrant full admission and the commitment of a valuable ward bed. However the value of this initiative has been limited by a lack of staff.

Much of the bed blocking problem has been attributed to sub-acute geriatric patients remaining in the hospital unable to find a suitable nursing home. The re-opening of the Repatriation Centre 42 sub-acute and transition beds provided significant relief, however, this capacity is being rapidly absorbed with increasing demand for sub-acute services. The effective treatment of aged patients involves many aspects including early detection and prevention in the community, skill in diagnosis, often in the context of multiple chronic diseases and a disorientated patient, the implementation of limit treatment orders to retain patient control and reduce inappropriate intervention, and the ability to place clients in nursing homes or adequately support them back in their homes. An example is the effective treatment of delirium which can be difficult to correctly diagnose, and an incorrect or delayed diagnosis can considerably extend the length of stay.

The proposed strategy includes:

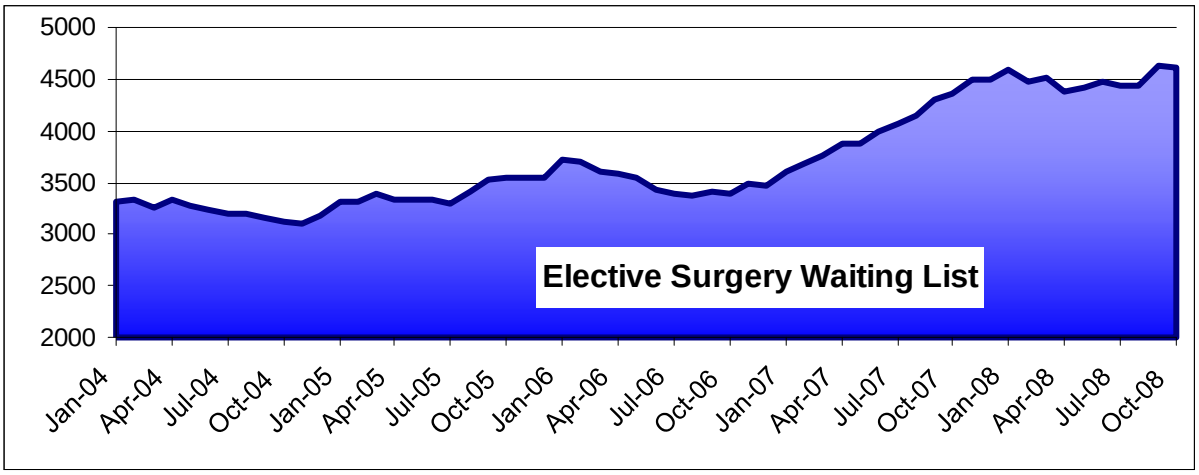
- Establish a medical assessment and planning unit (MAPU) to receive medical admissions, assess their condition, prepare and commence a treatment plan with a length of stay from less than one day up to 3 days. The existing ward 2B has been progressing towards this function.
- Initiatives detailed elsewhere address surgical throughput, the problem of sub-acute cases blocking acute beds, and general ward efficiency.

3.4 Throughput

The elective surgery waiting list has been progressively increasing over the preceding four years despite a range of operational initiatives.

Two new theatres were recently built to improve surgical capacity. However adequate recovery space remains a limiting factor for the theatres, exacerbated by increased demand for day only procedures increasing the need for secondary and tertiary recovery services for procedures undertaken in other areas.

Figure 7: Number of people on elective surgery waiting list January 2004 – October 2008

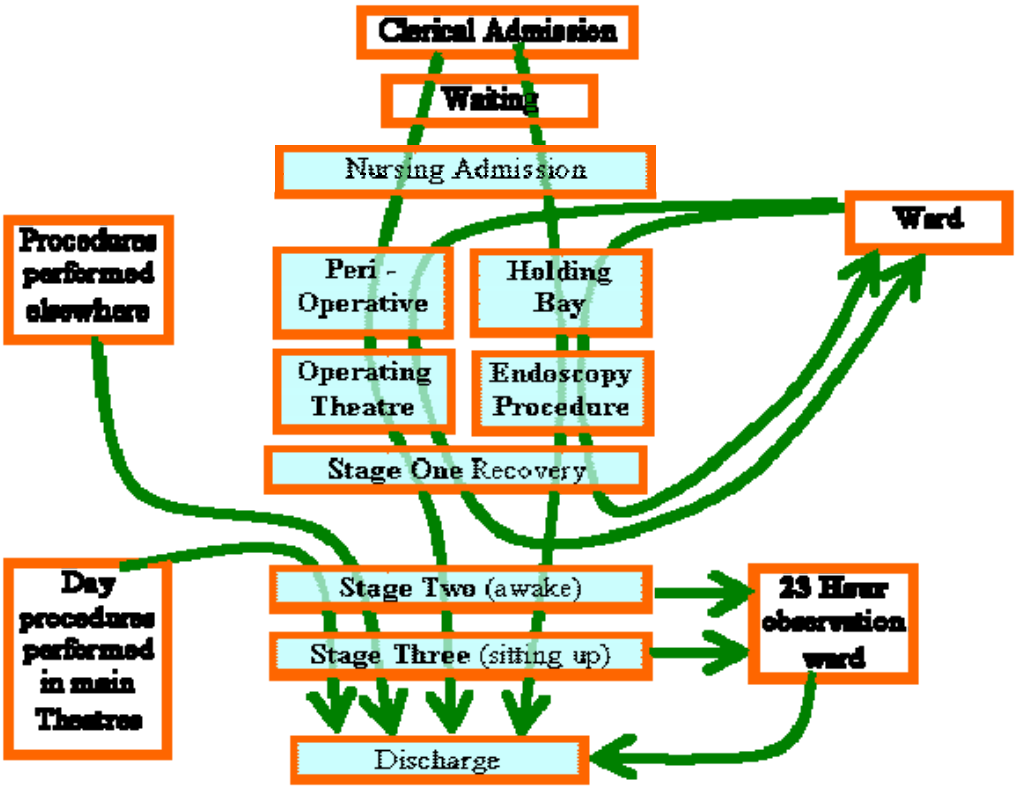


The day procedures flow diagram below depicts the movement of patients through a variety of treatment and recovery scenarios. The existing day procedures unit (DPU) has both surgical and endoscopy patients coming into a single recovery suite designed for a much lower throughput. This same unit also receives day patients from the main theatres, returning to the DPU for second and third stage recovery. The unit is also receiving patients that have been to a procedure elsewhere in the hospital requiring anaesthetics who then return to the DPU to complete their recovery.

The current stage 3 recovery area in particular, is substantially undersized for its function with inadequate space around the chairs. Although patients in stage 3 are sitting up and preparing to go home, they have often been through significant procedures and need continuous supervision which is difficult to do in the current configuration.

The hospital is seeking to establish a 6 bed 23 hour unit to accommodate patients that require a maximum of one overnight stay following their procedure. It would also assist accommodating patients into the evening, providing the option of extending the operating hours of the DPU. These patients currently occupy beds in inpatient units. Provision of a 23 hour unit will free inpatient beds for other patients and therefore increase total bed capacity.

Figure 8: Day Procedures Patient Flow diagram



Royal Hobart Hospital Day Procedures Patient Flow

Surgical throughput in the main theatres has also been constrained by limited intensive care and high dependency capacity. Capacity limitations are also forcing high need medical patients to remain in normal wards longer than is preferred. Conversely a shortage of general beds is forcing some patients to remain in the very expensive Intensive Care Unit (ICU) longer than necessary. Both neurosurgery and cardiothoracic surgery are both highly dependent on the availability of ICU/High Dependency Unit (HDU) beds to proceed, thus capacity problems have an extensive impact.

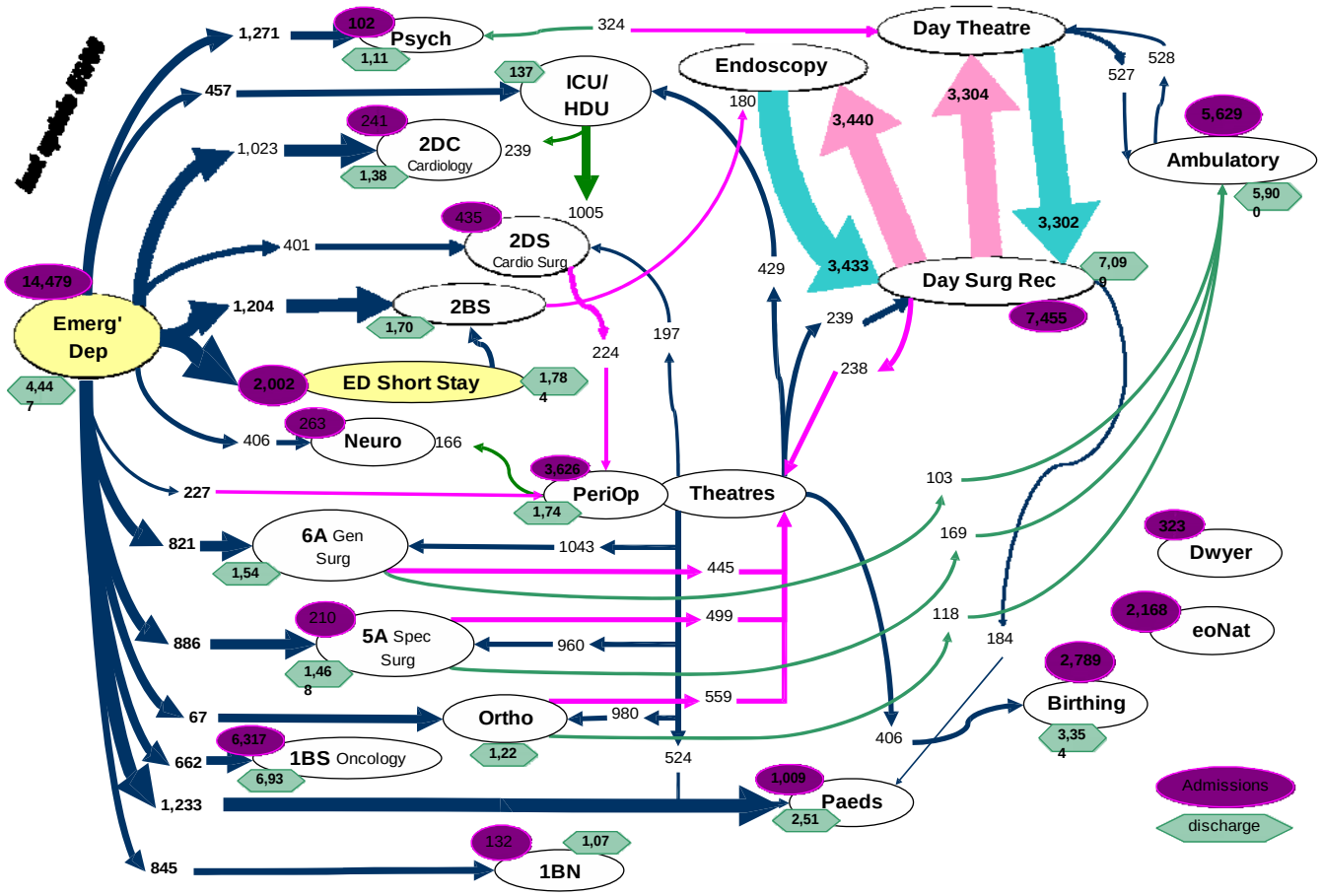
The existing ICU would be unable to manage a significant infection outbreak or pandemic. The open ward configuration does not enable areas to be separated and the existing isolation rooms have inadequate air handling to sustain the required pressure differential.

