

## Integrated Services – Facilitating Higher Standards of Care

**Author:** Stewart Hayes  
Principal Consultant  
Jakeman Business Solutions



+61 423 654 080  
[stewart.hayes@jakeman.com.au](mailto:stewart.hayes@jakeman.com.au)

---

It is clear that the Healthcare sector is evolving to meet an increasing demand for services in a changing population demographic. The way these services are delivered and the healthcare environment (the Hospitals) must make more effective use of resources to complement and support this evolution. This has led to the development of integrated technologies designed to support all aspects of a patient episode and improve the quality of service provided.

Alongside this however is the more pressing issue of how these services may be provided. Clearly the technology is evolving at tremendous rate, placing added pressure on organisations to understand and maintain the current infrastructure let alone be able to establish a strategy that will take them forward into the foreseeable future. This paper seeks to address the key questions of:

- What is the future healthcare environment going to look like;
- How will the technology infrastructure meet this demand;
- How can this infrastructure be provided and serviced.

The provision of healthcare services is in a constant state of flux; accommodating changing political boundaries, models of healthcare and age demographics. The one constant is the need to improve services and to manage costs. This can only be achieved through higher levels of integration across the healthcare operational infrastructure. And this can only be achieved if there is a strategic vision.

### ISSUES FACING HOSPITALS

The modern healthcare service is required to meet growing expectations for an efficient, safe and secure patient experience. That is, the patient experience must be managed from admission through to discharge with increasing demand on core services to manage potential risks, reduce the potential for error and to provide the patient with 'hotel' style services. This raises a number of challenges facing existing and new hospitals and how they design and develop their infrastructure support services.

## **Aging Infrastructure**

Both in terms of buildings and technical infrastructure, many hospitals are aged, and a quick make-over is provided in order to get more comfort, efficiency and security. This has resulted in 'silo' solutions which have been unsustainable. The networking capability of electronic systems, information management and process management technology, will all bring great changes and improvements to the hospitals' building management and security technologies as well as improved patient experience. Clearly this aspect has presented problems in trying to maintain an integrated infrastructure when the procurement cycle only allows for isolated improvements.

## **Increasing Demand**

As society's expectations evolve, the hospitals' face an ever increasing demand to provide services that are more holistic – that is moving from a purely clinical environment to one more akin to a hotel. Patients are expecting more efficient services, flexibility in choice (of accommodation, meals, ambient environment etc.) and overall levels of care. Government and Local Authorities require more detailed information on the effectiveness of the 'healthcare dollar' and Regulators are establishing tighter controls on how services are delivered – both clinical and operational.

## **Changing Demographic**

The population is now remaining healthier for longer which has resulted in a greater demand for age care services and associated age related diseases and illnesses. This generally requires longer term care with a greater need for monitoring and tracking of patients, their location and status. As a result a more 'homely' environment is required with the ability for family to come and go as necessary over an extended time into what is ostensibly, a secure area.

## **Complex Technology**

Technology is evolving at a tremendous rate driven by increasing competition and the need to get new innovations into the public arena. This can easily distract an organisation into implementing a solution that meets an immediate need but does not have a future integration capability. Having a long term aim will help to make the selection of appropriate solutions more effective ensuring they are able to comply with overall strategic objectives and support the hospital's operational environment both in the short and longer term.

## **Budgetary Constraints**

It is an accepted fact of life in Healthcare that there will always be budgetary constraints. Recognising this, it is clear that an effective strategy must be defined and maintained with procurement decisions based on agreed service expectations and defined outcomes.

## Customer Expectations

There are numerous customers in the healthcare environment, all of whom have differing if not conflicting expectations.

- Patients want a clean comfortable environment with little distractions within which they can recover;
- Clinicians require an efficient and safe environment within which they can provide medical services quickly and effectively;
- Visitors would like to have access to family members in care easily and with least fuss.

## RESPONDING TO THE ISSUES

These trends have a serious impact on hospitals and clinics. For instance:

- There is an increased demand for cooperation, concentration and specialisation between establishments;
- Funding models may be introduced to ensure all institutions receive the same fixed fee to perform a pre-defined level of care or service;
- Hospitals are being challenged more readily and must be in a position to prove the efficacy of their conduct and methods

There has been a growing emphasis on the need for an organisation to demonstrate that they are safe, secure and effective. This has been driven by the outbreak in violent incidents, the growing public awareness of computer crime and a greater threat to personal safety. As a result organisations are now being compelled to comply with industry regulation aimed at minimising the risk of an event escalating to a crisis and ensuring the safety of staff and patients. They are being required to demonstrate compliance with standards – many of which are generic and defined as ‘good practice’.

Compliance however means demonstrating that the hospital is following good risk management practices in all disciplines – facilities, health and safety, information technology and personnel protection. Failure in any one of these areas could impact upon the continued successful operation of the business and associated implications for directors.

