

VIRTUAL INFRASTRUCTURE AND THE HEALTHCARE ECOSYSTEM



EUROPEAN HEALTH PROPERTY NETWORK
2018 WORKSHOP
Gothenburg, Sweden 25-27th September

The mission is: *“Health Planning”*

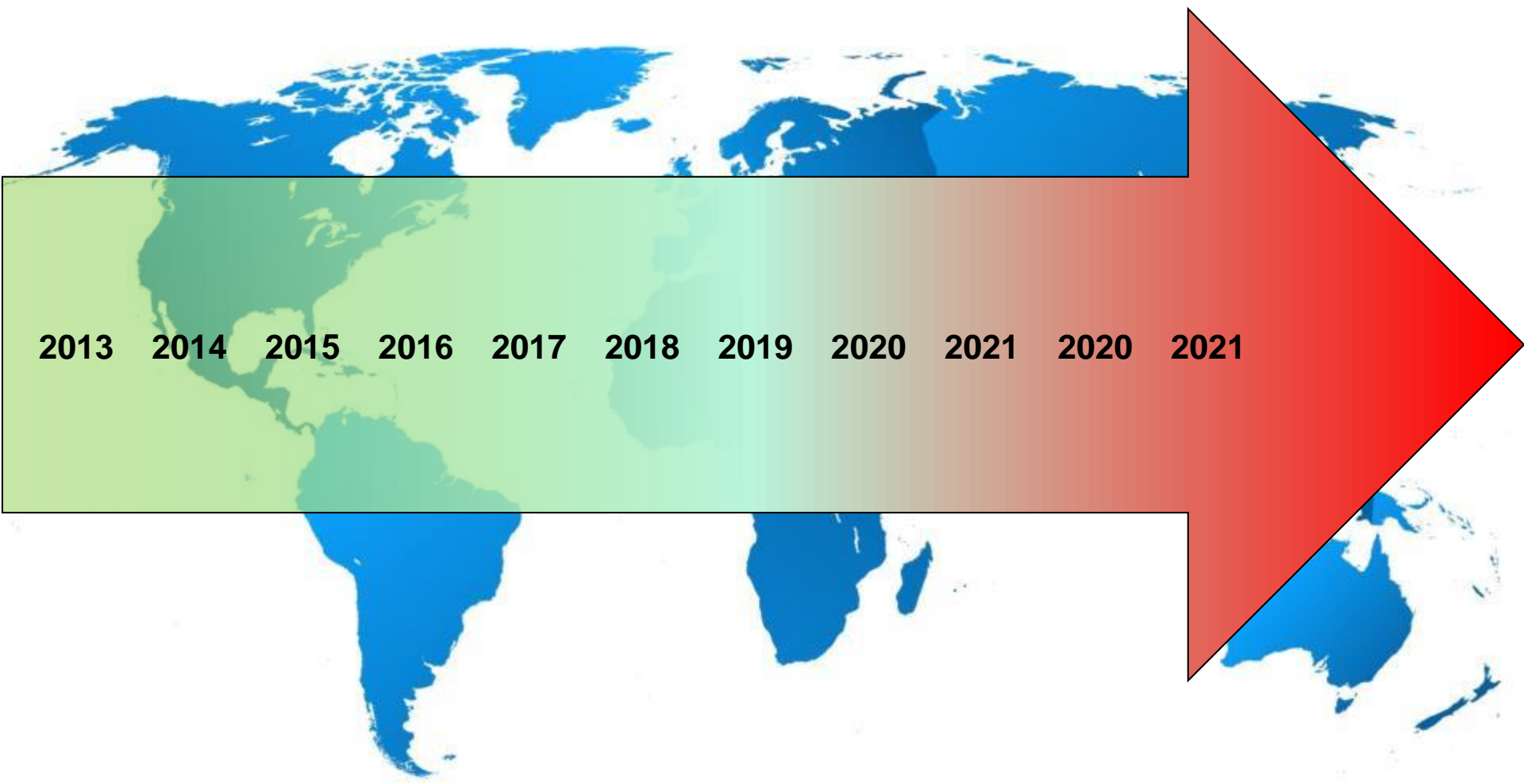
“Planning for the Health of People”

The reality of the current situation:

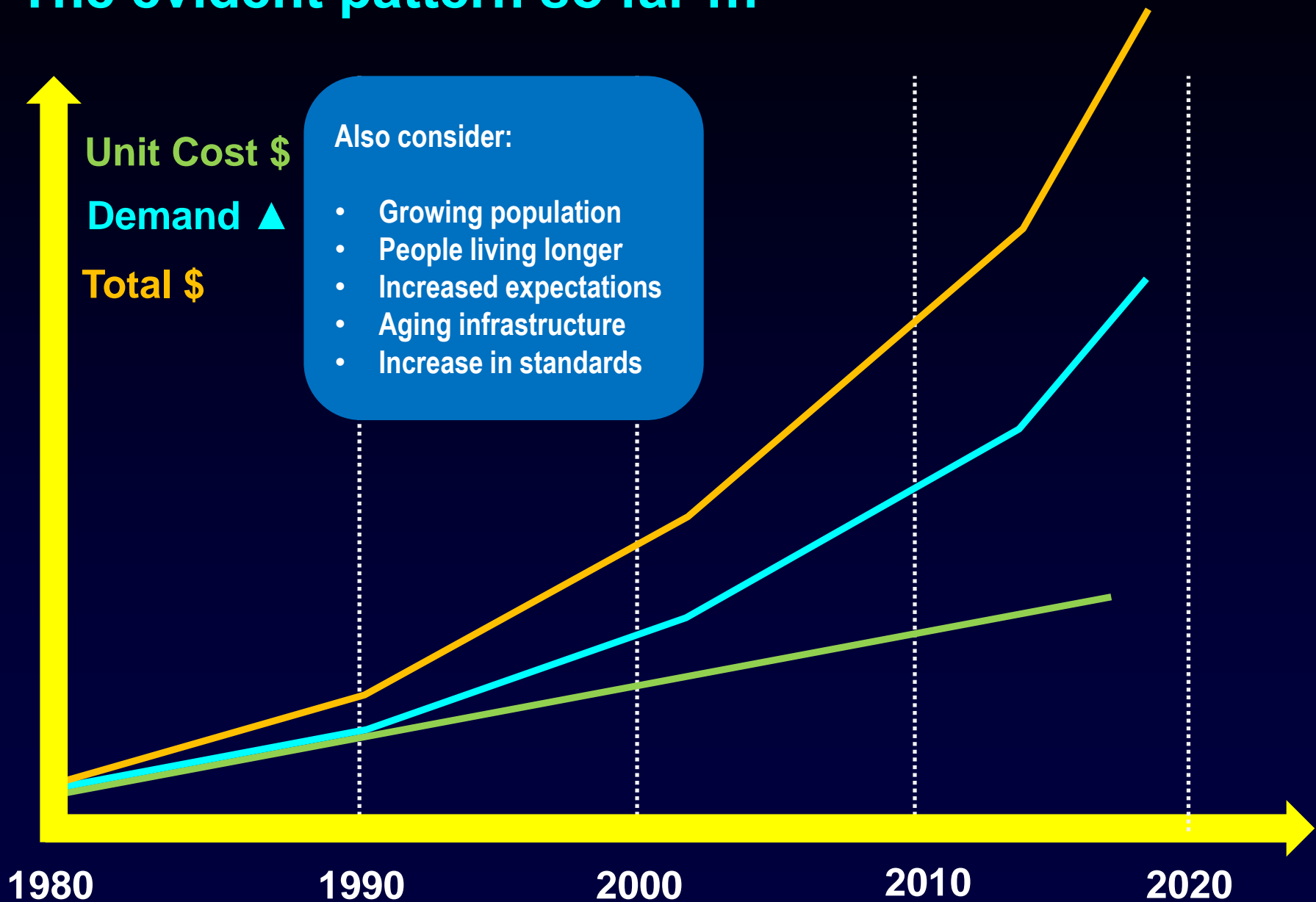
- Healthcare facilities take too long to plan, design & build
- Healthcare delayed is healthcare denied
- Healthcare facilities are too expensive to build and run
- Healthcare takes an increasing portion of the economy
- The demand for healthcare is rising
- We need maximum efficiency to control healthcare costs and to keep it sustainable in the long term
- We need systematic, holistic *“Health Planning”*