The proposed strategy includes:

- Establishing a new endoscopy suite sized to contemporary standards and able to meet the demand increase expected within the planning period
- Increase the surgical and endoscopy recovery area and configure it to maximise flexibility
- Provide a 6 bed 23 hour recovery unit
- Increase the capacity of the ICU/HDU unit

Another view of throughput is in the 'spaghetti' diagram below which shows existing patient movement patterns based on the patient information system Homer. The movements show the importance of the Emergency Department as a point of entry for admitted patients. The Emergency Department Short Stay Unit is the largest recipient of patients followed by the psychiatric, paediatric and 2BS (MAPU) wards.

Figure 9: Patient movement patterns

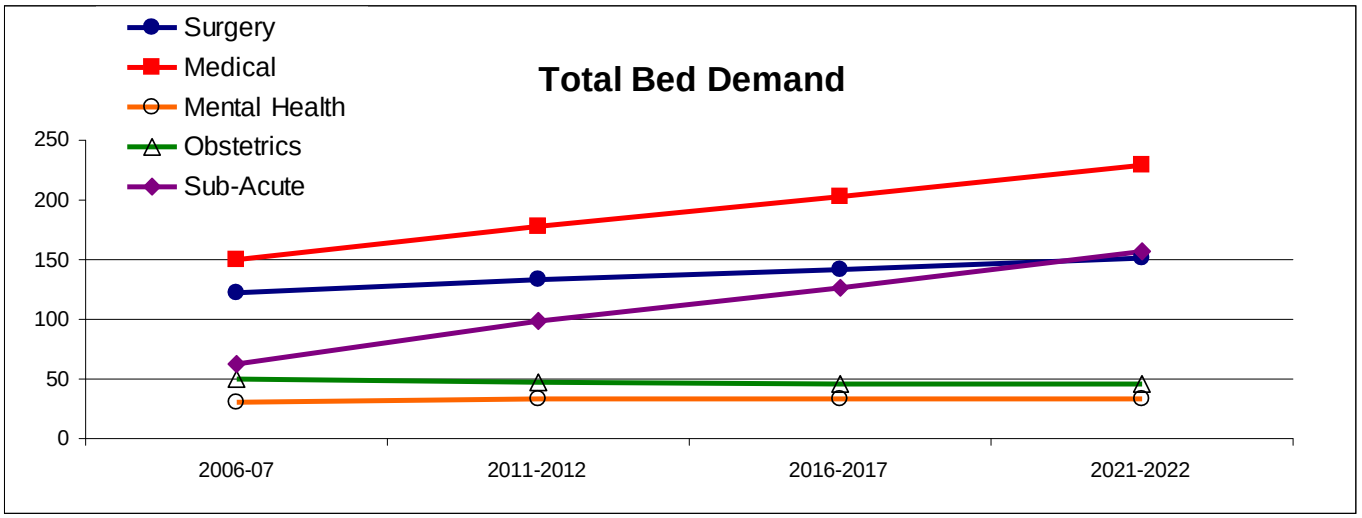


3.5 Increasing Demand

The total bed demand is projected to increase by 12% over the coming five years based on a projection undertaken by Hardes Associates (2008) using available demographic forecasts and assuming current clinical practices. Viewed as total beds which counts day only chairs though to long stay beds, this means an additional 50 beds will be required within the next five years.

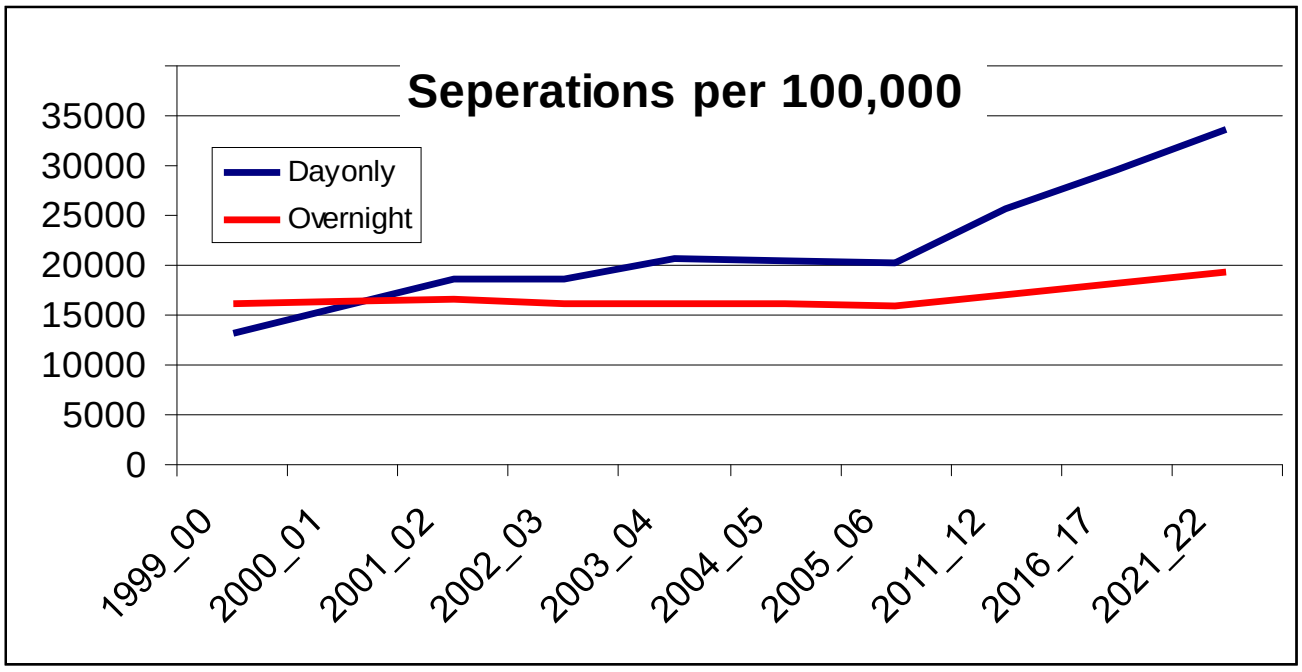
The raw bed demand is expected to be moderated by other actions including community initiatives such as the Integrated Care Centres along with changes in clinical practices. Approximately 30 additional beds can be provided within the current built fabric by a combination of improving ward efficiency and providing new services, notably the proposed 10 bed adolescent unit and the 6 bed 23 hour unit.

Figure 10: Bed demand for specialities 2006-07 to 2021-22



The most significant increase in demand is forecast to occur in day only procedures and sub-acute / geriatric services. The increase in day only activity relative to overnight stays is evident in the graph showing separations per 100,000 population over a 20 year period.

Figure 11: Day and overnight separations per 100 000, 1999-00 to 2021-22



The demand for sub-acute services is expected to rise by over 100% in the period to 2016. If no other action were taken, the demand for the 42 beds currently provided at the Repatriation Centre would rise to a requirement for over 100 beds. A range of other initiatives have also been undertaken including improved liaison with district hospitals, with private aged care providers, and with the community nursing and support sectors. The escalating demand for these services is such that these measures alone will not be sufficient to contain demand within the planning period.

The ability to manage the demand for sub-acute services is dependent on community programs, funding models for aged care beds, effective integration of services in addition to the timely provision of additional capacity that is expected as part of the redevelopment program. Delays in any of these areas may necessitate the opening of additional beds at the Repatriation Centre or at St Johns Park, or through private providers.

The other aspect of escalating demand is in Day Procedures. Part of this is addressed through the initiatives with day surgery and endoscopy discussed in 4.2.1. The demand for Day Oncology and the Ambulatory Care Unit is also increasing rapidly. These units operate separately but both are highly dependent on pharmacy preparations for the timely and precise treatment of patients. Pharmacy is currently physically remote and very restricted in its current sterile preparation suite.

Addressing demand requires actions on all fronts, strategies include:

- Expand the role of the Repatriation Centre with the addition of on site medial imaging, pathology and pharmacy and the increase of clinical services from that site.
- Establishing a dedicated acute rehabilitation and geriatric sub-acute floor.
- Monitoring other sub-acute / geriatric initiatives such as community services, the provision of private aged care beds, and the establishment of the Integrated Care Centres.

Demand for maternity beds has increased beyond projections due to the recent increase in birth rate and the increased complexity and co-morbidity of clients discussed below.

3.6 Ward and Clinic Efficiencies

Over a period of time the effective ward areas have been eroded by the encroachment of other activities or the splitting of ward functions. The result being many undersized wards that are inefficient for staff, have lost the educational spaces, have limited storage capacity and struggle to manage the increase in equipment. Other information technology initiatives intended to enhance admission practices and clinical management are constrained by the older style wards lacking adequate information technology infrastructure.

An efficient ward for nursing ratios and for flexibility is between 24 and 32 beds, generally in pods of 8 beds. Block A on the North East of the site and parts of Block D located behind the central building are physically capable of accommodating sizable wards, although as the bed schedule indicates many have been reduced in size or are accommodating multiple and not necessarily compatible functions.

Ward	Location	Current Capacity	In Use 30/05/08	Provisional Only
Emergency Dept.	Liverpool St	37	32	37
Medicine Short Stay	ESSU	10	10	10
Critical Care ICU / HDDU	1H South	17	15	24
Neo Nate Special Care	3C	12	12	12
NPICU	3D	14	14	14
Medical Oncology	1BS	20	20	20
Medicine General	1BN	30	30	30
Medicine (MAPU)	2BS	30	30	35
Medicine	2BN	20		
Surgery General and Gynae'	6A	26	25	26
Surgery Specialist	5A	18	18	26

Ward	Location	Current Capacity	In Use 30/05/08	Provisional Only
23 Hour Unit	4A			6
Paediatrics	3A	25	25	28
Adolescent	3B			10
Surgery Orthopaedics	2A	25	25	26
Acute Rehabilitation	1A (Dwyer)	23	23	23
Surgery Cardiothoracic	2DS	17	17	17
Medicine Cardiology	2DC	16	16	20
Neurosurgery	1H North	24	20	24
Maternity Delivery Rooms	3D	4	4	4
Maternity Birthing Suites	3D	8	8	8
Maternity Beds	3D	18	18	22
Psychological Med.	G & LG B	34	34	34
TOTAL Inpatient		**428**	**396**	**456**

The loss of educational space is more subtle, but is becoming sharply evident with the re-introduction of on site nurse education programs. Flexible spaces such as doctor's write-up, library and education areas have been absorbed in the pressure for space. These spaces are now needed to address the expanded on site training program and the increasing use of computers for reporting and patient management.

