



MODULAR
DESIGN AND
CONSTRUCTION

TWPI

MOD



THE COMPANY

A leader in the field of health planning and design, TAHPI is headquartered in Sydney, Australia and Dubai, UAE with an international network of branches. TAHPI is strategically placed to provide the A to Z of Health Planning.

TAHPI offers comprehensive specialised services for healthcare projects, including:

- Health Service Planning
- Facility Standards and Guidelines
- Medical & Facility Planning
- Architecture & Design
- Modular Design and Construction
- Briefing
- Interior Design
- Project Management
- Software Development

Our services are uniquely scalable to suit our clients' needs - from single project to system-wide application.

TAHPI's specialist staff bring deep experience, expert knowledge and skills in all planning disciplines to address the complexities of delivering healthcare projects.

TAHPI has been at the forefront of systematic and technologically advanced design and construction of Healthcare for many decades. TAHPI is bringing a new brand of thinking for modular design for the healthcare sector. The TAHPI approach is about compartmentalisation of the knowledge of healthcare design into units of planning from departments and services to rooms, content, finishes and specifications. This is innovation at an industrial scale.

INTRODUCTION

Living longer and healthier through lifestyle changes, healthy eating and prevention is a laudable approach. But the ageing population of the world will eventually require high quality healthcare facilities for serious diagnosis, treatment and care of patients. Unfortunately, this may not always be affordable.

In recent decades, the healthcare market has been wrestling with cost containment due to annual health care costs that have far exceeded the consumer price index (CPI). Healthcare is competing with other community services such as Education, Public Transport, Utility Services and Police. Every year it seems to demand a greater share of the Gross Domestic Product (GDP) of every Country. Clearly, this is not sustainable.

At this rate, equitable Healthcare will not be sustainable in the long run.

Currently Healthcare Facilities:

- take too long to plan, design & build
- are too expensive
- take an increasing portion of the GDP
- quality is hit-and-miss at best

To compound the problem, developing countries are experiencing a boom in urbanisation, growing middle class, increasing life expectancy, ageing of the population, increasing awareness of health issues and expectations of improved healthcare. Today's healthcare demand is a challenge, let alone the future demand at future's procurement cost.

Inspired by concept of "Standardise - Industrialise-Commoditise" from industrial revolution that routinely produces products with higher quality at lower cost, we at TAHPI have been planning towards harnessing the power of industrial design and high volume production techniques to create state-of-the-art infrastructure for affordable and sustainable healthcare.

Innovation at an industrial scale



SERVICES

TAHPI is unrivalled in the breadth of specialised services offered for delivery of modular healthcare projects including:

- Healthcare Service Planning
- Master Planning
- Medical Planning
- Modular Healthcare Architecture
- Modular Healthcare Interior Design
- Construction Documentation and Specifications
- Healthcare Project Management
- Partner factories for Modular Construction
- Site supervision and quality control during site assembly of modular units

OUR CAPABILITIES

TAHPI is a recognised International specialist in Health Facility Planning and Design. TAHPI works throughout the world with a focus on developing Countries. TAHPI is a prolific author of Standards and Guidelines for healthcare design and procurement in many Countries. TAHPI is the distributor and customiser of a range of specialist web-based Health Planning software known as the HFBS platform.

TAHPI's work methodology involves the standardisation of healthcare components (or Modules) at every level from Briefing Data to Design and Construction. TAHPI is committed to the rapid procurement of affordable healthcare facilities utilising repeatable elements designed and constructed at an industrial scale. TAHPI's relevant experience can be referred to as "Soft Modular", paving the way for industrial production at TAHPI's partner factories, known as "Hard Modular".



INPATIENT MODULES



1-BR-IS-N-18-1



1-BR-LG-28-I-A1



1-BR-LG-28-I-B1



1-BR-ST-16-I-A



1-BR-ST-16-I-B



1-BR-ST-16-I-C

SOFT MODULAR

Soft Modular is about the compartmentation of the knowledge of healthcare design into units of planning from Departments and Services down to Rooms, Content, Finishes and Specifications.

An information catalogue of 50 Functional Units of planning plus 500 unique room types, each fully specified, pre-designed and engineered with multiple permutations can be used to create Hospitals or Clinics of any size or specialisation. These form the raw components of rapid design. Each component would be fully audited to comply with all the relevant standards and guidelines out-of-the-box.

These elements could then be used for healthcare projects from refurbishments and extensions to entirely new facilities. It would be a matter of choosing the right elements rather than re-inventing every element every time for every project.

INFORMATION CATALOGUE

- New generation of ready to use Healthcare standards and Guidelines
- 50 functional units
- Departmental design modules adaptable for different models of care
- 500 unique room types, fully specified, pre-designed and engineered
- Whole room modular, pre-fabricated rooms

- Catalogue of selectable options for different room types
- Modular Structural components
- Modular MEP components
- Raw components to form quick and out-of-box design that complies with the relevant standards and guidelines.
- 10 hospital prototypes ranging from the smallest rural and remote hospital with 16 beds to major metropolitan teaching hospitals with 500 beds



ADVANTAGES OF MODULAR DESIGN AND CONSTRUCTION

EFFICIENT DESIGN

- Modular and super-efficient planning to minimise any wastage of area
- Compact designs, Standard room types
- Adheres to all relevant International standards & Guidelines
- Geometry and uniform Structural Grid that allows flexibility and future expansion
- Designed to suit multiple 'models of care'

TIME AND COST SAVING

- Off-site manufacturing in advance & independent of progress on site
- Up to 30% savings in programme time compared to traditional construction techniques
- Compact designs with most efficient medical planning
- Faster completion means quicker revenue generation & return on investment

QUALITY

- More efficient and uniform processes in controlled factory environment
- Several rounds of quality checks before the modules go out of the factory
- Elimination of unnecessary variations and errors

LESS IMPACT ON ENVIRONMENT

- Substantially reduced wastage of material
- Less energy used for efficient off-site fabrication
- Compliance with environmental accreditation

SPEEDY INSTALLATIONS

- Highly experienced and skilled staff
- Standardised installation methods

CLEANER SITE

- Eliminates the need for materials handling, storage & waste disposal at site
- Less personnel & associated cost on site
- Significantly less snagging on site

ADAPTABLE

- External cladding can be customised to suit the climatic requirements of the region
- Future-proof design, can be easily refurbished with conventional techniques
- Range of finishes and equipment, balance against exceptional cost savings



TAHPI MODULAR DESIGN STUDIO

The TAHPI Modular Design Studio aims to establish new dynamics in the healthcare design. It combines TAHPI's expertise of "soft Modular" design and their knowledge of Hard Modular factory prefabrication. The mission of the Design studio is to pursue Rapid and Affordable procurement of Modular and Prefabricated Healthcare Facilities world-wide and to drive prices down whilst maintaining and improving quality.

TAHPI visualises a world where healthcare facilities are of predictable, high quality. They improve every year whilst getting

cheaper to deliver, maintain and operate. They would look confident and proud, with brand recognition.

These will be products of Industrial Design, Innovation and Production on a large scale. The TAHPI Modular Design Studio has designed several Healthcare facilities with Precast concrete and prefabricated building components.

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