A world-wide issue

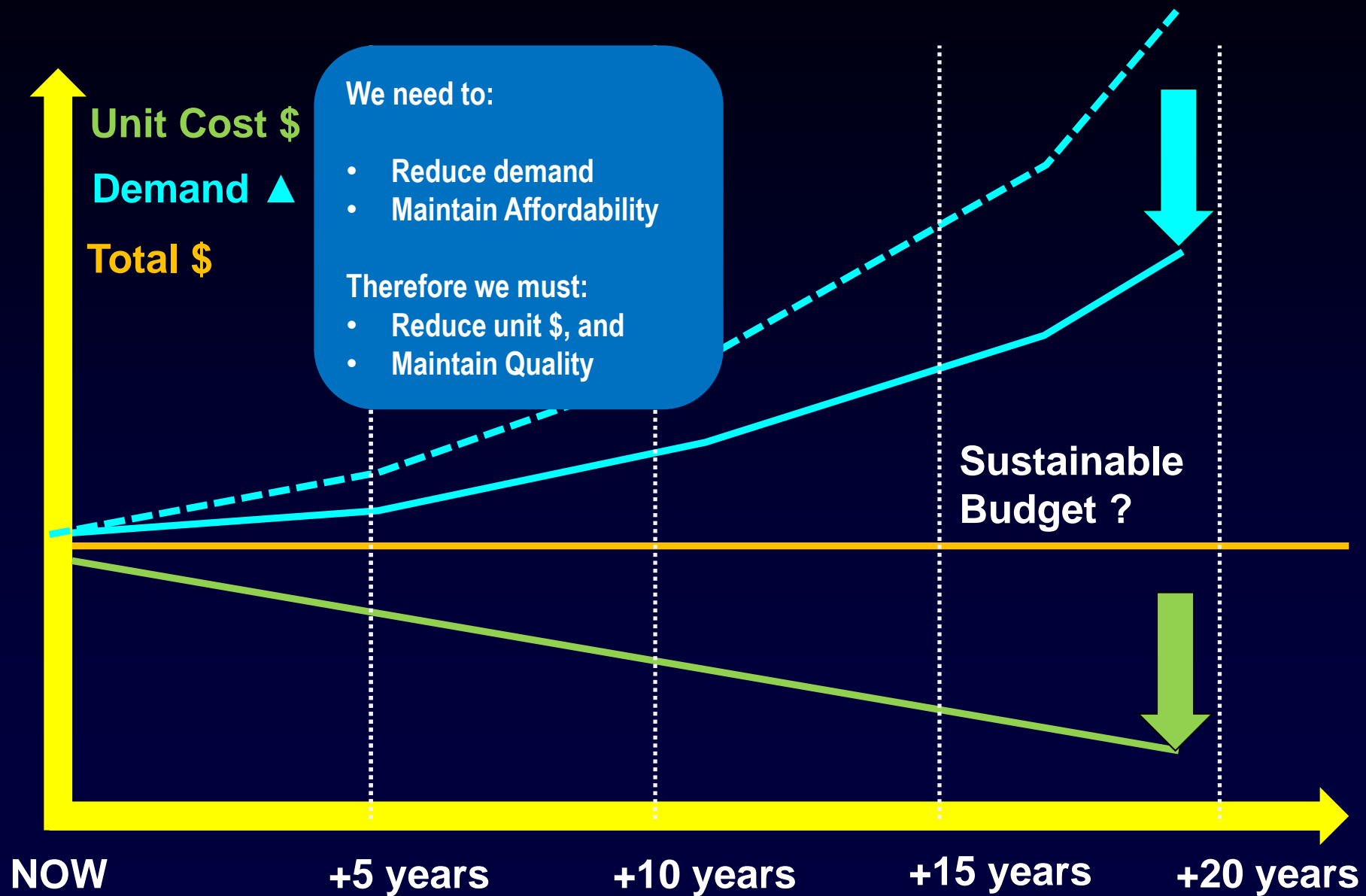
Is healthcare economically sustainable over the long term?



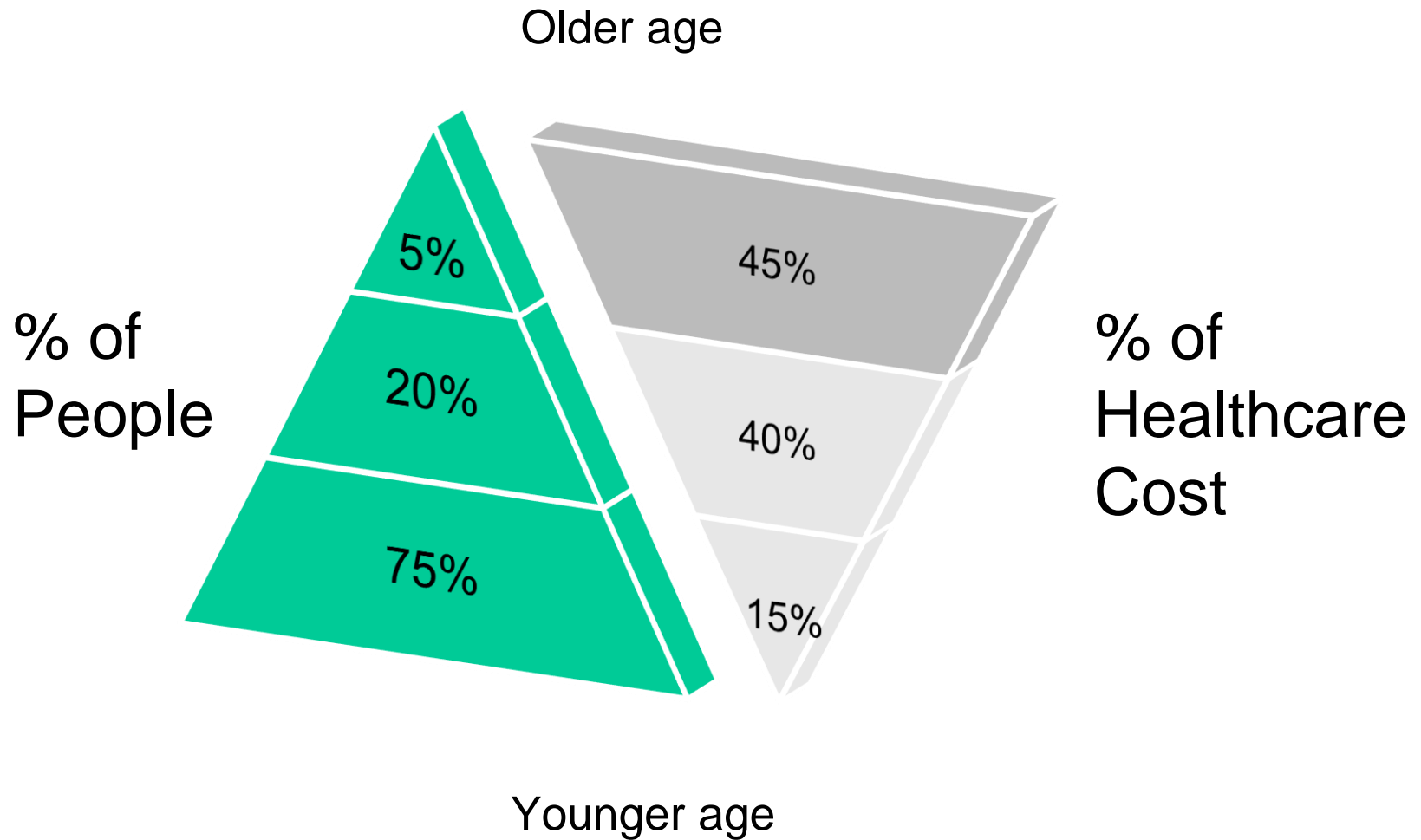
The evident pattern so far ...



The pattern we need for the future ...

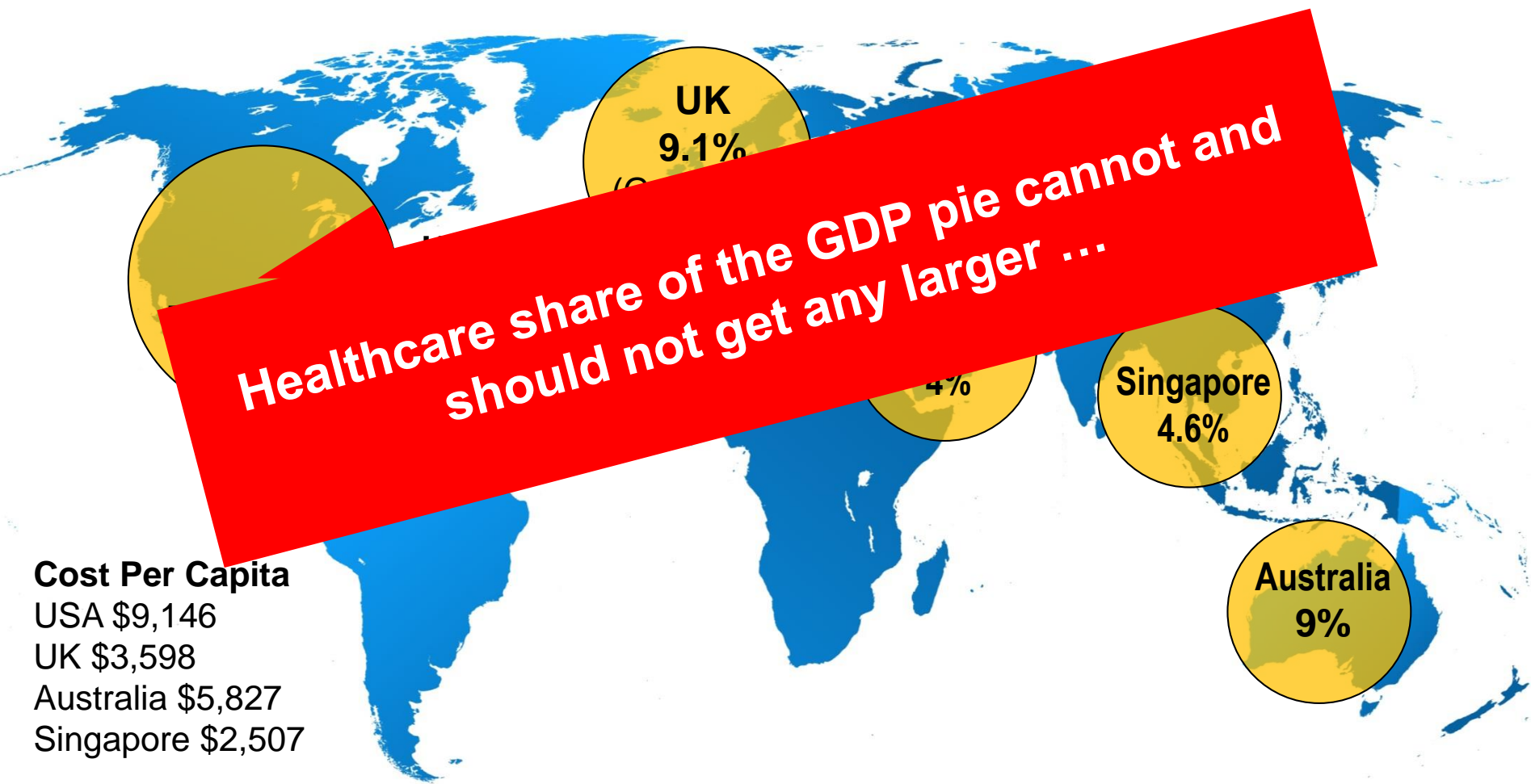


Healthcare Expenditure



Healthcare Pie

"Healthcare costs can bankrupt Countries"



Race for greater expenditure on healthcare?