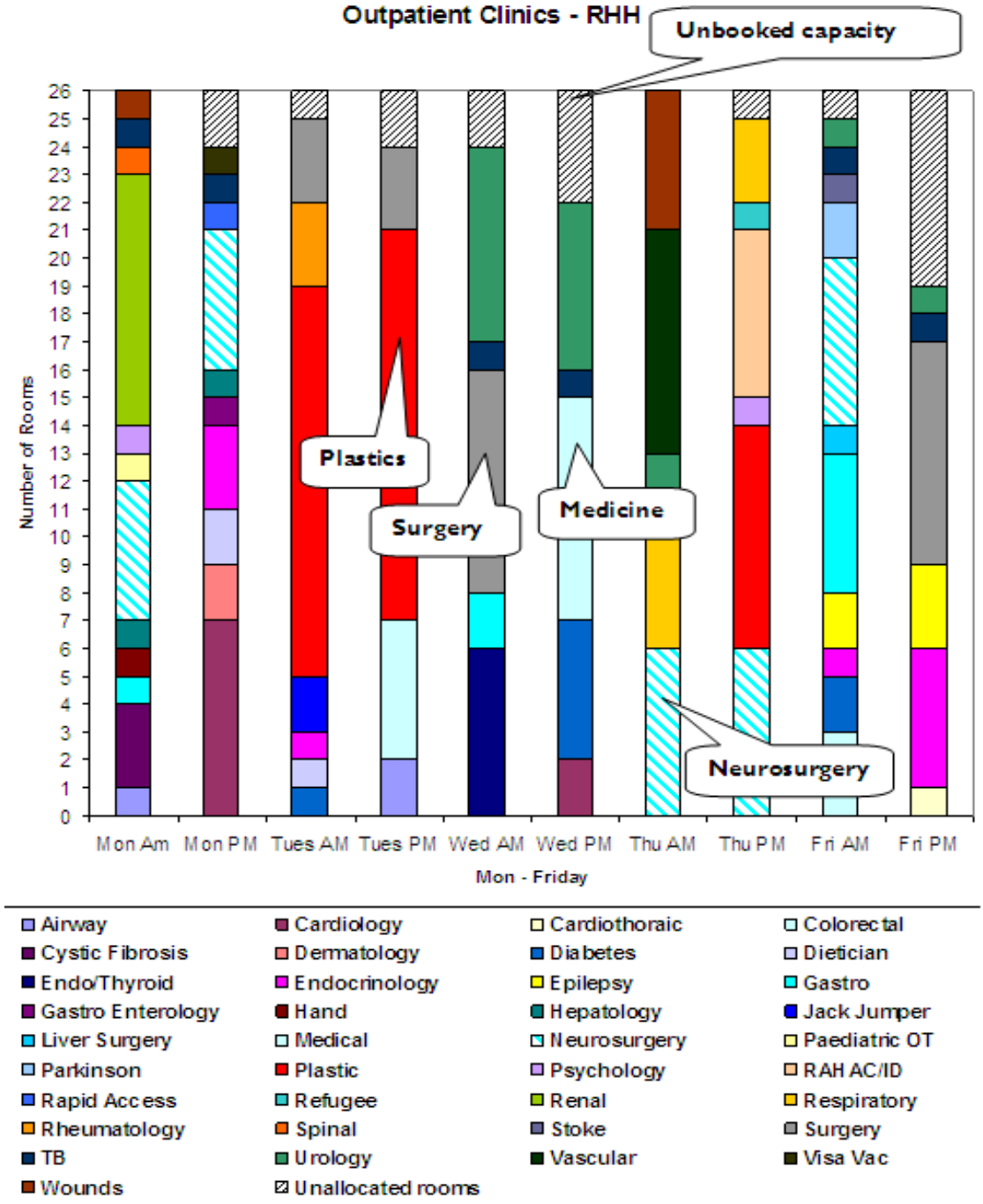
The wards are experiencing substantial difficulties in locating and storing the increasing array of equipment required for contemporary nursing and clinical practices, including lifting frames. The increasing number of bariatric (obese) patients is significantly exacerbating the problem and also impacting on toileting facilities. Part of the equipment problem throughout the hospital can be improved with computer tracking systems and other practices, but the physical items still need to reside somewhere. The evidence of the problem can be seen in the ward corridors, but is also hidden in the time nurses and hospital orderlies are scurrying around finding items of equipment.

Clinical outpatient services have been dispersed throughout the hospital in unsatisfactory accommodation. Disbursed clinics are difficult to staff efficiently, lack flexibility and can be confusing for clients to find. Many of the existing clinics are inadequate in size, dysfunctional and are absorbing former ward and hence bed space.

The acute dialysis suite is currently located to the rear of, and accessed through the Ambulatory Care Unit. It is too small in size to operate efficiently or address demand and is physically remote from other services providing a 7 day a week service.

The histogram below of bookings over a typical week demonstrates the demand on outpatient clinical services and the efficiency with which they are managed. The black hatched area are the only times when there is spare capacity, indicating an utilisation rate of between 90% and 100% for most time slots.

Figure 12: Outpatient clinic bookings



Effective clinical outpatient services are critical in supporting patients in the community and ensuring that their admissions to inpatient services are well prepared and effective. The importance of these services is reflected in the recently completed paediatric outpatient service in the former Emergency Department. It is also evident in the Commonwealth and State policies to create Tier 3 Integrated Care Centres (ICCs) in the community with Tier 4 centres to be located on or adjacent to acute sites.

The development of the ICCs at the acute sites and in suburban locations including Rosny (Clarence), Glenorchy and Kingston, is a central element of the DHHS Clinical Services Plan (May 2008) aimed at addressing the increasing burden of chronic diseases and multiple co-morbidity in the community. The initiative will pro-actively treat patients before they need acute services, moderating the demand on the more expensive services and improving quality of life and health outcomes for the recipients.

The proposed strategy includes:

- Establish a co-located outpatient's clinical area adjacent to the paediatric outpatient clinics on Argyle Street.
- Undertake a range of space corrections through existing ward spaces to achieve efficient configurations.
- Investigate off site close proximity clinical space in leased premises.

3.7 Operational and Support Services

The four loading docks provided as part of the Block B upgrade have since been diminished to two effective docks as the other two truck positions are now occupied by permanent skips collecting medical and general waste. In addition, the design of the dock and the stores generally was based around a 'just in time' approach modelled on interstate examples in major urban centres. With the RHH being a very large customer in a relatively small market this approach has a high risk of supply or contractual failure.

The loading docks handle six laundry deliveries and removals each day, as well as delivery of fresh food, bottled gas, general and sterile medical and pharmacy supplies, building material and equipment. Removals include daily rubbish removal, wet and dry kitchen waste and recycled goods. The mortuary also uses the loading dock. The separation between the 'clean' and 'dirty' side of the dock is a faded yellow line painted on the pavement.

The loading docks and associated storage and handling facilities are substantially inadequate for the hospital operation, and pose unnecessary OH&S and infection risk. These problems will be exacerbated when the main food preparation kitchen moves off site and daily deliveries of prepared food increase significantly.

Image 1: Photo of loading dock

The Department recently (November 2008) commissioned a Food Services Study as part of the work done for the New Royal Project. The study assessed the existing kitchen facility and recommended that it "…needs to be replaced as a matter of urgency to satisfy Occupational Health and Safety and food safety standards. Improvements in the kitchen will also reduce waste in providing food services and improve the working conditions. The current situation needs to be addressed as soon as possible. It cannot wait until the new hospital is complete in 2015."

Investigations are underway to create an off site food preparation kitchen as recommended in the study, potentially in leased premises. This will remove some of the food handling traffic and release space within the existing kitchen enabling an upgrade of the preparation and distribution functions that remain on site. Subject to planning analysis it may also be possible to relocate and extend the canteen, significantly improving amenity for staff and clients.

3.8 Building Services Infrastructure

Recent audits and inspections of plant and equipment have been undertaken either from the perspective of keeping the existing facility operational until a new hospital was constructed, or to provide comparative information for the new hospital business case. Planning is currently underway on programs which will sustain and upgrade plant for long term viability within the available funds in the areas of power supply, reticulated hydraulic services, lifts and fire services. The issues that are of particular note include:

- Upgrade of the site power supply referred to as the ring main along with upgrade of the main switchgear and sub-stations. Much of this work will be necessary before or parallel to installation of the proposed PET/CT scanner and the relocation of Cath Lab.

- Replacement of a very old emergency generator serving Block A and Block D. As noted in the Menett report "…supply is minimal and in the event of a power failure of extended length, the RHH would be unable to operate effectively"

- The air conditioning heating and chillers units were upgraded or replaced at the commencement of the Honeywell performance contract approximately 11 years ago. The work was 'designed to last the distance' and is now in medium to poor condition. Some of the inadequacies will be addressed through individual projects such as in the ICU and medical imaging areas. Other areas that are not currently planned for upgrade in the near future will require further investigation.

- The hydraulic infrastructure including domestic and fire services water supply and sewage is generally as old as the respective building unless specific areas have been subsequently upgraded, with a consequence that there are significant runs of very old pipe work that can be expected to fail at any point. A program of mapping and testing the services will be necessary in order to prepare an upgrade program.

- The hospital has some 23 lifts of varying size and age. A full hazard and risk assessment has still to occur which it is expected to identify a range of works required. Some of the lifts (i.e. those in the H Block) are too small and are not worth extensive upgrading in which case new lift shafts outside the existing building may be required.

- A fire engineering safety assessment of the hospital was recently completed and remedial works are currently being undertaken to address the most immediate concerns of fire separation between buildings and fire suppression in the higher risk areas. Other upgrade work will be achieved within the projects currently being planned. Further analysis is required to guide future upgrade works across the site, review areas that are not expected to be upgraded in the current program, and re-assess the overall site fire safety strategy.

4 Strategic Response

4.1 Overview

The key directions for the RHH for 2009-14 are to:

- Deliver safe, comprehensive and high quality care
- Improve access and efficiency
- Innovation and entrepreneurship
- Take actions to enable the Hospital to meet increases in demand including transferring capacity to adjacent and other sites where appropriate
- Build services that are integrated across the campus and throughout the community
- Implement improved models of care for ambulatory and aged care, rehabilitation and palliative care

The announcement by the State Government that there would not be a new hospital in the foreseeable future necessitated a review of the functionality of the RHH and its capacity to meet forecast large increases in demand for services.

Work undertaken by the Department of Health and Human Services to develop an interim SAMP to optimise the functionality of the current site over the next five years was based on the assumption that a new hospital would be built in this time. This work has been reviewed with staff with the aim of enhancing the capacity of the RHH to safely meet forecast increases in demand over the next 10-20 years, with the same high quality of service currently being delivered.

The core objective for this program is:

To increase the capacity of the Royal Hobart Hospital to provide safe, high quality patient services through a comprehensive capital redevelopment plan covering the short, medium and long term future of the campus that links capital expenditure to specific improvements in the infrastructure of the Royal Hobart Hospital to support the hospital's role as Tasmania's principal tertiary referral and teaching hospital.

The service delivery objectives are to:

- Assure the capacity of the RHH to deliver safe and high quality services through critical analysis of models of care, design and location of services, and by working collaboratively with staff and stakeholders to identify where possible, more efficient delivery modalities.
- Ensure that capital redevelopment supports the core functions that are critical to improving patient care including research and education.
- Eliminate or minimise identified risks to the continuity of health services or compromise patient and staff safety by upgrading site infrastructure and building services that do not meet functional requirements.
- Ensure the plans for short, medium and long-term redevelopment of the site obtains value from existing building stock and can be implemented in a staged and flexible way as funding becomes available.

- Develop strategies to undertake works on site that minimises disruptions and stress to staff and patients during the redevelopment phases.

- Improve the appearance of the RHH as a safe, modern and pleasant facility to support increased confidence in healthcare services, encourage patient recovery and improve attraction and retention of staff.

In planning for the redevelopment of the RHH the Executive have identified six high priority projects that will have the greatest impact on throughput and the functional objectives outlined above. These projects, listed below, will be progressing immediately and concurrently as the first phase:

- Day Procedures Unit (DPU)
- Women's and Children's Services (WACS)
- Medical Imaging
- Intensive Care Unit (ICU)
- Central Coordination Unit
- Catheter Laboratory
- Central Equipment Store
- Repatriation Centre

There is a range of enabling works required to achieve the above objectives, requiring some eleven project streams. The Executive also recognises other urgent priorities across the hospital and planning will continue in these areas to shape the second and subsequent phases of the redevelopment/refurbishment.

