
**JERSEY FUTURE HOSPITAL
CO004 – SITE OPTION REPORT**

**APPENDIX 9 States of Jersey
Relevant Activity Data**

QUALITY ASSURANCE

Sign off: Nigel Aubrey

Position: Director

STATES OF JERSEY

FUTURE HOSPITAL PROJECT

CHANGE REQUEST NR. 4 – STATES OF JERSEY RELEVANT ACTIVITY DATA

Target Functional Area Assessments were developed to support the process of appraising site options.

The results of this review of all available activity and service data led to the development of an initial area requirement. This was appraised against the Acute Services Strategy, the Key Decisions Matrix developed with Clinical Leadership of the Hospital and the service level clinical engagement and operational briefing work undertaken thus far.

The proposed accommodation was then devised on a room by room basis in line with the Acute Services Strategy, which incorporates an Ambulatory Care Centre, Women's and Children's Centre, Unscheduled Care area with integrated diagnostics, results waiting and emergency acute diagnostic ward, Pathology, Pharmacy and Integrated In-patients. Many of the principles in the Acute Services Strategy are based on evidence based best practice, which in many case supersedes the UK department of Health Guidance, so whilst this guidance was noted, it was not the sole basis of input to the finalised Area Schedules.

The Area Schedule is based upon a number of operational clinical assumptions which link accommodation and workforce. All areas have been conceptualised in a way that meets the Acute Services Strategy, Key Decisions Matrix and briefing work, and then have been developed further using best practice, UK guidance and experience. All of this information will need review and validating with the clinical User Groups during further stages of clinical user engagement.

The subsequent output of the HSSD finance team modelling and that of Project's Financial Advisor have concluded almost identical results to the rudimentary modelling the Lead Advisor's Medical Planners had undertaken as the basis of the functional area assessment. Hence the area assessment holds firm and is validated from three independent sources.

In broad terms the modelling from the three sources concluded the need for circa 7 operating theatres and a total bed stock of 272 beds. The functional area assessment took a risk adverse view given the level of development and understanding, and has included for 8 operating theatres and a total of 277 beds as the bed stock was reflected in generic ward templates of 32 beds and specific bed requirements for areas such as paediatrics and private patients.

The output of the modelling for the outpatient / ambulatory care areas undertaken by the Client Department and the Project's Financial Advisor does not yet provide a consistent position related to required accommodation for this area and so further capacity analysis on a department by department level will be needed. The FAE incorporates the rudimentary modelling which maps generic "standard" accommodation against clinical services, demand, clinical consulting times and patient pathways. This was further developed with service specific accommodation (rooms which are specific to service or have specific equipment requirements) in order to develop the proposed quantum of accommodation.

Appendix 9 - Demand and Capacity Analysis

Introduction

The demand and capacity work undertaken by EY has used HSSD Trakcare data to ensure consistency of modelled inputs with previous modelling by the Future Hospital Project Team. Working with the HSSD Future Hospital Project Team, EY outputs support broad conclusions about

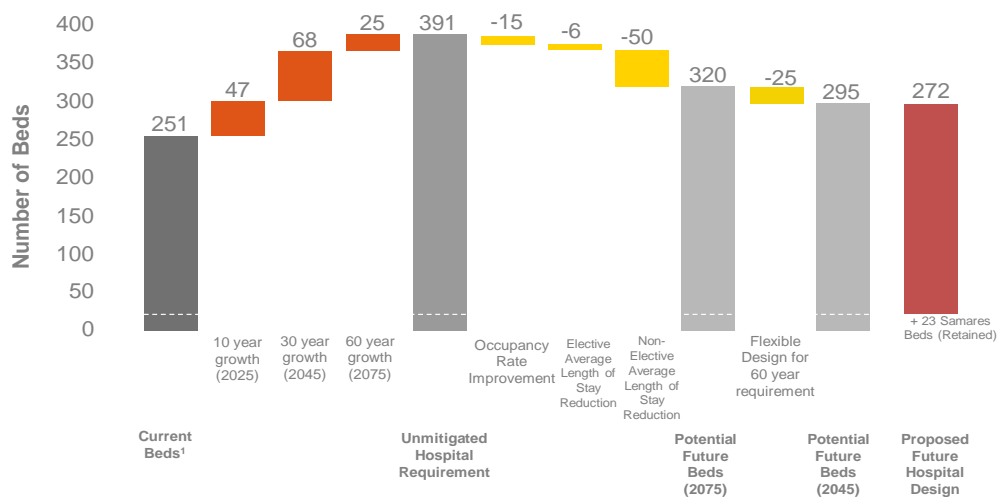
1. The number of in-patient beds
2. The number of operating theatre sessions
3. The outpatient clinic capacity needed