Here are the results:












COUNTRY RANKINGS

Top 2*

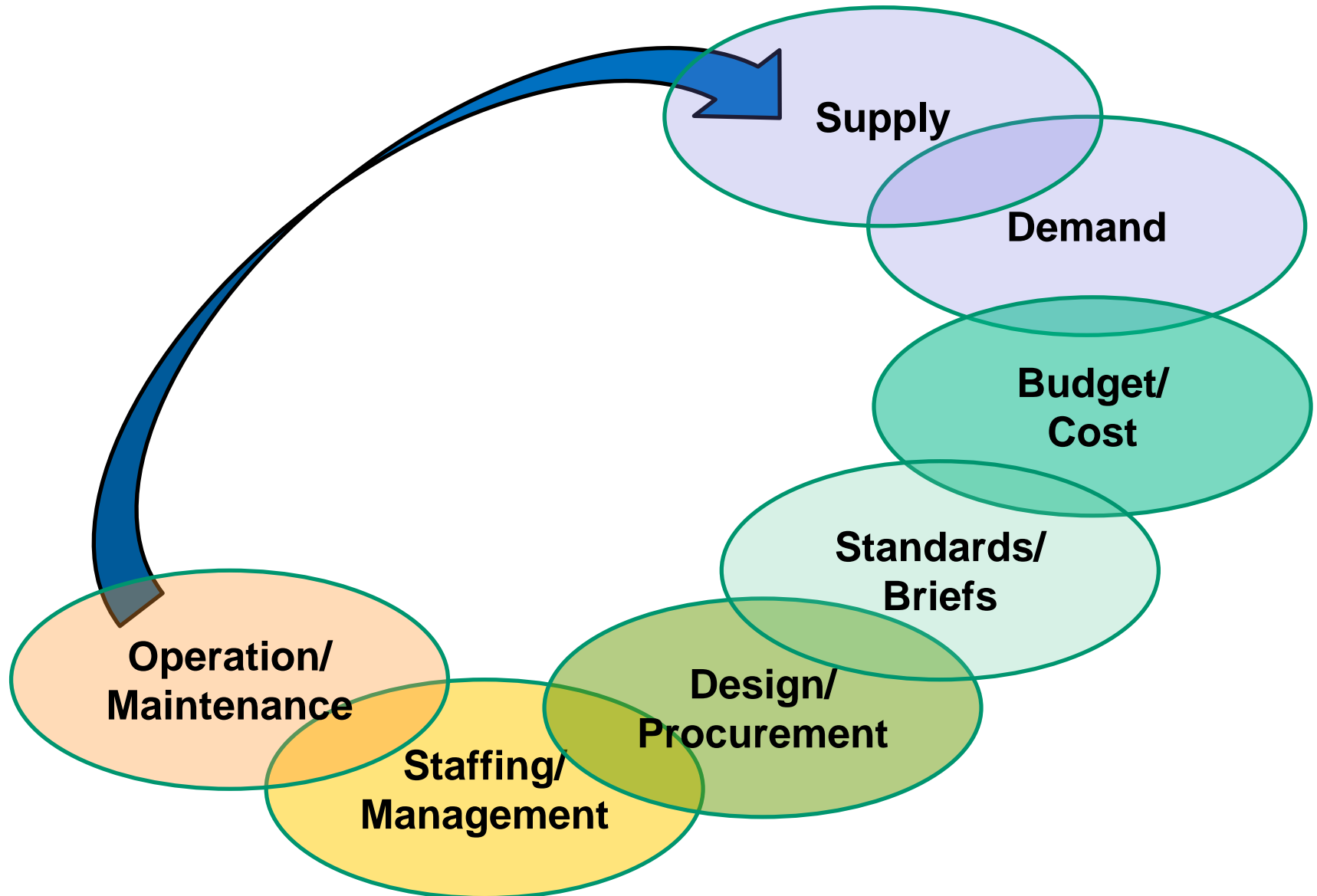
Middle

Bottom 2*

Highest expenditure > lowest ranking, 11 out of 11

											
	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING (2013)	4	10	9	5	5	7	7	3	2	1	11
Quality Care	2	9	8	7	5	4	11	10	3	1	5
Effective Care	4	7	9	6	5	2	11	10	8	1	3
Safe Care	3	10	2	6	7	9	11	5	4	1	7
Coordinated Care	4	8	9	10	5	2	7	11	3	1	6
Patient-Centered Care	5	8	10	7	3	6	11	9	2	1	4
Access	8	9	11	2	4	7	6	4	2	1	9
Cost-Related Problem	9	5	10	4	8	6	3	1	7	1	11
Timeliness of Care	6	11	10	4	2	7	8	9	1	3	5
Efficiency	4	10	8	9	7	3	4	2	6	1	11
Equity	5	9	7	4	8	10	6	1	2	2	11
Healthy Lives	4	8	1	7	5	9	6	2	3	10	11
Health Expenditures/Capita, 2011**	\$3,800	\$4,522	\$4,118	\$4,495	\$5,099	\$3,182	\$5,669	\$3,925	\$5,643	\$3,405	\$8,508

Health Planning Eco-system



The challenge demands that we leave no stone unturned

Health Service Plan determines

- **What, Where, When, How Many**

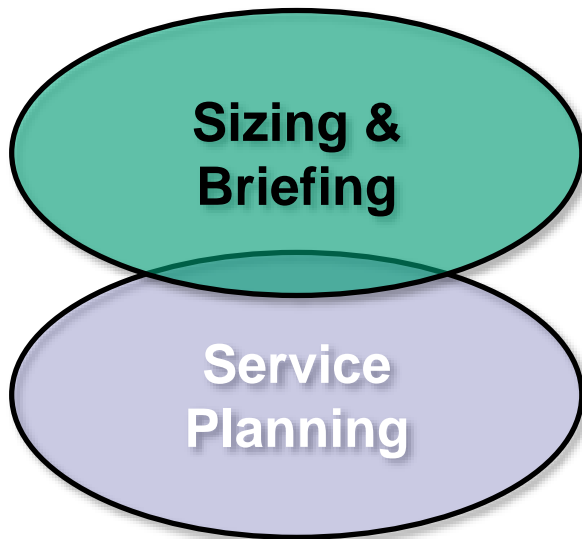
Many Service Plans

- **project the past into the future**
- **are often intuitive rather than scientific**
- **are Bed-centric**
- **are not linked to briefing**
- **are a mystery to many**
- **take too long to prepare & hard to update**



**Service
Planning**

The challenge demands that we leave no stone unturned



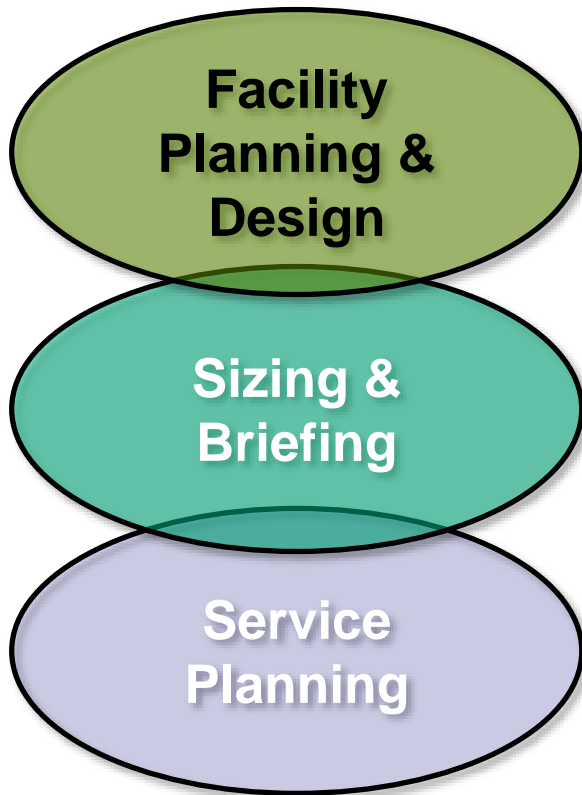
Sizing and Briefing

- interpret the service plan
- fully scope, define and size projects

However, Sizing and Briefing are

- often opinion based & created on the run
- rarely shared between projects
- rediscovered by each project team at a great cost over a long period
- sometimes extracted from Design rather than derived from common guidelines!

The challenge demands that we leave no stone unturned



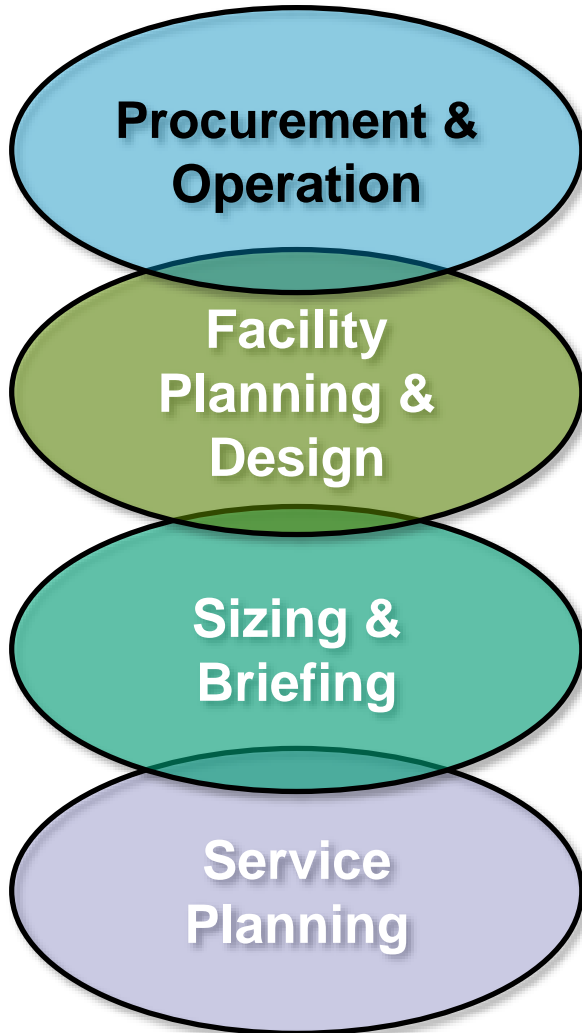
Facility Planning & Design define & visualise

- facilities which meet the brief
- have the right size and relationships; and
- are fit for purpose