4.2 Immediate Strategies

4.2.1 Day Procedures Unit (DPU)

The redevelopment of the DPU including a 23 hour Unit will enable the RHH to provide state of the art facilities for patients undergoing Day Surgery and Endoscopy procedures as day cases. The new Unit will address insufficient capacity in two very important areas, firstly the recovery area which includes the first and final stages and secondly the patient preparation area. Currently these areas are over crowded causing surgical delays and potentially increasing risk around the delivery of safe patient care. The recovery area will be designed to allow after hour inpatient occupation for surgical patients that require an overnight stay, referred to as the 23 hour unit. This will build capacity by releasing normal inpatient beds for surgery requiring longer lengths of stay.

The redevelopment will also include a third Endoscopy Room which will serve two critical functions firstly to better meet the community needs flowing out of the National Bowel Cancer Screening program and secondly to facilitate the growth of interventional gastroenterology.

Because the Unit will be purpose designed it will significantly reduce clinical risk, dramatically improve the patient experience and importantly contribute to recruiting and retaining clinical medical and nursing staff that specialise in working in the Day Procedure environment.

The Unit is on level 4 of Block A on the north eastern portion of the campus covering 950m2 gross floor area.

The Ambulatory Care Unit is located adjacent to the DPU on Level 4 of Block B which fronts Campbell Street. The existing facility is undersized for the increasing demand and has inadequacies particularly around patient chairs and treatment areas. This floor also contains Acute Nephrology (dialysis) which is substantially undersized and not well located within the hospital. The gross area of 4B is approximately 650m2.

On the same level in the adjacent Block C are the Peri-Operative and clinical area covering approximately 430 m2. The main theatre suite is located in the adjacent Block D in the centre of the campus.

A number of options for level 4 of Blocks A, B and C have been explored. The existing building configuration provides little opportunity to extend beyond these areas without an extensive external building program and of the three only Block B can be extended.

Consideration had been given to moving part or all of the DPU off site as an alternative. It is not uncommon for (predominately) private day procedure clinics to operate remote from acute facilities, however, analysis of the patient mix being treated within the day procedures area, or being admitted and/or recovered in day procedures from other areas of the hospital including the main theatres counsels against a remote site solution. A remote site would also disrupt existing clinical programs and reduce opportunities to achieve staff efficiency and flexibility.

Separating the endoscopy function from day surgery had also been considered as an option but it creates staffing inefficiencies and operational inflexibility. Although endoscopy rooms are not of the same standard as theatres, theatres can be used for endoscopy. There is also an increasing overlap in clinical practices and equipment.

The proposal currently under consideration will retain the existing two theatres on 4A but replace all recovery and endoscopy areas and in the process reverse the patient flow in the day procedures area. The three existing reception areas (admissions) will be amalgamated into one reception area on 4C which also services same day main theatre admissions. Acute Nephrology will be moved elsewhere in the hospital enabling layout problems within the Ambulatory Care area to be resolved and the current reception area to be expanded into a discharge lounge. The clinics currently operating from 4C will be moved elsewhere providing the space required for an integrated admissions and preparation area serving the whole level 4 intervention suites.

The upgrade will need to be delivered in stages to provide for the continuing operation of the hospital. The two existing endoscopy suits will be closed for part of the upgrade with those functions being re-programmed into the remaining theatre suites. The two day theatres will remain in operation.

4.2.2 Women's and Children's (WACS)

WACS encompasses:

- the Maternity Unit on 3D
- the Paediatric Unit on 3A
- Women's Health Clinics on 3C
- Gynaecology on part of the surgical unit on 6A
- Neonatal and Paediatric Intensive Care on 3D
- the new paediatric clinics on the lower ground floor of H Block, off Argyle Street

The service requirements of the Women's Health Clinics have been steadily increasing over the past 10 years by 1000 occasions of service with 80% of women seen in the service classified in the high risk category. It is currently spread across multiple areas resulting in a very inefficient use of resources and space. A new clinic is required to enable the collocation of services in one functional areas for best practise models of care and provision of a more efficient and effective service. Dependent on detail design the Women's Health clinic may need to move elsewhere in the hospital.

Admission to the Maternity Unit has increased over the last 10 years from 1873 to 2991 per annum with no increase in the number of beds. This has resulted in a current occupancy rate of 97% and a ward that is not appropriately configured to provide a safe level of care for many patient types. To allow for appropriate models of care there is a need to increase the ward bed numbers by four and upgrade much of the current ward including the pregnancy assessment area (PAC) that triages patients to enable patient choice regarding birth and to provide isolation rooms for infection control and space for bariatric women. The PAC is currently grossly inadequate in floor area and patient privacy.

There is currently no public or private facility for paediatric or adolescent mental health patients in the State. Despite the best efforts of staff across a multitude of areas and allocated space (on the ward), the current service is inadequate. The national Mental Health Strategy indicates best care for these patients is in a general public hospital with a separate isolated facility. A new ten bed adolescent ward, incorporating mental health beds that will provide safety, privacy, security and recreation for the patients is required to facilitate this. 3B will be re-assigned to WACS to enable the creation of the new ten bed unit.

The hospital also requires a Short Stay Family Unit to house patients (babies and children) with their parents whom are exceeding the average 4 day stay because they require additional support prior to discharge. The Unit will be shared by all three departments of WACS and will provisionally comprise of 4 single rooms and 2 double rooms. Currently these patients produce 'bed block' on the wards and parents 'miss out' on vital care experience. There is an urgent need to also provide offices for the nursing, medical and allied health teams who support these facilities.

The Paediatric Unit will have some minor upgrade works. There will be no works in the recently upgraded Paediatric clinics, no work in the Neonatal and Paediatric Intensive Care Unit and there is insufficient space at this point to relocate the Gynaecology beds that are currently within the General Surgical Unit. The medium term strategy is to establish a Women's and Children's ward encompassing gynaecology on an expanded 3B by adding two stories on the new portion of B Block.

Alterations had been proposed as an adjunct to the Paediatric Clinic project to improve facilities for Women's Clinics in their current location on the third floor, however in the new context of remaining on site these were not considered adequate or worth the disruption.

WACS had not previously been included in works associated with the Interim SAMP due to the limited resources and the just completed Paediatric Clinics. With the potential to add 3B into the mix it has become possible to achieve some significant improvements.

Discussions are underway to relocate the functions currently on 3B. Some will move to nearby leased promises and others decanted within the hospital, depending on how their function relates to other activities on site.

4.2.3 Medical Imaging

The current Medical Imaging Department at the RHH is unable to meet demand resulting in significant delays in reporting and problems doing diagnostic work and attracting medical staff due to the layout being almost impossible to work in. The proposed redesign will increase ultrasound capacity (general population and maternal foetal medicine), allow for PET scanning, a new Angiography suite currently being installed and increased CT scanning capacity.

The project will significantly improve the time for results to be reported and accuracy of diagnostics, provide more choices for treatment locally and significantly increase revenue capture and the ability to attract high quality medical staff.

Medical Imaging occupies the ground floor of Block H fronting onto Argyle Street. Other than works associated with updating major equipment, most of the floor is not significantly altered from its original construction creating a dysfunctional and inefficient layout. The provision of a new PET/CT scanner has provided impetus for an upgrade across most of the floor to resolve existing problems. The upgrade will address inadequate viewing and write up facilities, shielding and support of an existing CT scanner and patient and staff pathways.

The positron emission tomography (PET) scanner uses radioactive material consumed by the patient who is then scanned to create a three dimensional image of the body. The process provides crucial assistance to clinicians in the early diagnosis of cancers, as well as neurological conditions and cardiovascular disease, enabling the diagnosis of conditions which cannot be detected by other means.

The hospital currently accesses a lower capacity scanner in the Hobart Private Hospital or flies patients to Melbourne at considerable delay, risk and cost. A business plan for purchase of the equipment was prepared for the State Government and the project was publicly announced on 25 August 2009.

The PET scanner will also be used for clinical research through the collaborative partnership recently established between the Menzies Research Institute and the RHH, providing researchers and students access to this highly advanced equipment. The equipment also incorporates a CT scanner which can be used when the PET scanning sessions are finished, replacing an old CT scanner currently being de-commissioned.

Installing the PET scanner and its associated support areas is a major undertaking. It is not only physically sizable with a significant shielding requirement, but it also requires up to 4 medication 'take up' rooms for clients awaiting scanning. The preferred location is adjacent to the existing Nuclear Medicine suite within the Medical Imaging areas as the staff and administrative functions are shared. A remote location would duplicate facilities and make the operation less convenient, especially because of its second role as a CT scanner.

Installation of the PET/CT scanner significantly increases the electrical load in the area, and the radioactive nature of the procedure requires specific shielding requirements with consequential weight considerations.

H Block has a number of problems including:

1. The PET/CT scanner has a very high shielding requirement which may require additional support coming from the basement to carry heavy walls and a structural ceiling above the unit and for a portion of the lower ground (potential combined clinical area). Preliminary layout planning has located the PET/CT scanner and uptake rooms in a corner of the building close to a stair well, duct risers, lift well and corridors to make use of existing shielding mass. This will provide some structural capacity and reduce occupancy of adjacent spaces. As an indication only, the camera room and uptake rooms may require an equivalent of 150mm to 180mm concrete shielding above and below to which the existing slab may only be contributing 50mm in places. Shielding can also be provided by steel or lead. The walls require similar shielding depending on the occupancy of the adjacent space.

2. There are significant inadequacies in the air conditioning capacity serving the ICU and Medical Imaging floors in the area adjoining Block C. Evidenced by the difficultly in providing adequate air flows to isolation wards affecting their functionality and problems in meeting reasonable comfort levels in Medical Imaging.

3. The existing CT scanner (not being de-commissioned) is at the limit of the structural and shielding capacity of the building fabric and can potentially be moved over the former emergency ambulance bay facing Argyle Street. The viability of this proposal will require investigation.

4. It is proposed to move medical records from the lower ground floor of H Block (area to potentially become clinic space) and house them on 3H (once the Eye Clinics are moved), advice will be required on the structural capacity of the existing building and how the files can be stored and located on the floor.

5. Fire suppressant systems are to be installed in the medical records basement, their new location on Level 3, and in the ICU. A gaseous fire extinguishing system is to be installed on the Medical Imaging floor. SEMF have recently completed a detailed report on fire safety on the site and a separate contract is about to be tendered which will address components of that report not dealt with in this package.

Work is currently underway to remove tertiary archived medical records off site from the basement leaving only secondary storage with primary storage committed to digital records. The remaining storage is two floors below the proposed PET/CT suite allowing any structural work that may be needed for support and shielding of the new PET/CT scanner two levels above on the Ground Floor.

At the time the interim SAMP was being developed it was not expected that a second MRI scanner would be required before the proposed new hospital was underway. Provision is now being made to incorporate a second MRI opposite the existing unit. If the Medical Imaging department is to be restricted to its current footprint then it will be necessary to relocate some functions into new areas, a stand alone ultrasound suite being the most likely option. The need for this may be negated by widening the building on both the Medical Imaging and ICU floors towards Argyle Street.