1. In-Patient Beds

Summary Beds Analysis

National Benchmarking – Total Beds Saving Opportunity

Median Benchmarks²



¹Excludes SCBU Cots ²Critical Care not possible to benchmark

Based on Ernst and Young Bed Activity Analysis



Unmitigated growth in demand for in-patient beds over a 10, 30 and 60 year time horizon would create the need for a Future Hospital consisting of 391 beds, including the existing 23 rehabilitation beds on Samares Ward at the Westmount Centre. This outcome broadly aligns with conclusions presented in the Strategic Outline Case. The EY demand and capacity analysis identifies a number of opportunities to reduce the number of beds required if:

- Out of hospital services are developed to support the necessary admission avoidance, admission prevention and supported discharge strategies
- The clinical services within the General Hospital operate at median performance against national NHS benchmarks

Opportunities to reduce the number of beds required in the Future Hospital relate to reductions in:

- Bed occupancy – this opportunity would account for c. 15 beds reduction.
- Elective length of stay – this would account for c. 6 beds reduction. The relatively modest size of this opportunity is an indication of the current efficiency of the General Hospital in-patient surgical processes.
- Non-elective length of stay – this would account for c. 50 beds reduction.

EY demand and capacity employed techniques to benchmark Jersey General Hospital performance against national median General Hospital performance. It does not indicate which performance improvement strategies could best be applied to the Jersey health and social care to realise the opportunities to achieve the target efficiencies. The chosen strategies determined by HSSD clinical and service leads would need to be specific to the type of patient. For example the introduction of an ambulatory emergency care model in the way described in the Acute Service Strategy would significantly improve both bed occupancy and non-elective length of stay. Similarly the more widespread application of enhanced recovery pathways across all surgical specialities would contribute to reducing length of stay in elective beds.

Disaggregating the bed base in the EY analysis recognises that that different types of beds in both the current and Future Hospital beds operate safely and efficiently at differing occupancy rates. While many beds are interchangeable in use *in capacity terms* (e.g. subject to the appropriate governance and operational management general medical and surgical beds can flex between clinical use) some beds are not e.g. maternity beds, paediatric beds and critical care beds are designed for a sole purpose. Accordingly the analysis employs a modelling assumption of different occupancy rates as follows:

Adult Surgical Ward and Medical Ward Beds	85%
Maternity Ward Beds	65%
Paediatric Ward Beds	65%
Critical Care Beds	80%

The respective bed bases for Adult Surgical and Medical Ward (Female and Male beds), Maternity, Paediatrics and Critical Care respectively were calculated and then aggregated to provide a total bed number.

The analysis also recognises that patients over 80 years of age have a disproportionately greater impact on bed capacity than younger patients. Increasing frailty and co-morbidity in this group offsets to a significant degree the efficiencies in bed occupancy that are more easily realised in the younger age groups.

The EY subset analysis takes account of all these factors in its modelling and conclusions on in-patient bed numbers.