Often, Hospital Planning & Design

- reinvents known solutions in the name of “Innovation”;
- takes too long in the name of “Process”;
- may still miss obvious requirements
- good results are hidden under “IP”

The challenge demands that we leave no stone unturned



Procurement

- needs to keep costs down and quality up

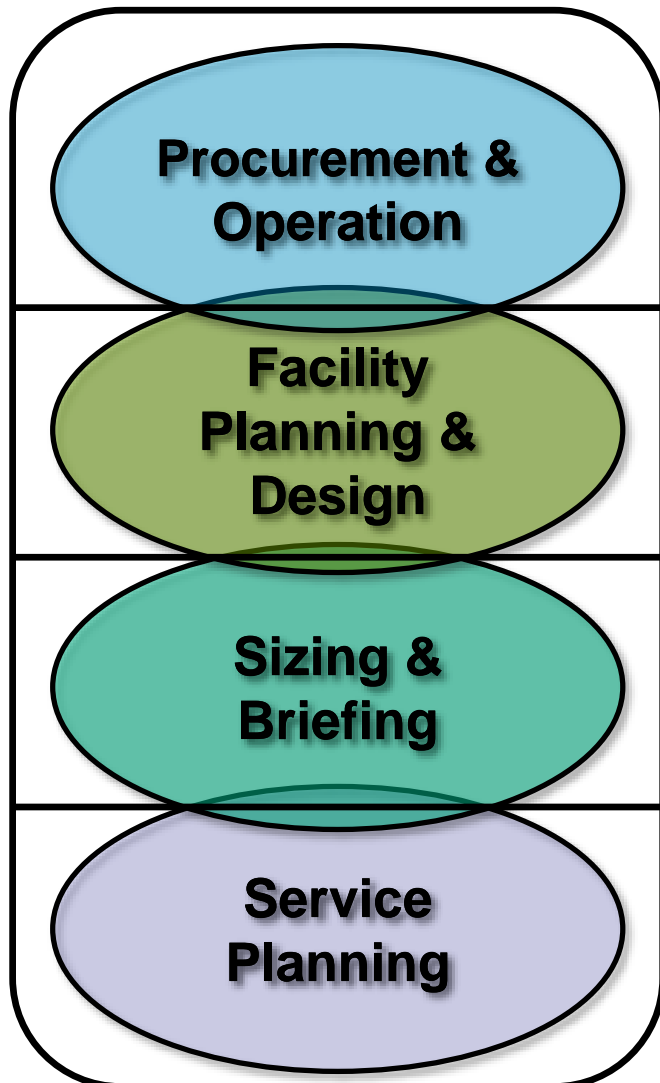
Operation

- needs to do more with fewer resources

In reality

- hospitals are like hand-made cars
- are increasingly unaffordable
- lack commonly available components
- inefficiencies are solved by additional staff and greater resources at greater cost

The case for robust, ready to use Guidelines

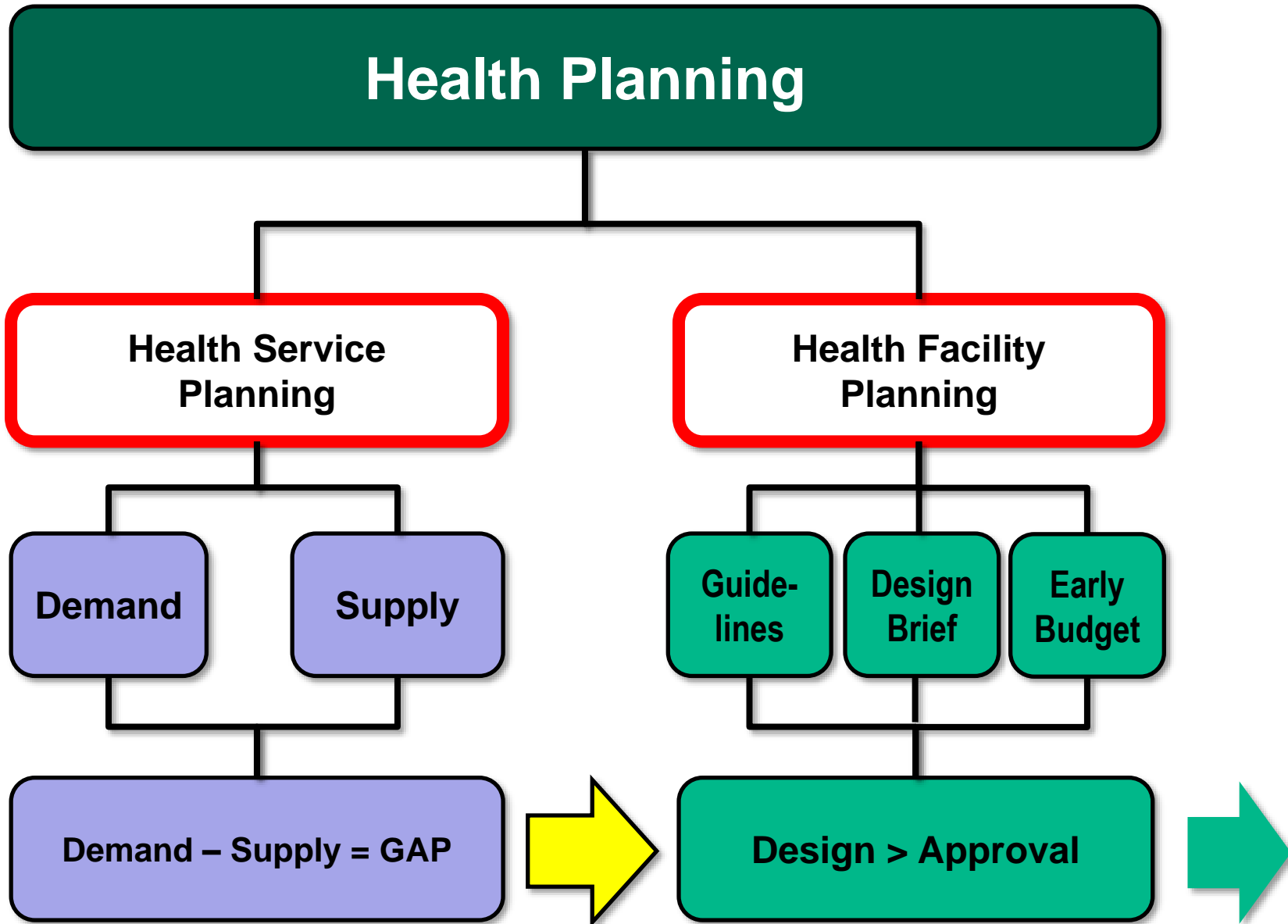


For High Quality, Sustainable Healthcare:

- **link Service Planning and Sizing**
- **enable quick, detailed briefing & SOA**
- **create clear guidelines for rapid facility planning & design**
- **create a growing pool of ready-to-use design components**
- **create a basis for modular construction**
- **enable knowledge sharing & transfer**