If additional space is required for a 6 cubicle ultrasound suite then a potential location is on the first floor of the adjacent Block D in an area currently occupied by pathology administration and offices. The location is easy for the public to access and central to the hospital for inpatients, the relocation of the pathology offices is still to be developed. .

4.2.4 Critical Care Medicine

The current configuration of the Department of Critical Care Medicine (DCCM) or ICU requires updating to meet the minimum the ACHS standards. The bed spaces are below the size requirement causing cramped working space and infection control risk. The main corridor through ICU is used as the main entrance point for another department providing further infection control risk, impeding privacy and safe patient management. Current space utilisation has at times meant that storage is limited to the point of safety compromise to move rubbish and dirty linen into non-patient areas.

The redevelopment of the ICU is paramount to future capacity and sustainability, at present it is evident that at times theatre and procedures are required to be rescheduled due to both bed capacity and patient flow blocks in ICU.

The redevelopment of the ICU will be based on maximising the space to provide as many multipurpose bed spaces, allowing the maximal utilisation of staff, optimising patient flow through the unit and ensuring that the patient spaces are of the required size to manage patients including class N and Q infectious patients, whilst providing a safe working environment. Other key components of the redevelopment will be to ensure that the technology and staffing requirements are included to safely, effectively and efficiently manage ICU patients.

The ICU operates on the first level of Block Hat the southern end with administrative functions in adjacent Block D. The facility is substantially undersized in relation to the roles and scale of the RHH and the space required around each bed has increased with new equipment and infection control procedures. The existing isolation rooms are also grossly inadequate as are the general support and storage facilities.

The existing facility is currently hampered by a corridor that passes longitudinally through the ICU to provide access to the hospitals Cath Lab housed in the adjacent Hobart Private Hospital. The Cath Lab is to be relocated within the body of the RHH enabling the corridor to be closed. This does not significantly increase the potential number of beds but it does allow for a rational planning layout and for the existing defects to be addressed.

The potential exists to widen the building towards Argyle Street which will provide additional space on both the ICU and Medical Imaging floor below. This additional space will allow for more full standard beds and adequate isolation beds.

Options to relocate the ICU on the site have been investigated but they either involve massive disruption to other key functions, or need to await the construction of a major new building. Time is of the essence to upgrade the ICU facility demonstrated by the extreme pressure placed on the facility during the recent flu pandemic.

The ICU will remain operational during the works necessitating a phased redevelopment starting with the western, Argyle Street side then flipping to the eastern side. Access can also be gained though the adjacent C Block providing an opportunity to undertake early works without encroaching on the functioning ward space.

4.2.5 Central Coordination Unit

The Central Coordination Unit is a new business unit developed by the amalgamation of areas pivotal to the success of patient access and flow through the hospital system. It combines – Admissions, Discharges, Transit lounge, Bed Management, Roster Support, Casual Pool, nursing data and generation of reports and After Hours Clinical Management for all hospital areas. An improvement in team interaction and collaboration is paramount to the improvement in patient flow and increased efficiencies in the combined areas. It is vital that all areas are housed together to allow a cohesive workforce. This in turn, will promote a team approach to solving and coordinating all aspects of the patient journey.

The establishment of the Transit Lounge will be a key component of the Unit and the delivery of the functional intent of maximising patient flow through and bed access. This lounge will allow an increase in available inpatient beds by ~40 (9% occupancy that could be accessed earlier) per day combined with the10 am discharge policy and adherence to EDD & effective use of patient journey boards.

The location and layout of the Central Coordination Unit is still being determined at the time of writing, and linked with analysis of patient and visitor movement through the hospital, particularly the ‘front of house’ facilities. Two separate programs, namely the proposed redesign of the Kitchen with food preparation moving off-site, and the relocation of some administrative functions off site, will create space opportunities on or adjacent to the Liverpool Street entrance on the ground floor. This location will address many problems including people getting lost in the system and queues of people in corridors outside disbursed admissions areas. The location also provided the immediate street access that will significantly improve patient experience and throughput.

4.2.6 Catheter Laboratory

The Catheter Laboratory (Cath Lab) is a diagnostics and procedures facility where a catheter is inserted into an artery to reach the coronary blood vessels and heart. With the use of radio-opaque dyes and instruments inserted through the catheter it is possible to undertake diagnostic and intervention procedures while retaining a view of the procedure through imaging equipment.

The RHH currently has a Cath Lab within the adjacent Hobart Private Hospital accessed through the Intensive Care Unit (ICU). The existing equipment is well past its economic life and is about to be replaced, in addition to which the current location is unsatisfactory. The remoteness from the Emergency Department, theatres and the cardiac ward / coronary care unit limits its application to time-critical diagnoses. In addition, the access through the ICU causes delays, creates infection risks and renders part of that ward unusable as an ICU.

The relocation of the RHH Catheter Laboratory is focused on ensuring safe and improved access. The current Catheter laboratory is in rented accommodation and accessed via the main clinical corridor of ICU – this is unacceptable and requires urgent resolution. Alternative routes have been reviewed but are also costly or inappropriate due to the route required. To ensure improved access both to the unit and to maximise capacity and future utilisation of the catheter laboratory services it is pertinent that the laboratory is relocated onto the main RHH campus – this will reduce the current rent of approximately $11,000 per month for a unit that while workable has less than optimal facilities – the laboratory is small, the scrub bay is across the main corridor and the storage facilities are poor. The focus is on providing an environment to facilitate growing demand, with considered future proofing options including an environment where more advanced procedures can be safely undertaken. Optimal placement of the laboratory includes consideration of acute unwell patient flow from other services and future procedure requirements. Our focus is to install the new scanner into the best environment as soon as possible, once installed it is not advised to relocate the equipment as it interferes with its functionality thus this is a decision for the life of the scanner.

A new and appropriately located Cath Lab will allow for the introduction of emerging clinical practices which will increase the role in emergency, diagnostic and interventional procedures as the technologies and clinical procedures associated with Cath Labs expand. In addition, there will be potential savings through improved work practices, and shared utility and recovery facilities.

The hospital has established that the new facility can be located within the body of the hospital, one location being adjacent to the existing Cardiology ward on level 2 of Block D, two floors below the theatres and adjacent to the lift that runs from the Emergency Department up to the theatres.

Another location under consideration is adjacent to the theatres on Level 4. This involves loosing one theatre which is partially recovered when the third endoscopy room is built as part of the day procedures suite.

The location next to theatres is best practice and will support optimum use of the equipment. It has the advantage of locating what is essentially a theatre procedures room adjacent to like facilities, offering the potential to share admissions, recovery and utility areas, providing emergency back up and reducing patient movement where new clinical practices sequence with or augment procedures occurring within the main theatres.

4.2.7 Central Equipment Store (CES)

The CES is central store and distribution area housing equipment commonly used by a large number of staff e.g. infusion devices, pressure relieving mattresses, or specialised equipment infrequently used such bariatric equipment. Equipment will be issued on request and priority of patient need. Presently, equipment is purchased at unit level, and the equipment is marked as belonging to that particular unit. If a unit needs equipment that they don't own they have to borrow from another unit. Often units do not know what equipment is available within the hospitals. This CES proposes to

change this process to a system where equipment is centrally owned pooled and distributed as needed.

Other benefits will involve determining the base level of equipment, the development of a database, management of consumables, development of a maintenance program and equipment purchase through a Capex process. The benefits also included:

- Maximum appropriate use of equipment
- Reduction in time spent by clinical staff locating required equipment
- Reduced loss of equipment with the development of an accurate tracking system
- Identification of equipment trends and usage through a database to support equipment purchase through Capex
- Rationalisation and standardisation of equipment
- Annual maintenance program of equipment
- Cleaning and repair of equipment
- Reduced costs in consumables.

The location for the CES is still to be determined but the preferred area in on the ground floor of Block D which is adjacent to the bio-medical engineering section which is responsible for maintaining the electronic component of common in much equipment. Satisfactory locations for other functions including Staff Gym are currently being investigated. The redevelopment of the kitchen on this floor is also another opportunity being investigated.

4.2.8 Repatriation Centre

The Repatriation Centre (the Repat) currently provides 42 beds in the Transitional Care Unit and the Geriatric Assessment Unit in addition to the 20 bed Palliative Care Unit. The 42 beds were established in 2005, freeing up a number of acute beds at the RHH by moving geriatric patients out. In addition the Repat houses a range of outreach and clinical primary health functions, a substantial number of non-government organisations (NGOs), the community equipment store and other DHHS functions.

The role of the Repat will need to be significantly expanded in order to meet demand in sub-acute bed and clinical services and to moderate pressure on the RHH. The functional efficiency of services on the site are to be improved by providing supporting diagnostic services. The provision of routine medical imaging and pathology will reduce the transportation of patients back to the RHH site for minor services and support the clinicians operating on site. Clinical services provided from the Repat site will also be improved and expanded which in turn will require the relocation of some unrelated functions to alternative premises.

The Repat will continue to be a centre for primary health services both as a southern administration centre and a clinical and out-reach base for the Hobart area.

To create the required space within the Repat Centre a number of services need to be moved, particularly those services which do not have an operational relationship with the sub-acute and primary health functions. Discussions are well underway with these groups and the individual changes proposed will generally improve their amenity. Some functions including linen folding will be relocated to St Johns Park. The community nurses who provide services to the Kingborough area will be relocated to Kingston and other administrative functions moved to other sites within the urban area.

The Repat accommodates a significant group of NGOs who provide complementary services. That role will remain with only one of the groups being asked to move due to their particular location amongst planned clinical space. Consultation and planning is underway to ensure they are adequately accommodated.

4.3 Enabling Strategies

4.3.1 Minor Works

Provision has been made to undertake a set of high priority minor works to alleviate the most urgent problems that can not be held over until a major upgrade is underway, such as the proposed medium term ward upgrades. Submissions have been sought from across the hospital, assessed by the executive and where approved placed onto a minor works program. Parallel to this the hospital continues to undertake programmed minor works through its recurrent funding.

4.3.2 Decanting

Generating the space required to undertake building works within a campus which is already overcrowded will require decanting of some functions. All decanting moves are developed and undertaken in consultation with the people to be moved. The main areas for early decanting are:

- The Infill building Level 2 which abuts Block C and currently contains the Pain Management Clinic. The area is immediately adjacent to the Cardiology and Cardiothoracic Wards and is instrumental in directly or indirectly accommodating the Cath Lab back within the hospital. It is proposed that Pain Management be relocated to near by leased premises in concert with other clinical functions.
- Level 3 of Block B (3B) currently accommodates clinics and office functions and is space that is needed to provide a new Adolescent Ward. It is proposed that the Diabetes Educators, currently on 7A, move with Pain Management (Level 2 Infill), Neurology (3B) and Cystic Fibrosis (3B) to near by leased premises. Endocrinology currently on 3B can then move to the area vacated by the Diabetes Educators on 7A.
- Human Resources and Finance, both administrative functions, will move to near by leased premises releasing a scattering of spaces from 8A and 9A. This will create the space on the Ground Floor Block C for front of house functions and by minor decanting generate space for smaller groups disrupted by the works.
- The Ground Floor of Block D which currently accommodates the Kitchen, Canteen, Staff Gym, Orderlies and Bio-medical Engineering will see a range of changes as the kitchen is re-configured and space is generated for a central equipment store.
- Creating space within the Repatriation Centre involves moving linen folding to St Johns Park, Adoptions and some Population Health functions to leased premises and community nurses to Kingston.

Other potential moves will be considered in the future as planning and consultation proceeds.