Clearly there is a move towards a single and co-ordinated operational infrastructure covering all aspects of security, facilities and patient management. This is not just as a result of drivers arising from greater demands for compliance and governance but a range of other issues as well. These include patient care, better safety management and more effective response to incidents and ultimately cost savings. To bring about such changes will require a radical shift of thinking in terms of the security and facility manager’s role from protecting the operational environment to enabling new activities and business opportunities.

## **Building Automation**

Building technology should ensure comfort and security for patients and staff and should give rational operation conditions as well as high energy efficiency for the institution. Thus, modern building and security technology plays an important role in the hospital and clinical operation and must adapt to ongoing changes and new challenges.

Hospital and clinic executives now face the difficult task of prevailing in this ever increasingly competitive environment. The trick is to obtain the best possible treatment (patient satisfaction) in a sensible organisation (staff satisfaction) by means of reasonable expenses (financial management) at the highest levels of security and reliability (quality).

Such an increasingly competitive environment requires some radical rethinking of the hospital business.

### ***Core business activities***

A considerable part of the costs involved in running a hospital covers non-clinical business expenses, such as building and security technology, cleaning service, room management, hotel operation and other services.

### ***Responsive to change***

Adaptation to the new healthcare market conditions through a change from the earlier method of cost calculation down to the smallest detail to an overall, process-oriented business operation with budgetary plans. This method calls for the inclusion of possible in and outsourcing plans. For the end-user (the patient), it is not important who the supplier of the associated service is, only that the service is available on time when needed and to a satisfactory standard.

### ***Cost management***

Apart from assuring a high standard of medical care as well as an effective healing environment, modern hospital management are driven to reduce operating costs and improve service levels. Many old buildings and outdated technical installations require significant in-depth reviews and investment; such investments should be based on careful strategy and risk analysis to have lasting benefits.

## **Integration**

Undoubtedly it is necessary to make better use of the systems and technology now available to improve the way hospitals are run and patient care is provided. Information on patients, clinicians, hospital services, building services and security systems is held in numerous sources each of which require maintenance and each of which can have a serious outcome if found to be inconsistent. For example:

- Patients being admitted incorrectly;
- Incorrect treatment being provided;

- Service being incorrectly billed;
- Inability to access critical services when required.

Through detailed analysis of the key business processes and understanding the risks facing those processes areas of efficiency can be identified. Careful and trusted integration between the operational systems will then enable improvement on these processes.

Understanding the relationships between the numerous systems used to manage a hospital facility as shown in Figure 1 will help provide a sound basis for establishing an integrated operational infrastructure.

For example using the security identity tag for patients as well as staff members details of their treatment history, medication and procedure bookings can be securely retrieved from the Clinical

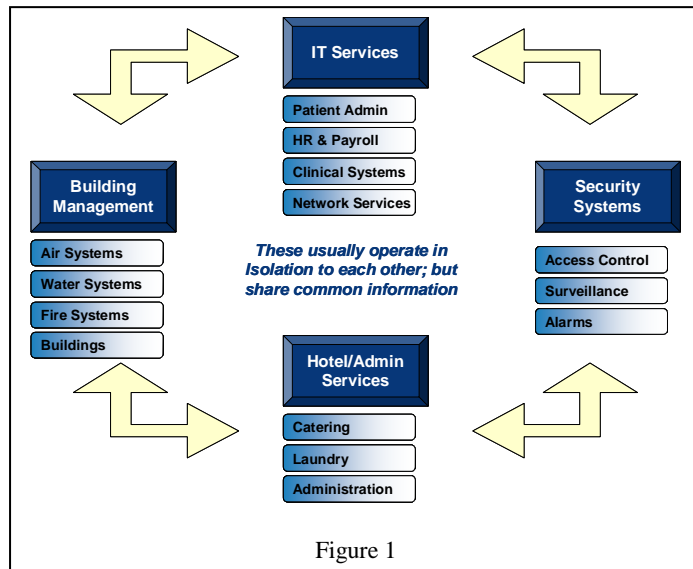


Figure 1

System and costs can be more readily and accurately accrued on the Administration System. Medication details can be checked automatically and captured at the bedside as it is administered. Patients as well as staff members can use the identity tag to make purchases reducing the need to handle cash.

Such level of integration does require careful planning and selection of infrastructure systems that will support the strategy and vision for the Hospital. It also requires the system vendor to understand and share that vision and provide the support and maintenance necessary to make the vision a reality.

## SERVICE PROVISION

Infrastructure costs now form a key part of the overall operational costs for a Hospital. This, along with the increasing complexity of the systems and the competition in the market places a lot of pressure on the purchasing authority. When embarking on such a programme of infrastructure reform detailed questions need to be asked:

- Does the Hospital have a clear understanding of their internal processes and cohesive strategic vision of how it wishes to operate;
- Does it have the necessary skills to be able to articulate this need and select systems that are appropriate and will support the vision;
- Are the internal skills available to manage the infrastructure and ensure it is fully operational;

- Is a budget identified both for the initial implementation and the ongoing maintenance and technology refresh phases.