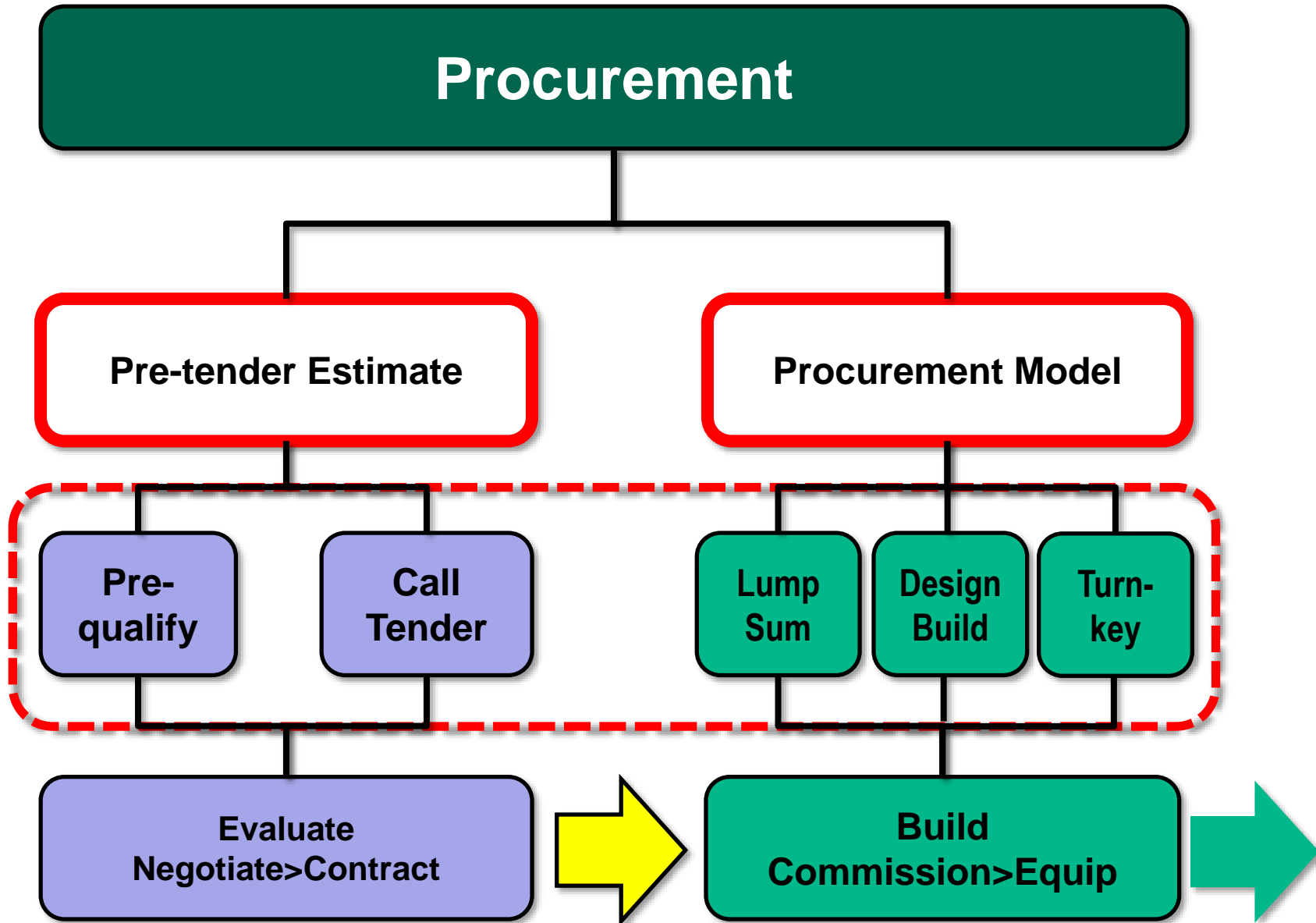
Create a Rational Framework

The Health Planning Discipline Framework

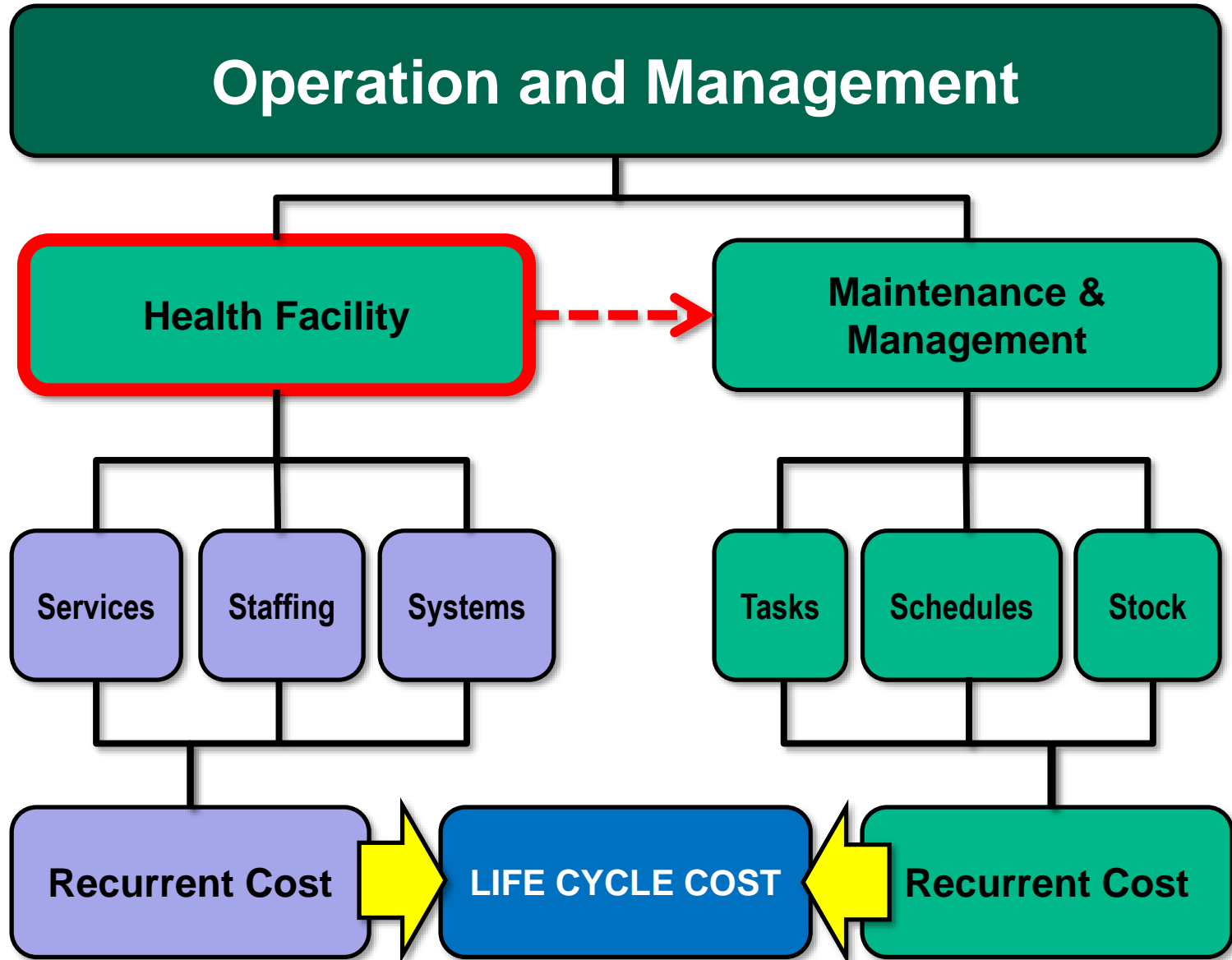


There are tools for every aspect of Health Planning

The Health Planning Discipline Framework Continued..



The Health Planning Discipline Framework Continued..



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

**HR and
Recurrent**

Maintenance

HFBS platform, joining the dots in health planning



www.healthdesign.com.au

Service Planning

Guidelines

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HR and
Recurrent

Maintenance

Health Planning

Health Service Planning

Health Facility Planning

Demand

Supply

Guide-
lines

Design
Brief

Early
Budget

Demand – Supply = GAP

Design > Approval

Health Service Planning

Determine

Service Demand

Service Supply

Key Planning Units (KPU's)

Demand – Supply = Gap

Prepare

Clinical Services Plan (CSP)

Business Case

Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Health Planning

Health Service Planning

Health Facility Planning

Demand

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Guide-
lines

Design
Brief

Early
Budget

Demand - Supply = GAP

Design > Approval

Health Service Demand

Define Population Catchment

Define Services to be Studied

Create Scenarios and Adjust Settings

Determine Raw Demand

Calculate Key Planning Units (KPU's)

HFBS 5 Service Planning Demand Module simulate the world

Create a Virtual World Population

Key Tasks

- Use Reference Data
- Use Population Data
- Define catchments
- Define services
- Create scenarios
- Adjust provision factors
- Run formulas
- Calculate raw demand
- Calculate KPU's



Select Primary Catchment

https://wic720d.server-web.com/?token=d0ca3efc-7c65-4983-9ffc-e9fb880ca2c7# - Telstra BigPond Home Internet Explorer

Map Satellite Hybrid Terrain My Domains

HEALTH FACILITY BRIEFING SYSTEM
Version 1.2.535 by HPI

☒ Assets ☒ Projects ☒ POI

Select Asset

Asset Code

Asset Name

Health Services

Facility Classification

Select Marker ☐ Display on Map

Dep. Code	Dep. Name	RDL

Filter and Display

Select Filter

☐ Assets ☐ Projects ☐ POIs

Category

AND

Filter	Y/N	By

Map of the Nerang area showing various locations and catchment boundaries. The map includes labels for towns such as Beaudesert, Tamboorne, Oxenford, and Nerang. A red shaded area indicates the primary catchment. A small inset map shows the location of the primary catchment within the larger region.

Select Wider Catchment(s)

https://wic720d.server-web.com/?token=d0ca3efc-7c65-4983-9ffc-e9fb880ca2c7# - # - Telstra BigPond Home Internet Explorer

Map Satellite Hybrid Terrain My Domains

HEALTH FACILITY BRIEFING SYSTEM
Version 1.2.535 by HPI

☒ Assets ☒ Projects ☒ POI

Select Asset

Asset Code

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Health Services

Facility Classification

Select Marker ☐ Display on Map

Dep. Code	Dep. Name	RDL

Filter and Display

Select Filter

☐ Assets ☐ Projects ☐ POIs

Category

AND

Filter	Y/N	By

Map data ©2009 Map Data Sciences Pty Ltd, PSMA - Terms of Use

..or select from list of localities

https://wic720d.server-web.com/?token=3a8e4486-d370-4938-9f07-625f564e6bcf&mac= - Service Plann - HFBS

Primary Services Scenarios Population Demand Adj. Service Adj. Results

SING-AN1 - SINGAPORE TEST STUDY AN1 Open Save

Primary Information

Name	SINGAPORE TEST STUDY AN1		
Code	SING-AN1	Version	2.1
Planner	Aladin Niazmand	Address	Suite 1, 68 Alfred Street, Milsons Point, NSW, 2061
Title	Health Planner		
Company	TAHPI Pty Limited		
Short Description	This study is used to review the preformance of the software		
Client	HPI	Client Address	As above
Client Type	Public		

Define catchments

Primary Catchment	Zone 1, Cental Region	Browse...	80	%	Apply Coverage
Secondary Catchment	Zone 2, East and North Regions	Browse...	20	%	Apply Coverage
Tertiary Catchment	Zone 3, North East and West Regions	Browse...	5	%	Apply Coverage

Current Catchment Boundary selection(s)

- ▼ Singapore
 - ▼ Central Region
 - ▼ Downtown Core
 - ▼ Geylang
 - ▼ Kallang
 - ▼ Marine Parade

- ▼ Singapore
 - ▼ East Region
 - ▼ Bedok
 - ▼ Pasir Ris
 - ▼ Tampines
 - ▼ Changi

- ▼ Singapore
 - ▼ North-East Region
 - ▼ Ang Mo Kio
 - ▼ Hougang
 - ▼ Punggol
 - ▼ Sengkang

Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Custom Clinical Service Planning Module