4.3.3 Leasing short term – long term

The early decanting moves to near by leased space, outlined above, are expected to be accommodated in either the MBF building or the Telstra building dependent on lease negotiations, providing approximately 2,000m^2. The space is already available and within half a city block of the RHH.

Additional space will be required for any major works to occur on the site. To appreciate the scale of this demand the Tier 4 Integrated Care Centre is expected to require between 4,000m^2 and 6,000m^2 depending on how it is configured within or adjacent to the hospital. The New Royal Project estimated that the Integrated Care Centre would require 8,770 m^2 based on service planning analysis and allowing for growth beyond 2020.

The area currently occupied by clinics is approximately 3,000m^2. The remaining 1,000m^2 – 3,000m^2 required is for allied health. The existing areas are generally inadequate for what those functions need based on contemporary standards. The total area required can be moderated by the potential to integrate some functions if brought together in a large building. Once vacated many of the clinical spaces can be released back into the general ward and support functions.

In addition to the above, preparing for a major new building will require vacation of Block E and at least part of Block F (clinical building) if not all. The total floor area being 9,263 m^2.

Planning is underway to call for an expression of interest from adjacent property owners and developers to determine if significant volumes of useful space is available within close proximity to the hospital. The potential to create a land bridge between the hospital and the leased space would enhance its functionality.

4.4 Medium Term Strategies

There are a range of initiatives currently being developed to address pressing needs and to prepare for long term redevelopment.

4.4.1 Combined Clinics

Moving towards an Integrated Care Centre and releasing space in ward areas will see a spectrum of clinics brought together. The space required will either be within near-by leased premises or within the hospital requiring the moving of other functions into leased premises. A major review of clinics is about to commence which will be invaluable in determining the functional requirements.

4.4.2 Medical Assessment and Planning Unit (MAPU)

The MAPU will receive new medical patients, principally from the Emergency Department, where an intensive process of assessment and treatment will be undertaken to support their return back home where appropriate or admission into other wards if required. These units are being developed around the world as best practice and are ideally placed within close proximity to or are easily accessed from the Emergency Department. They are much more than wards as they include the capacity to support minor treatments and allied health functions such as physiotherapy. Two locations are being explored. One is adjacent to the Emergency Department (Block J) in the lower ground of Block H and the other is through the absorption of two wards on either level 1 or level 2 of Block B. Ward 2BS is currently being developed to operate as a MAPU unit however the current physical layout is a constraint with limited patient accommodation options and inadequate early treatment facilities. A fully operational MAPU will require space equivalent to all of 2BNorth and 2BSouth.

4.4.3 Ward Enhancements

A program is underway to methodically review the functionality of all the wards and identify improvements than can be made within the space available. This is expected to create a series of works to improve storage, toilets, patient amenity and general ambiance of the wards, in concert with other initiatives that will remove clinics and other functions off the wards.

4.4.4 Education and Simulation Centre

There is a pressing need to expand teaching facilities to enable the RHH to fulfil its role as a major teaching hospital. This includes establishing a simulation centre and tutorial spaces close to the functional areas to facilitate in-service training without disrupting ward functions. Over previous years much of the incidental teaching and library spaces have been absorbed into ward or other functions. These need to be recovered, preferably as an integrated and multi-purpose educational facility. This planning will occur in consultation with UTAS.

4.4.5 Site Services Upgrade

Running parallel to the immediate and medium term upgrades a series of works are being planned which will address infrastructure concerns with fire services, lifts, hydraulics, power supply and plant. A project for upgrading some of the fire systems will be tendered in September 2009 and consultants have been appointed to prepare a strategy and plans to upgrade the power supply to the site. Further works will occur and the investigation and planning proceeds.

4.5 Future Options

4.5.1 Planning Context

The existing RHH is currently approximately 66,000 square metres in total floor area. Planning undertaken as part of developing the New Royal business case in 2008, based on a detail accommodation schedule using contemporary standards of accommodation, established that to provide a modern hospital to current standards would require a floor area in the order of 70,000 to 75,000 square metres just to accommodate the current services (i.e. no expansion of scope or capacity).

To meet the growing demand for healthcare services, by 2015 approximately 85,000 to 90,000 square metres will be required, and an additional 5,000 square metres could be needed 5 to 10 years beyond that if patterns remain unchanged. This reflects the anticipated 40% to 50% growth in demand on our hospitals by 2021. In addition, the delivery of health services is changing both constantly and rapidly, and the redevelopment of the RHH will need to include the flexibility to move with those changes.

The redevelopment of the current site will require the staged demolition of existing buildings to clear space for the construction of new buildings. Planning to date indicates that the most accessible area for significant initial expansion involves demolishing the two smaller buildings on the Collins and Campbell Street corner, namely Block E (Education Building) and Block F (Clinical School Building), currently occupied by various University of Tasmania (UTAS) and RHH functions.

Once an initial and substantial building is constructed there is sufficient space to commence a progressive decanting program that could develop by either progressing northwards up Campbell Street, or Westward towards Block G (Private Hospital) and then along Argyle Street replacing Block H presently accommodating ICU, Neurosurgery IPU, Medical Imaging, clinics and offices.

Other options of providing expanded capacity off-site and reduce the pressure on the RHH campus are being progressed, most notably the Integrated Care Centres at Rosny, Glenorchy and Kingston. These centres are intended to reduce the number of clients needing services in an acute centre by increasing health promotion, locally based care where appropriate and post acute care to support people in their communities. Without these centres the pressure on the major acute site would escalate dramatically. The success of the ICC's will delay expected demand growth but it will also increase the intensity of the service finally required in the acute setting.

Consideration has been given to creating another centre within reasonable proximity to the RHH to supplement its services. The Repatriation Centre already provides an example of this model where sub-acute, geriatric, some clinical and primary health services are being offered away from the RHH site. This centre is to be expanded in capacity as discussed elsewhere. There is an inherent risk of splitting the limited clinical and nursing resource, removing progressively higher risk clients from the core backup systems of emergency, ICU and theatre services, along with increasing funding requirements with a multi-site model. These can be moderated with progressive but considered change that identifies functions best able to operate on a semi-independent basis and ensuring that the support structures and practices are in place.

Other options for moderating demand include using private health resources which is already evident across the Hobart area. The approach is dependent on prevailing funding models rather than physical capacity. Funding reform to date has been concentrated on community based services and is evident in the ICC's discussed above.

The role of rural centres and nursing homes should also be recognised. The most dramatic demand increase projected over the coming years is in sub-acute and geriatric services which is where these services excel. The rural community health centres also play an important part in providing preventative, early intervention and post acute support services.

4.5.2 Existing Buildings

There is potential to expand existing buildings to achieve some additional space, an example being the recently completed infill building on Block D, and the proposed widening of Block H for ICU and Medical Imaging. The analysis summarised below explores these options for each building. In some cased the potential expansion enables important functional changes and capacity increases as summarised below. This approach by itself will not provide sufficient additional space to meet forward demand. The process of extending or widening existing buildings is relatively expensive and disruptive for the quantum of space created.

Building	Existing	Max	Increase	Percentage
Block A	10,405	11,795	1,390	13.36%
Block B	8,224	10,164	1,940	23.59%
Block C	4,667	5,867	1,200	25.71%
Block D	14,357	14,357	0	0.00%
Block E	Expected to be demolished			
Block F	Clinical building may be demolished			
Block G	Leased to Hobart Private Hospital			
Block H	9,264	11,361	2,097	22.64%
Total	**46,917**	**53,588**	**6,627**	**14.12%**

The projects currently being planned will consider extending existing buildings where appropriate, a particular case being the potential widening of Block H towards Argyle Street. Adding slithers of buildings onto existing fabric is an expensive and disruptive operation, however in this case the additional space may be instrumental in providing sufficient width to accommodate contemporary ICU beds in an efficient configuration. On the floor below the additional space may negate the need to move some medical imaging functions to other areas and on the floor above it may provide the opportunity to bring together physiotherapy and other allied health functions into the same area.

The Block F, Clinical School, may offer some space as University of Tasmania (UTAS) and other research functions are relocated to the new Menzies Clinic. Discussions are underway between UTAS and RHH to ascertain the quantum and timing but it is already apparent that the new Menzies Centre is catering for functions coming being relocated from the Sandy Bay campus as well as the Clinical School and very little space will become available. It should be noted that the hospital already has access to significant areas within the building, particularly on the Theatres (Level 4) and Pathology (Level 1) floors. At least half if not all of the Clinical School building is likely to be demolished within the first major step of a full redevelopment as discussed below.

4.5.3 Major New Building

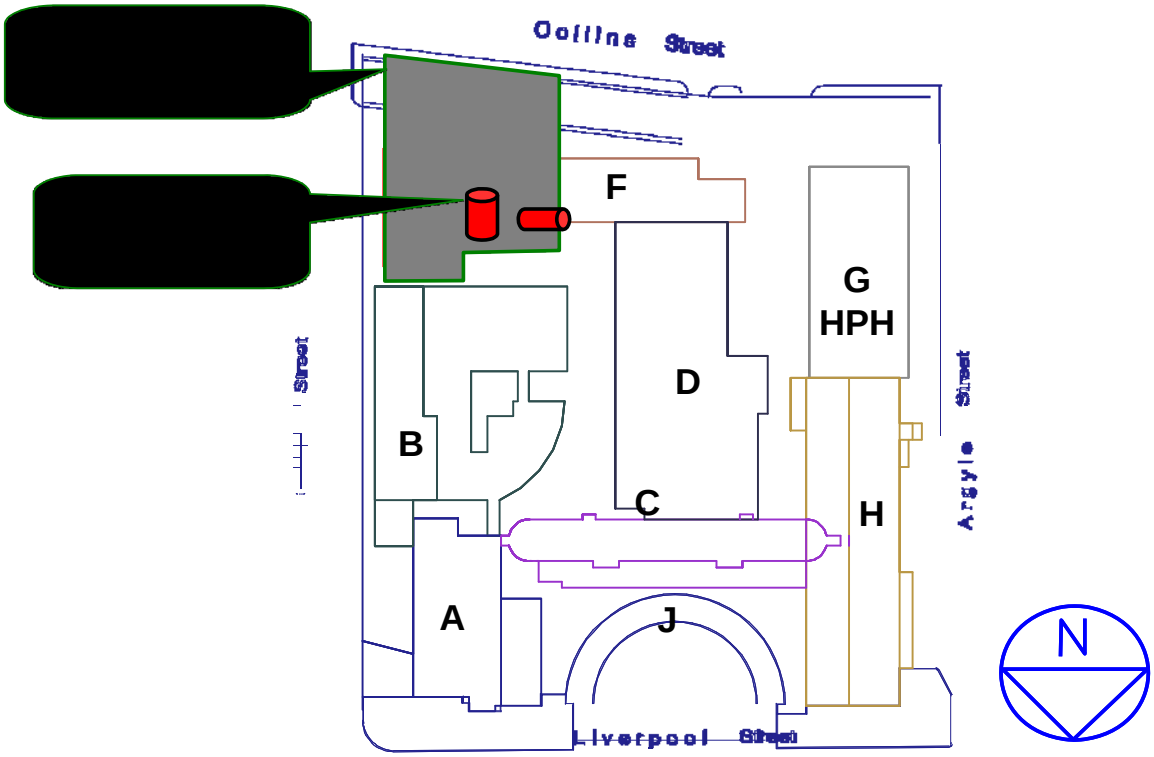
A major redevelopment on the existing campus, beyond the works proposed in this paper, will required an initial sizable building as the first sizable step towards a process of decanting and reconstruction across the site. The South East corner of the campus on the Collins and Campbell Street corner has the buildings with the least floor area and no in-patient services, Block E and Block F (clinical building). Most planners that have considered redevelopment on the site have viewed this south-eastern corner of the site as the area of greatest potential for the first stage of a redevelopment with the minimum disruption to existing functions, in particular in-patient services.