The EY analysis recognises that the further capacity is modelled into the future, the less certain the outputs of that model would be. The future of medical technology, medical techniques and the impact of health promotion and illness prevention strategies is increasingly challenging to predict beyond 5-10 years. The modelling, therefore, suggests this relative uncertainty about the future

beyond 30 years is best managed by a process of flexible design. This recognises that the Future Hospital *may* need additional beds at some point beyond 2045 but that the need for such beds is better assessed nearer that date and the design brief 'future proofed' accordingly.

The impact of the mitigating actions on occupancy rates, elective and non-elective length of stay plus design flexibility, therefore, creates the case for a new build Future Hospital of 272 beds plus the 23 existing beds on Samares Ward.

2. Operating theatre sessions

The EY demand and capacity analysis relating to operating theatres models two scenarios

1. 3.5 hour Operating Sessions (typical of current Jersey General Hospital operating theatre practice)
2. 4.0 Hour operating sessions (typical of a NHS comparator General Hospital peer group)

For both in-patient and day case theatres when compared against median performance there is a potential reduction in the need for modelled theatre capacity. These opportunities are particularly apparent in high volume operating theatre specialties such as general surgery, trauma and orthopaedics and gynaecology.

As with the in-patients bed modelling, the EY analysis recognises that some operating theatres provide opportunities for more flexible use while others less so. The analysis, therefore, disaggregates maternity theatre activity and emergency theatre activity. Both these operating theatres need to be immediately available should the need arise for emergency caesarean section or major trauma. This does not mean that such assets lie idle when not in use but it does lead to lower utilisation than if this risk was not discounted. It is important to note that *all* NHS General Hospitals would provide such maternity and emergency theatre capability in this way.

3. Outpatient Clinic Capacity

Outpatients are of two kinds. 'New' patients (whose consultation is longer, to enable a detailed examination to establish a diagnosis and set a treatment plan) and 'Follow Up' patients (whose consultation is relatively shorter to allow progress against the treatment to be monitored). Most clinics have a mixture of new and follow up appointments. The EY analysis modelled two scenarios, both taking account of "booking rules" (how patients are booked into clinics based on clinic templates, ie how many patients are seen per clinic) and "new to follow up ratios" (to consider the efficiency of the complete outpatient pathway from referral to discharge back to the care of the General Practitioner).

The modelling took account of two scenarios

- a) Outpatient clinic *template* against best practice benchmark
- b) Outpatient clinic *activity* against median benchmark

Clinic templates indicate how many patients could be seen in an outpatient clinic if all the clinic slots were used i.e. it represents the maximum possible capacity. Clinic activity indicates the number of patients who were actually seen in an outpatient clinic. The difference between these two modelled outputs represents operational contingency (few complex systems operate efficiently at 100% utilisation) and potential efficiencies where operational contingency is too generous (e.g. where clinics are underutilised in relation to the staffing and other resources needed to support them)

The EY modelling considered a sample of three clinical specialty activities in more detail:

- Cardiology – illustrative of medical patient outpatient clinic
- Ear Nose and Throat – illustrative of a surgical patients outpatient clinic
- Gynaecology – illustrative of a speciality that has both surgical and medical components in its outpatient clinic

The modelling overall and the clinical specialty subset analysis indicated both potential for improvement on current outpatient performance and the outpatient clinic capacity needed in the Future Hospital

Conclusion

It is important to note that the demand and capacity analysis undertaken by EY presents a conclusion about the required in-patient beds, operating theatres and outpatient's capacity *at a particular point in time* (April 2015). The experience of the Project Team working with activity data at increasingly more fine grain detail has indicated at each phase of the analysis further opportunities are identified to improve the efficiency of the Future Hospital. The analysis for example offers both an opportunity to understand present day possibilities for more efficient use of existing capacity and to explore at specialty level where opportunities exist in the future for improved performance and efficiency at a point between median and upper quartiles against benchmarked peer group General Hospitals. Further analysis in the period up to Outline Business Case will realise these opportunities where possible to do so in an Island context to ensure continued improvements in the affordability of the Future Hospital whilst maintaining safety and sustainability.