HFBS Service Planning
Version by HPI

Study Settings

Primary Information Catchments Service Definition Scenario Builder Results

Metro South Brisbane South East Queensland Queensland

Service Types	Service Modes	Service Specialties	Service Drgs
1 Acute Overnight Service	1 Adult Medical	11 Cardiology	G42A Other Gastroscopy for Major Digestive Disease
2 Acute Same Day Service	2 Adult Surgical	12 Interventional Cardiology	G42B Other Gastroscopy for Major Digestive Disease Sameday
3 Non-acute Overnight Service	3 Adult Procedural	15 Gastroenterology	G43C Complex Colonoscopy
4 Non-acute Same Day Service	4 Childrens Medical	16 Diagnostic GI Endoscopy	G43A Complex Gastroscopy W Catastrophic or Severe CC
5 Emergency Service	5 Childrens Surgical	17 Respiratory Medicine	G43B Complex Gastroscopy W/O Catastrophic or Severe CC
6 Intensive Care Service	6 Childrens Procedural	24 Respiratory Medicine	G43C Complex Gastroscopy Sameday
7 Operating Theatre	7 Mental Health	25 Respiratory Medicine	H41A ERCP Complex Therapeutic Procedure W Catastrophic or Severe CC
	8 Alcohol and Other Drugs	26 Dermatology	H41B ERCP Complex Therapeutic Procedure W/O Catastrophic or Severe CC
	9 Rehabilitation	52 Urology	H42A ERCP Other Therapeutic Procedure W Catastrophic or Severe CC
	10 Palliative Care	76 Definitive Paediatric Medicine	H42B ERCP Other Therapeutic Procedure W Moderate CC
	11 Older Person's Care	82 Psychiatry	H42C ERCP Other Therapeutic Procedure W/O CC
	12 Psychogeriatric	13 Dermatology	K40Z Endoscopic or Investigative Procedure for Metabolic Disorders W/O CC
	13 Maintenance	14 Endocrinology	84 Rehabilitation
	14 Consult Therapy	18 Immunology & Infections	85 Non Acute Geriatric
	15 Emergency	19 Medical Oncology	86 Palliative Care
	16 Intensive Care Unit	20 Chemotherapy	87 Maintenance
		21 Neurology	88 Geriatrics
		22 Renal Medicine	89 Emergency
		23 Renal Dialysis	90 Intensive Care
		25 Rheumatology	901Z Extensive OR Procedure Unrelated to Principal Diagnosis
		26 Pain Management	902Z Non-Extensive OR Procedure Unrelated to Principal Diagnosis
			903Z Prostatic OR Procedure Unrelated to Principal Diagnosis
			960Z Ungroupable
			961Z Unacceptable Principal Diagnosis

Save

Service Types

Service Modes

Service Specialties

Service Diagnosis Related Groups (DRG's)

Select Services to study- HFBS covers all services



Adult Overnight
Adult Same day
Non-acute Overnight
Non-acute Same Day
Emergency
Intensive Care
Operating Theatre

Adult Medical
Adult Surgical
Adult Procedural
Childrens Medical
Childrens Surgical
Childrens Procedural
Mental Health
Rehabilitation
Paliative Care
Older Persons Care
Phychogeriatric
Maintenance
Consult Therapy
Emergency
Intensive Care Unit

Cardiology
Interventional Cardiology
Gastroenterology
Diagnostic GI Endoscopy
Haematology
Respiratory Medicine
Dentistry
Urology
Definitive Paed. Medicine
Psychiatry
Dermatology
Endocrinology
Immunology
Medical Ongology

G42A Other Gastroscopy
G42B Other Gastroscopy for Major Digestive.....
G43Z Complex Colonoscopy
G46A Complex Colonoscopy Q Catastrophic or
G46B Complex Gastroscopy W/O Catastrophic or
G46C Complex Gastroscopy Sameday
IH41A ERCP Complex Therapeutic Procedure W
H41B ERCP Complex Therapeutic Procedure A/O...
....
....

**Service
Types**

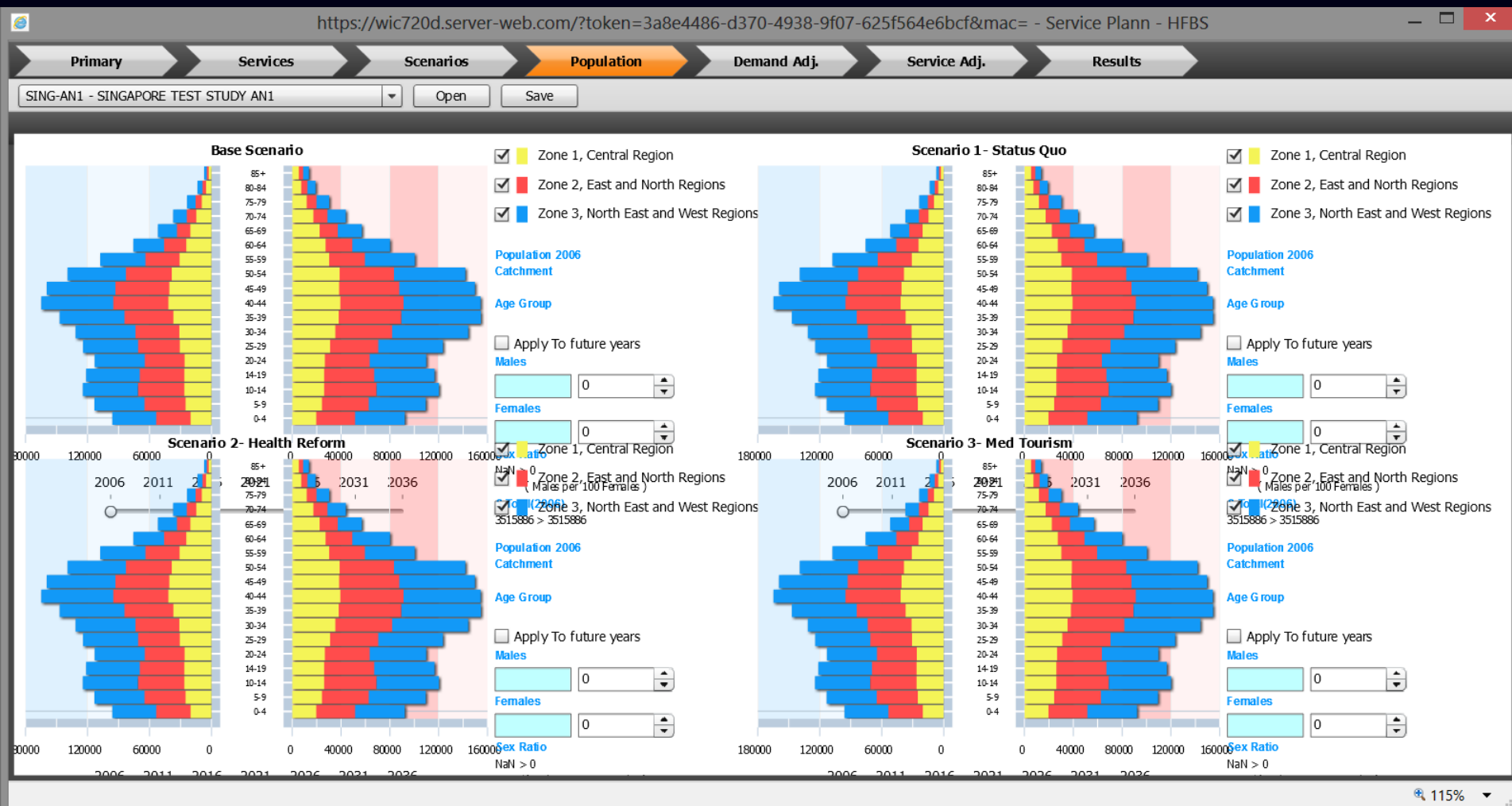
**Service
Modes**

**Service
Specialities**

**Service
Diagnosis Related Groups (DRG's)**

Select Services to study- HFBS covers all services

Create unlimited scenarios, adjust population profiles



Accept or modify Demand Adjustment Factors

<https://wic720d.server-web.com/?token=3a8e4486-d370-4938-9f07-625f564e6bcf&mac=-> Service Plann - HFBS

Primary

Services

Scenarios

Population

Demand Adj.

Service Adj.

Results

SING-AN1 - SINGAPORE TEST STUDY AN1

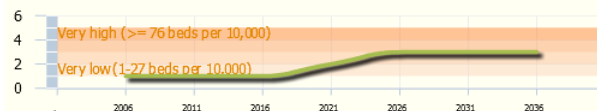
Open

Save

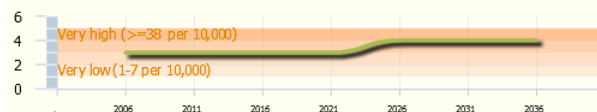
☐ Base Scenario ☒ Scenario 1- Status Quo ☐ Scenario 2- Health Reform ☐ Scenario 3- Med Tourism

Zone 1, Central Region

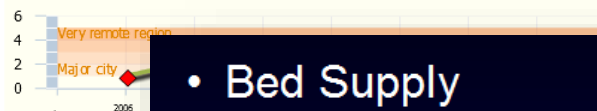
Hospital Bed Supply



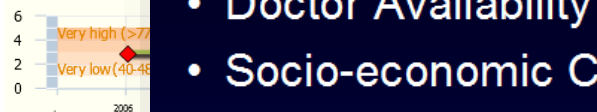
Doctor Availability



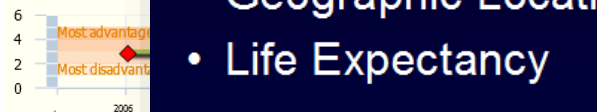
Geographic Location



Life Expectancy



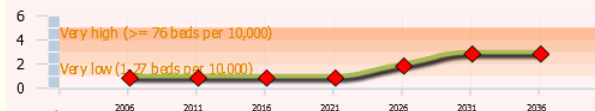
Socio-Economic Class



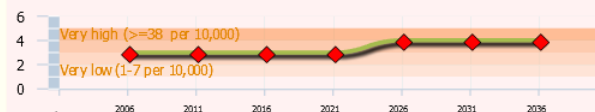
- Bed Supply
- Doctor Availability
- Socio-economic Class
- Geographic Location
- Life Expectancy

Zone 2, East and North Regions

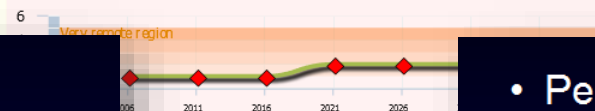
Hospital Bed Supply



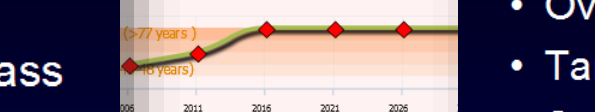
Doctor Availability



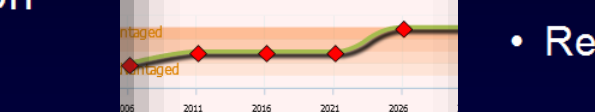
Geographic Location



Life Expectancy



Socio-Economic Class



- Percentage Same Day
- Overnight ALOS
- Target Occupancy
- Self Sufficiency
- Relative Utilisation

Adjustable System Settings at the Domain Level ...