Other options for the initial redevelopment step include Block H which is currently heavily used for medical imaging, neurosurgery and ICU, and the original Block C which is heritage listed and would always have to function as a corridor if redeveloped thus offering limited opportunity.

Block B was recently redeveloped well short of its potential contribution due to the retention of the old nurse's home. Its current configuration on level 3 and 4 considerably constrains circulation and functional options and there is no capacity to extend it above those levels. The expansion or replacement of this building is also a potential development pathway for future consideration.

In the indicative scheme shown, part of Block F (clinical school) is retained as it contains critical overflow space from Block D including theatre support areas and pathology. It has also not been established that UTAS is able to completely vacate the building into the Menzies Clinics.

Figure 13: Potential site for major construction works



A characteristic of the existing campus is the prevailing floor to floor height of average 3.6 metres as determined by the original Block C building. This height limits the ceiling space available for services such as plumbing and air conditioning and can make it very difficult to install major new equipment such as medical imaging units requiring considerable ingenuity and often constraining the location of major equipment to align between structural elements.

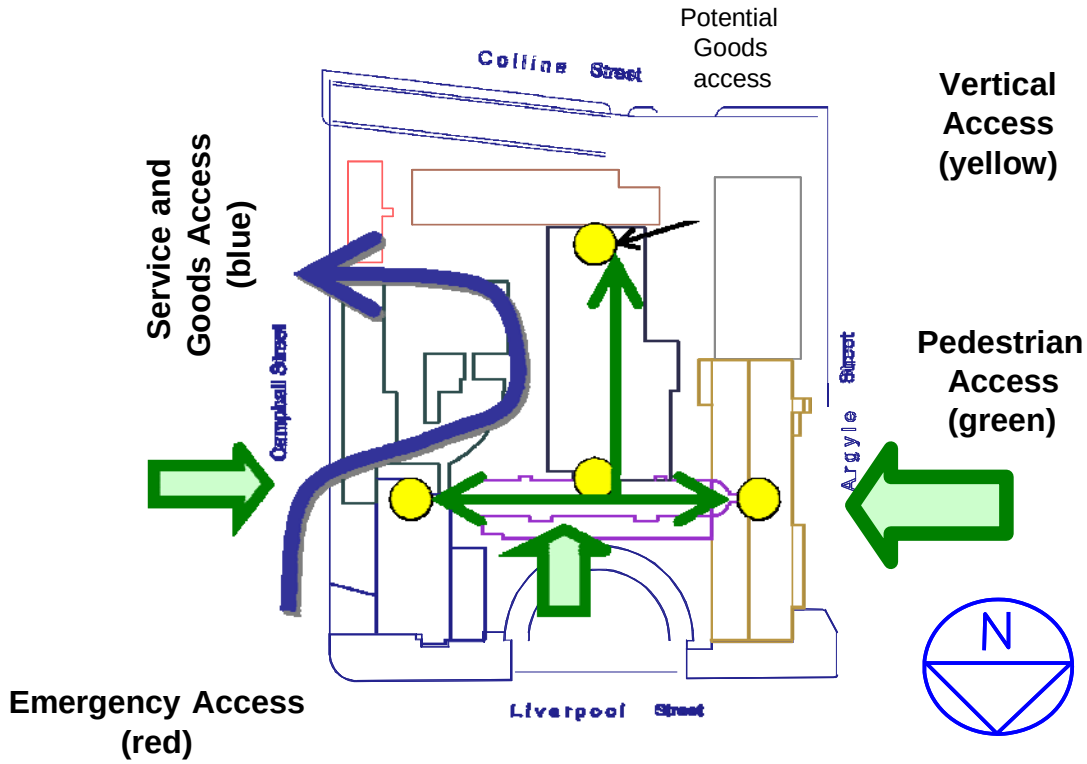
Analysis is still to be done on the practicality of constructing new buildings with more contemporary floor to floor heights such as 4.5 metres when they are going to have to link in with existing fabric as the campus is progressively upgraded. Block G, the Hobart Private Hospital, is an example of increased floor to floor heights adjacent to an older building and as a result the floors only align on the first and fourth floors considerably constraining circulation and functional spread between adjacent buildings.

If funding is only forthcoming in modest packages the it will be necessary to maintain circulation and the spread of functions across new and old buildings. In that context it may be necessary to retain the lower floor to floor heights up to level 3, but increase above. The lower levels will require more vertical shafts to compensate for the constrained horizontal areas for services. A major rolling funding commitment will provide greater opportunity to correct the lower floor levels without creating circulation difficulties for significant periods of time.

4.5.4 Circulation patterns existing and proposed

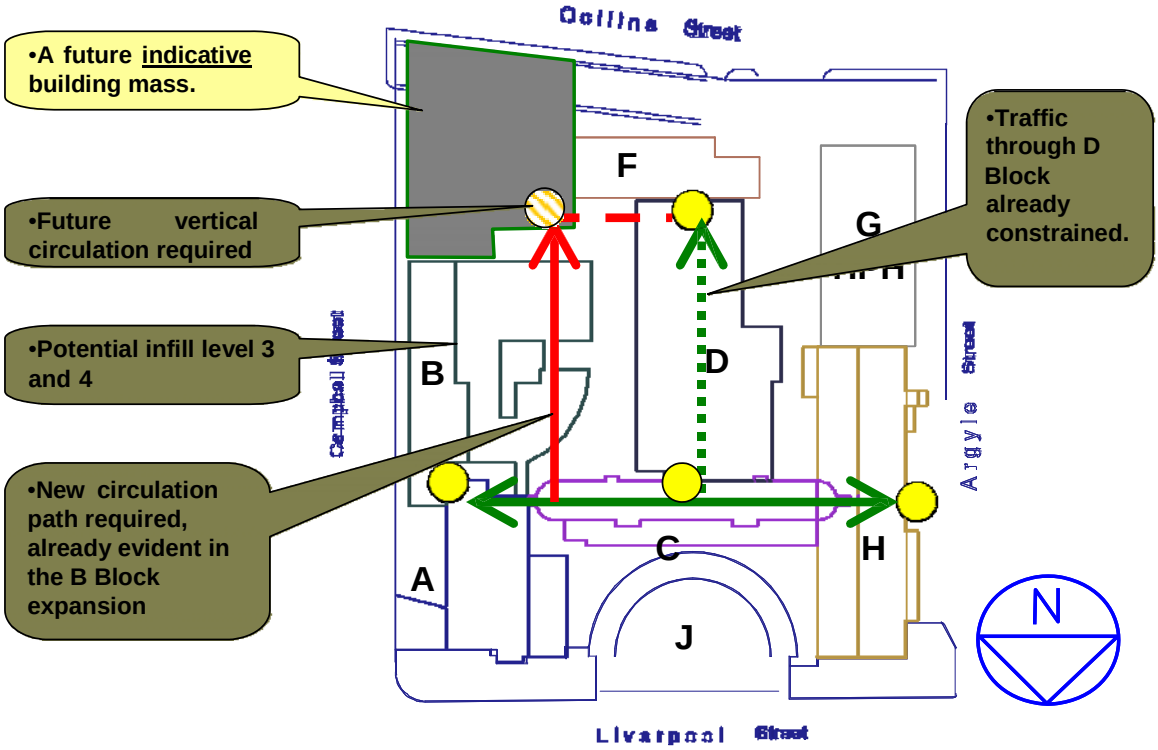
The circulation within the existing building is a major determinant of future expansion options. Pedestrian circulation is based around the east – west corridor running through Block C, and the three vertical lift banks in Block H, Block C and Block A. The corridor though Block D heading south is kinked and not available on some floors such as Theatre Level 4.

Figure 14: Pedestrian circulation and main lifts



Introducing a major new building on the Collins and Campbell Street corner requires an effective circulation link back to the main East West corridor travelling though Block C. The recent upgrade of Block B provides an indication of how that link can be developed as indicated in the diagram below.

Figure 15: Site plan indication potential link to a major new building on corner of Collins and Campbell Streets.



4.5.5 Functional patterns existing and proposed

Based on the redevelopment commencing with a major new building on the Collins and Campbell Street corner and then progressing in a clockwise or anti-clockwise direction, the general functional layout that will provide a contemporary hospital within the realities of the existing site include the following:

- The main East West circulation remains through Block C with significant vertical elements at either end and in the middle as currently exist.
- The D Block is unique in its relative width and direct connection to the East – West circulation supporting its use for core services including theatres on level 4. The building can only accommodate moderate North – South circulation without reducing its functionality.
- Pedestrian access is predominately from the Argyle or Hobart City side coming in through the Argyle and Liverpool Street entrances. The increasing number of car parks in the vicinity are not likely to significantly change that pattern although there will be opportunities to establish land bridges on the Argyle and Collins street sides. These patterns pre-dispose the city side of the campus to ambulatory care functions such as clinics.
- New bed spaces are most likely to become available along the Campbell Street side of the campus with the new building on the corner or the widening of Bock B on levels 3 and 4.
- Level 4 already functions as the major intervention suit with Theatres on Block D and Day Procedures in Block A. This horizontal pattern suits the future expansion and ongoing flexibility of the function and would be enhanced if level 4 of an expanded Block B was also dedicated to theatres with a connection to Block D at both the North and South end.
- Level 3 already has a significant component of Womans and Childrens services which would be enhanced if Level 3 of Block B was expanded to accommodate a Womans and Childrens ward expanding on the proposed adolescent ward on the existing 3B.

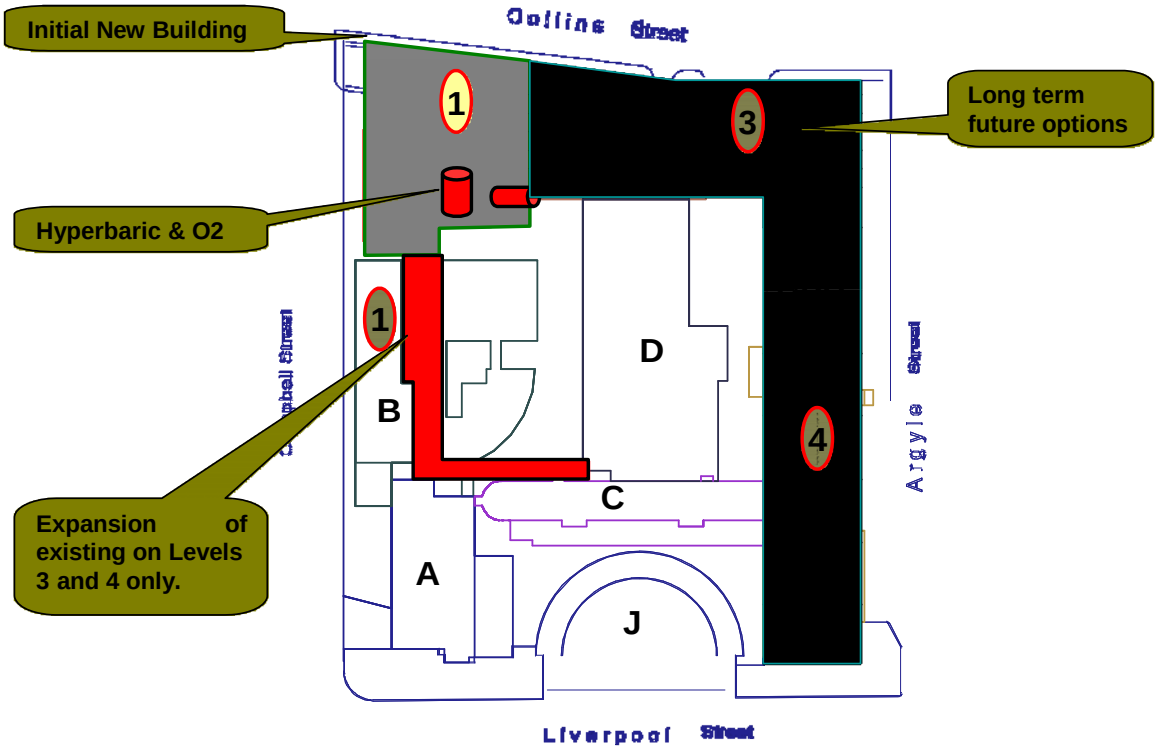
4.5.6 Development Program

The redevelopment of the hospital on the existing site needs to occur at a reasonable pace otherwise the escalating demand consumes any ability to decant functions while new areas are being redeveloped. The objective in this paper is to demonstrate that it is possible to redevelop on the site while it remains fully operational. It is not intended to infer that this is the only development pathway.