### Internal Ownership

The traditional route of identifying a capital budget that can be used to either purchase a new system, or indeed to prop up a flaky one, has not proved viable. Rather than wholesale replacement findings show that upgrades are done on a piecemeal basis either pressured by the complete and catastrophic failure of an individual system or the availability of ‘end of year’ funds that must be spent.

The upshot of this approach is an infrastructure comprising ad hoc systems that may or may not operate together and become increasingly expensive to maintain. As a result significant pressure is placed on operational staff in engineering and security to provide a basic service let alone a service that is efficient and meets the needs of the hospital going forward. Further the problem does not go away, rather it will keep on re-occurring as the systems become outdated or fail again.

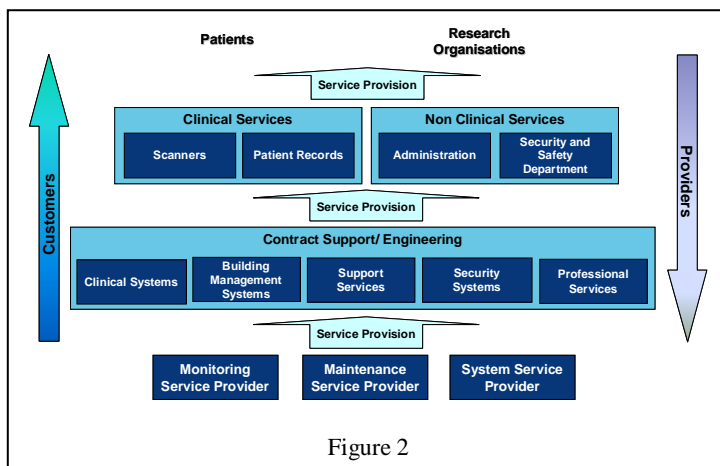
### Outsourcing

Alternatively there is a growing acceptance of taking an outsourcing approach; that is identifying those services that may be run more effectively by a specialist third party. A customer-provider model as shown in Figure 2 clearly puts the onus on the experts to provide a service to the users. This approach has some key benefits in terms of:

- Having access to specialist technical expertise to ensure the systems continue to provide the required service;
- Having clearly measurable KPIs;
- Having a fixed budget to cover the provision of the services;
- Having a system that can be developed and refreshed as technology improves.

Alongside this however there are a number of risks that must be addressed.

- Is the provider in it for the long haul or will they be content just to sell the system and walk away at the first sign of trouble;
- What are the legal and clinical ramifications of failure of the third party to deliver the service;



- Are the patients' confidentiality rights protected by the third party as they would be by the Hospital.

Such an approach would clearly relieve some of the pressure from the Hospital's engineering staff and enable them to concentrate on the regulatory issues. It does however mean that they must become more adept at defining their strategy, articulating the systems and integration requirements and ensuring the contractual agreements are sound.

## **SUMMARY**

The traditional approach to purchasing and maintaining critical hospital infrastructure systems is becoming less viable. Budget for capital purchases on non-clinical equipment is invariably cut or reduced considerably. Alongside this engineering, security and other infrastructure services and under constant pressure to reduce operating budgets and cut maintenance costs. Clearly this is not a sustainable position and systems will eventually fail with little understanding of the consequence.

Alternative approaches must be found that can satisfy the hospital's (patients and staff) need for effective and efficient services, the Executives need to manage costs and the Regulators need to ensuring the healthcare service is meeting expected standards and values. This can be achieved through a 4 step process:

- Understand the business processes;
- Understand the risks of failure of these processes;
- Establish a strategic vision on how these risks will be managed;
- Make it happen.

Too often the first step is not undertaken in sufficient detail to ensure the subsequent steps are able to be completed with any confidence. It is sometimes viewed as easier (and in terms of managing available budget) to provide a solution to meet an immediate need. As a result the Hospital is left with a number of 'silo solutions' which do not meet the long term requirements, are unable to integrate and are increasingly expensive to maintain. It is time to change this approach to ensure healthcare services of the future are efficient, responsive and sustainable.

## Biography

**Author:** Stewart Hayes  
Principal Consultant  
Jakeman Business Solutions

+61 (0)423 654 080

[stewart.hayes@jakeman.com.au](mailto:stewart.hayes@jakeman.com.au)



**Stewart Hayes** is a highly experienced consultant in the field of business process analysis, risk management, security and business continuity management. He has acquired a range of technical expertise, skills and knowledge working in a number of countries and operational environments.



This experience has evolved through system design and practical implementation of critical systems. Stewart has defined strategies, objectives and measurement methods for security infrastructures compliant with corporate risk management objectives and applicable legislation. This has specifically focused on the need to ensure security controls provide business benefit and function as a single operational component, whether physical, IT, personnel or health and safety related.

Now with Jakeman Business Solutions, Australia responsible for risk management, business continuity and integrated security services, Stewart is addressing the cost savings and improved security management efficiency achieved through integration of the business and security control objectives within an organisation's infrastructure.