Study Settings English (U.S.) HFBS Service Planning Version by HPI

Service Definitions Adjustment Factors Provision Factors

Demand Adjustment Factors

Name	Default Scale	Very Low	Low	Moderate	High	Very High
2006						
BedSupply	Very low (1-27 beds per 10,000)	0.33	0.79	1.07	1.5	2.21
DoctorAvailability	High (30 - 38 per 10,000)	4.02	1.6	1.23	0.99	0.77
GeographicLocation	Major city	1	0.98	1.02	1.08	1.41
LifeExpectency	High (71-77 years)	1.458	1.321	1.187	1.109	1.025
SocioEconomicClass	Advantaged	1.08	1	0.98	0.97	0.97
2011						
BedSupply	Very low (1-27 beds per 10,000)	0.33	0.79	1.07	1.5	2.21
DoctorAvailability	High (30 - 38 per 10,000)	4.02	1.6	1.23	0.99	0.77
GeographicLocation	Major city	1	0.98	1.02	1.08	1.41
LifeExpectency	High (71-77 years)	1.458	1.321	1.187	1.109	1.025
SocioEconomicClass	Advantaged	1.08	1	0.98	0.97	0.97
2016						
BedSupply	Very low (1-27 beds per 10,000)	0.33	0.79	1.07	1.5	2.21
DoctorAvailability	High (30 - 38 per 10,000)	4.02	1.6	1.23	0.99	0.77
GeographicLocation	Major city	1	0.98	1.02	1.08	1.41
LifeExpectency	High (71-77 years)	1.458	1.321	1.187	1.109	1.025
SocioEconomicClass	Advantaged	1.08	1	0.98	0.97	0.97
2021						
BedSupply	Very low (1-27 beds per 10,000)	0.33	0.79	1.07	1.5	2.21
DoctorAvailability	High (30 - 38 per 10,000)	4.02	1.6	1.23	0.99	0.77
GeographicLocation	Major city	1	0.98	1.02	1.08	1.41
LifeExpectency	High (71-77 years)	1.458	1.321	1.187	1.109	1.025

Select Adjuster Type Select Scale Index

Apply to All Save

Demand Adjustment Factors

Formula Builder , based on all variables and data

- Built-in formulas
- User Generated formulas
- Conditional output

HFBS Service Planning Version by HPI

Study Settings English (U.S.)

Formula Builder

Primary Info Scenario Acute Overnight Episode for Study Popu

Name* Scenario Acute Overnight Episode for Study Population Description Estimate number of acute overnight episodes required by the study population after adjustments for scenario factors

Study Variable* aoneps_ss Precision* 2

☐ is Summary Result ☐ is Scenario Result

Scenario Acute Overnight Episode for Study Population Formula Editor + Add Formula

Insert conditions Base = Sum Aonepw_Mean*pop_cnt

Comments

Remove conditions VAR_A = Sum If USP_RelativeUtilization <= 1
Then Base*USP_RelativeUtilization
Otherwise Base

Comments

Remove conditions VAR_B = Sum If USP_PercentageSameDay <> (VAR_A/(VAR_A+asdeps_sb))
Then (VAR_A+asdeps_sb)-((asdeps_sb+VAR_A)*USP_PercentageSameDay)
Otherwise VAR_A

Comments

Remove conditions VAR_C = Sum If (LifeExpectancyIndex <> 1) or (SocioeconomicClassIndex <> 1) or (GeographicalLocationIndex <> 1)
Then VAR_B*((pop_cnt*((1-SocioeconomicClass)*0.021984375)+1) + (pop_cnt*((1-GeographicalLocation)*0.0293125)+1) + (pop_cnt*((1-LifeExpectancy)*0.021984375)+1))

System Variables

Symbol	Value
Aonepw_Mean	18 2
Aonepw_Sd	18 2
Nasdep_P_Ud	18 8
Asdep_S_Ud	18 8
Asdep_S	18 2
Asdepw_Mean	18 2
Asdepw_Sd	18 2

Scenario Variables

Symbol	Value
DoctorAvailabil	18 2
DoctorAvailabil	2 0
GeographicalLoc	18 2
GeographicalLoc	2 0
HospitalBedSup	18 2
HospitalBedSup	2 0
LifeExpectancy	18 2

User Variables

Symbol	Value
aon_beds_sb	18 2
aoneps_sb	18 2
Aon_sdays_sb	18 2
asd_beds_sb	18 2
asdeps_sb	18 2
asdays_sb	18 2
aon_beds_ss	18 2

Calculator

IN IS

Select Filter

Insert Condition

New Formula Delete Save

Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Select Demand formulas and get instant results

Study Settings English (U.S.) HFBS Service Planning Version by HPI

Primary Information Catchments Service Definition **Scenario Builder**

Scenario Information Population Adjusters Demand Catchment Adjusters Service Provision Adjusters

Current Catchment Dubai Catchment

Base Scenario Population Adjustment

Base Scenario

Service Modes	Speciality for 2006	Percentage Same Day	Overnight Average Length of	Percentage Target Occupancy	Percentage Self Sufficiency	Percentage Relative Utilisation	Notes
Adult Medical							
Adult Surgical	<input checked="" type="checkbox"/> Cardiology	28	3.96	85	100	100	
Adult Procedural	<input checked="" type="checkbox"/> Dermatology	66	5.45	85	100	100	
Childrens Medical	<input checked="" type="checkbox"/> Endocrinology	33	6.13	85	100	100	
Childrens Surgical	<input checked="" type="checkbox"/> Gastroenterology	34	3.96	85	100	100	
Childrens Procedural	Apply to All	60		85	85	100	

Population Adjustment

Result Panel Filter Results Show Year Service Definition Sex Age Get Results BrowseCube

Year	aoneps_ss			asdeps_sb			asdeps_ss		
	Base Scenario	Demand Adjustm	Population Adjus	Base Scenario	Demand Adjustm	Population Adjus	Base Scenario	Demand Adjustm	Population Adjustment
2006	521,873	521,873	521,873	579,034	579,034	579,034	407,653	407,653	407,653
2011	694,513	694,513	694,513	838,277	838,277	838,277	569,856	569,856	569,856
2016	785,443	635,043	747,793	1,052,140	1,052,140	977,498	681,134	519,063	641,934
2021	892,807	756,181	847,077	1,328,191	1,328,191	1,328,191	881,424	681,424	881,424
2026	1,025,361	870,047	978,733	1,657,591	1,657,591	1,557,474	995,031	811,424	944,622
2031	1,202,589	1,020,900	1,157,526	2,046,372	2,046,372	1,935,990	1,205,515	986,441	1,153,489
2036	1,421,072	1,206,976	1,368,621	2,499,845	2,499,845	2,365,780	1,459,684	1,197,569	1,399,052

Double click on grid or chart to drill inside

Save

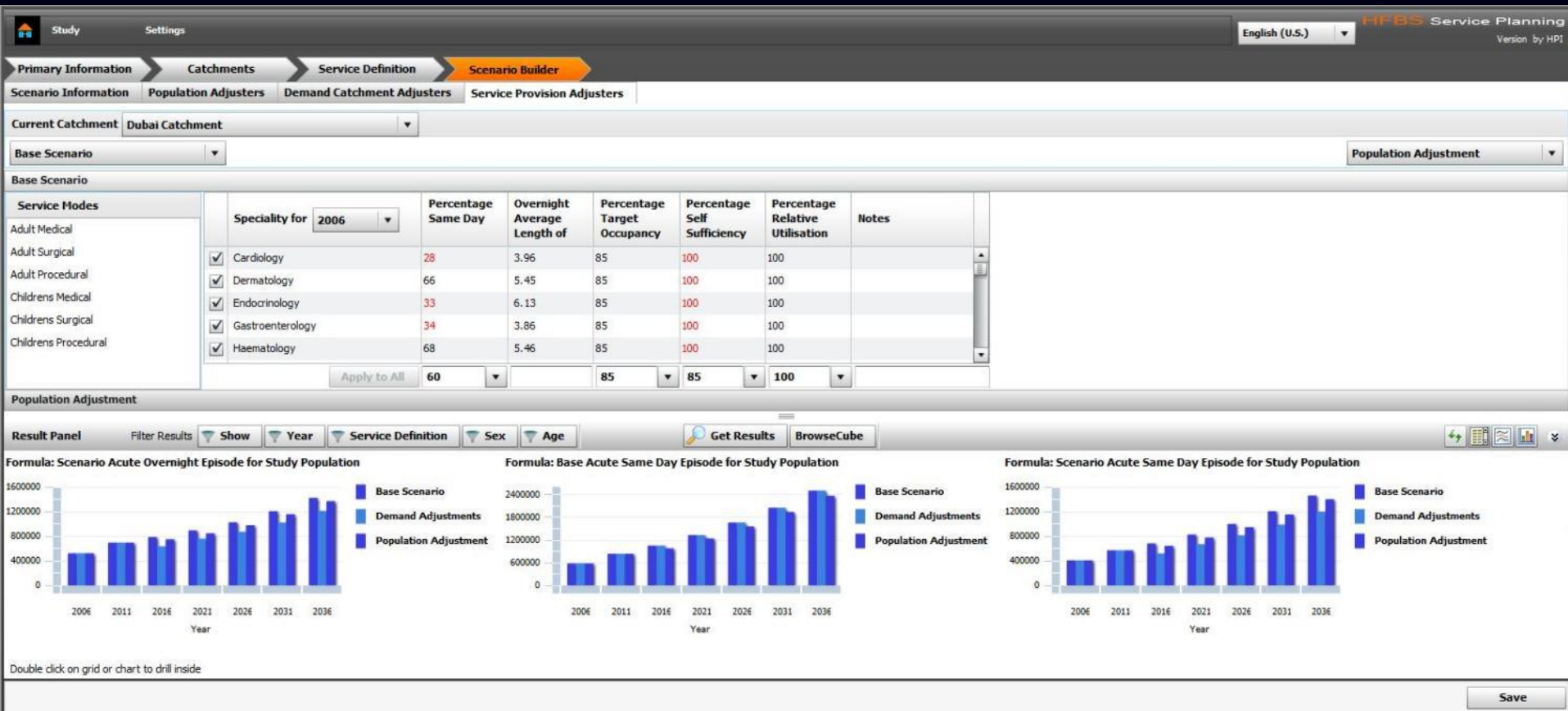
Formulas

Results

Years

Sorted by Specialities, Age, Gender & Catchment

See the demand scenario results as graphs



Analysis of Supply and Demand leading to “Capacity Planning”