The sequence in summary involves:

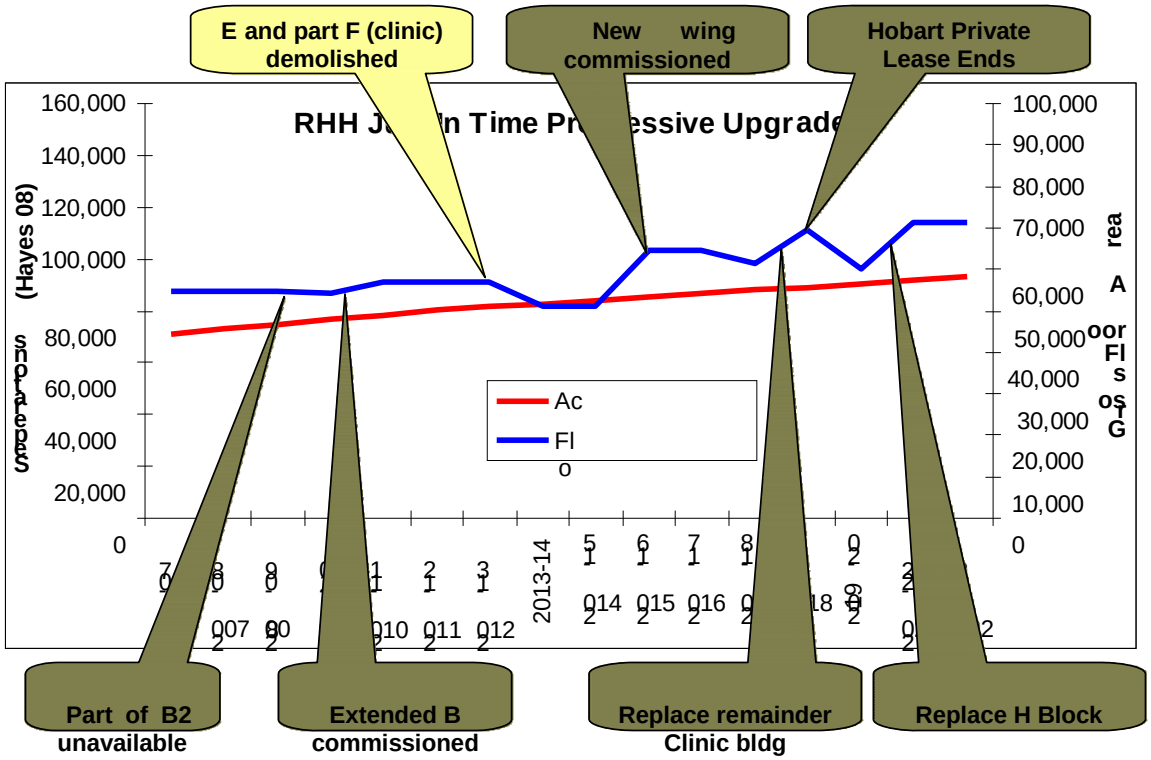
1. Widening of Block B on levels 3 and 4 including a new corridor system.
2. Construction of the new building on the Collins and Campbell Street corner
3. Redevelopment of the remainder of the Collins Street frontage
4. Redevelopment of Block H along Argyle Street

Figure 16: Site plan indicating major redevelopment option



The table below shows the total space requirements based on the Hartz Associated demand projections compared to existing floor area.

Figure 17: Total space required through to 2022-23



5 Resource Management

5.1 Budget and Expenditure

5.1.1 Funding Sources

Source of Funds		($,000)
Tasmanian Government		$100,000
Australian Government – Pet Scanner and works		$3,500
Total project funding		$103,500

5.1.2 Project Budget Overview

Below is a provisional budget for the $100 million over five years, announced in May 2009, intended to keep the current RHH site up to standard and provide improved operational efficiency and functionality.

The costings and cash flows are at this stage indicative only, awaiting cost estimates from the various component projects. The provisional budget has no endorsement at this stage.

A further $25M is expected to be allocated in 2013-14 completing the government's commitment for $100M over five years.

The table below shows an incongruity between the Government budget annual commitments and the projected expenditure which will be resolved as detail costings are available for the major elements of the program. The budget provisions within the Interim SAMP were derived from quantity surveyor advice but the scope and intensity of the projects has varied significantly since the earlier document was prepared. With consultants recently appointed for the four larger projects more precise costings will become available shortly enabling the budget to be refined.

Royal Hobart Hospital Redevelopment Provisional Budget ($'000)

	2009-10	2010-11	2011-12	2012-13	2013-14
Leasing and Decanting	1,200	1,000	2,000	2,000	6,200
Project Management	1,000	1,000	1,000	1,000	4,000
Day Procedures and Recovery	500	6,000	2,500		9,000
Womans and Childrens	500	3,000	1,500		5,000
I.C.U.	500	5,000	1,500		7,000
Medical Imaging	1,000	4,000	1,000		6,000
Cath Lab & Cardiology	1,500	500	500		2,500
Central Equipment	50	500	650		1,200
Coordination & Admissions	50	1,000	1,050		2,100
Clinics		1,000	2,500	1,200	4,700
MAPU		500	2,000		2,500
Dialysis, Oncology, Linac			2,000	2,000	4,500
Education		1,000	1,200		2,200
Minor Works	500	1,000	1,500	2,000	5,000
Ward Upgrades	500	500	3,000	6,000	10,000
Sub Acute and Repat	500	1,000	1,500	1,000	4,000
Information Technology		500	2,000	2,500	5,000
Power Supply	800	1,200	500	1,000	3,500
Lifts Upgrade	50	500	1,150	2,000	3,700
Fire Upgrade	1,500	500	500	500	3,100
Kitchen, Loading Dock & Stores	1,600	500	1,000	1,400	4,500
Reticulated Services		100	1,000		1,100
Environmental Services		200	1,000	2,000	3,200
Total	**11,750**	**30,600**	**32,550**	**25,100**	**100,000**
2009-10 Budget Provisions	11,000	17,500	20,500	26,000	75,000

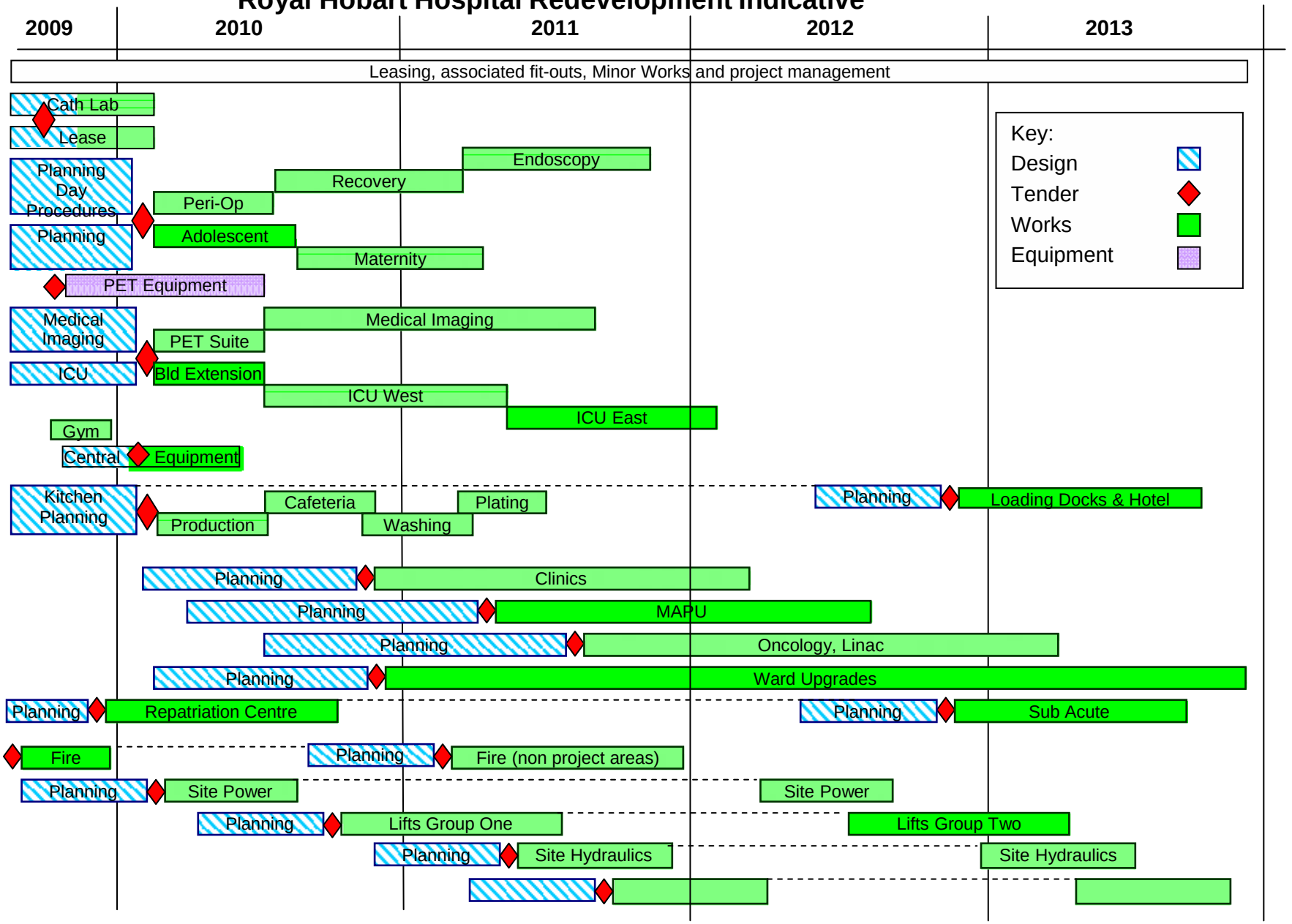
6 Program

6.1.1 Program Outline.

The program depicted below is a provisional indication of how the component projects are staged and a general indication of interdependencies.

Figure 18: Indicative Program

Royal Hobart Hospital Redevelopment Indicative



Planning Plant