Supply Capture Module

Capacity Analysis

Automated Asset Sizing

Overnight Bed Estimate	Parameter Value	Parameter Range	Show Instructions
Days operating per year:	345	1-365	
Bed Occupancy (%)	85%	1-100	

Service Type	Total Beds	Hide Details
Medical	340.2	
Surgical	238.0	
Rehabilitation	124.5	
Other Long Stay Care (Non-Acute)	148.2	
Total	851	

Specialty-specific KPUs	Specialty	Catchment Sufficiency %	Bed Occupancy		Beds		
			%	%	Adult Medical	Adult Surgical	Total Adult
Bones and Joints	Orthopaedics	100%	85%		13.8	67.6	81.3
	Pain Management	100%	85%		1.2		1.2
	Rheumatology	100%	85%		1.1		1.1
Cancer and Haematology	Haematology	100%	85%		14.7	1.6	16.3
	Medical Oncology	100%	85%		18.1		18.1
Cardiovascular Care	Cardiology	100%	85%		50.9	0.4	51.2
	Cardiothoracic Surgery	100%	85%		6.8	11.6	18.4
	Interventional Cardiology	100%	85%			25.8	25.8
Digestive System	Vascular Surgery	100%	85%		3.9	20.4	24.3
	Colorectal Surgery	100%	85%		4.5	12.7	17.3
	Diagnostic GI Endoscopy	100%	85%			3.2	3.2
Nephrology	Gastroenterology	100%	85%		18.7	6.3	25.0
	Upper GI Surgery	100%	85%		6.5	12.9	19.5
	Renal Medicine	100%	85%		14.7	0.9	15.6
Nephrology	Urology	100%	85%		4.9	11.9	16.8
	Neurology	100%	85%		20.0		20.0

Functional Profiling



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Health Planning

Health Service Planning

Health Facility Planning

Demand

Supply

Guide-
lines

Design
Brief

Early
Budget

Demand - Supply = Gap

Design > Approval

Health Service Supply

Define Supply Catchment

Obtain Raw Supply Activity; and / or

Obtain Supply data by KPU's

Project through future years

Service Planning

Guidelines

Briefing

Budgeting

FF&E

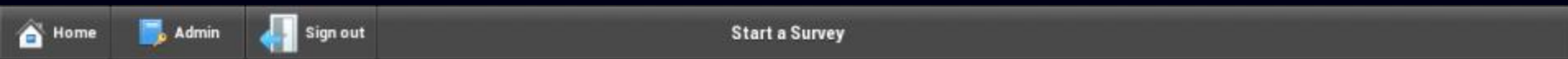
Design

Construction

HR and
Recurrent

Maintenance

Service Planning Supply Capture



Health Facility Briefing System

Service Capture Module

DUBAI HEALTH AUTHORITY

View Survey

Offline Mode

Available for PC or Android Tablets

Capture primary property information

Home

Admin

Sign out

Hospital - BELHOUL EUROPEAN HOSPITAL (L.L.C.)

Media

Hide Categories

Next

Online Mode

Menu

Online Copy: In Progress

1 Facility Information

2 Establishment Information

3 Car Parking Information

4 Transportation Information

5 Appointment Information

6 Resources (HR)

7 Statistics

8 Non Resident Statistics

9 Cardiac Services

10 Laboratory Services

11 Clinical Imaging Services

12 Oncology Services

*Name of the facility

BELHOUL EUROPEAN HOSPITAL (L.L.C.)

*E-mail (contact person)

beh@belhouleuropean.com

Building Name

FIRST FLOOR - 1228 DOUN CENTER - AL DIYAFAH - Al Bada

Block No.

Street No

FIRST FLOOR

Street Name

AL DIYAFAH

* Locality/Suburb

ZAABEEL - 1

ZAABEEL - 2

ABU HAIL

AL AWEER

Capture staff FTE information

Home	Admin	Sign out	Hospital - BELHOUL EUROPEAN HOSPITAL (L.L.C.)		Media	
Hide Categories		Back	Next	Online Mode	Menu	
Online Copy: In Progress						
1	Facility Information		No. of FTE GPs			<input type="text"/>
2	Establishment Information		No. of FTE Nurses			<input type="text"/>
3	Car Parking Information		No. of FTE Assistant Nurses			<input type="text"/>
4	Transportation Information		No. of Pharmacists			<input type="text"/>
5	Appointment Information		No. of Assistant Pharmacists			<input type="text"/>
6	Resources (HR)		No. of FTE Radiology Assistants Technicians			<input type="text"/>
7	Statistics		Total No. of Residents/Interns			<input type="text"/>
8	Non Resident Statistics		Total No. of Allied Health Staff			<input type="text"/>
9	Cardiac Services					
10	Laboratory Services					
11	Clinical Imaging Services					
12	Oncology Services					

Capture service information

Home
 Admin
 Sign out

Hospital - BELHOUL EUROPEAN HOSPITAL (L.L.C.)

Media

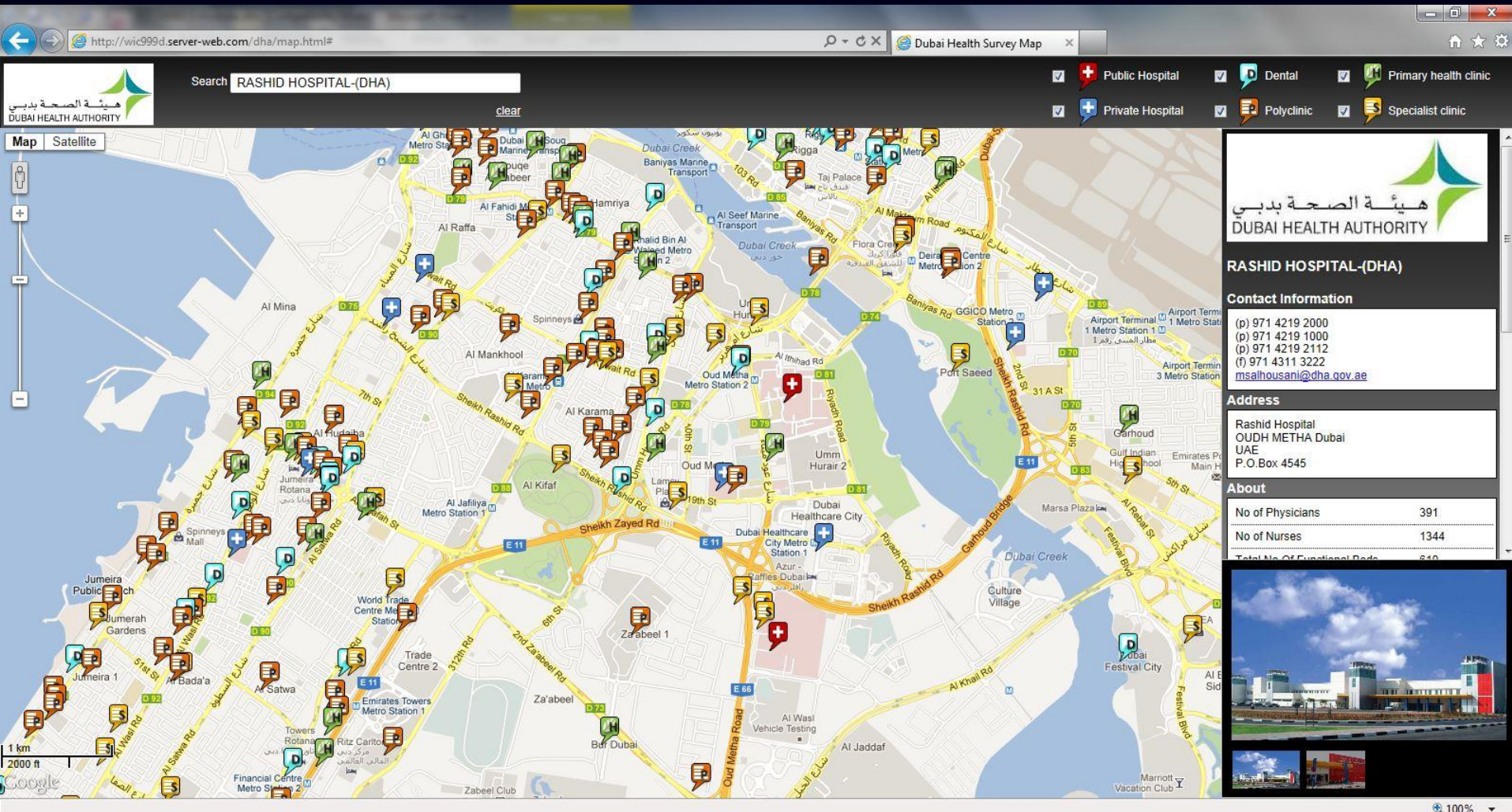
Hide Categories
 Back
 Next
 Online Mode
 Menu

Online Copy: In Progress

1	Facility Information		No. from GCC in 2011	No. from North and East Africa in 2011	No. from West Africa in 2011	No. from Western Europe + Scandinavia in 2011	No. from Russia + Baltics + CIS in 2011	No. from South Asia + Ira in 2011
2	Establishment Information	Cardiac Services						
3	Car Parking Information	Laboratory Services						
4	Transportation Information	Clinical Imaging Services						
5	Appointment Information	Oncology Services						
6	Resources (HR)	Dental Services						
7	Statistics	Neuroscience Services						
8	Non Resident Statistics	Obstetrics & Gynecology Services						
9	Cardiac Services							
10	Laboratory Services							
11	Clinical Imaging Services							
12	Oncology Services							

New Item
 Add

Automatically create map with links to data



Demand – Supply = Service GAP







Service Gap KPU's:

- Acute Overnight Beds
- ICU Cubicles
- Emergency Cubicles
- Elective Operating Rooms
- Emergency Operating Rooms

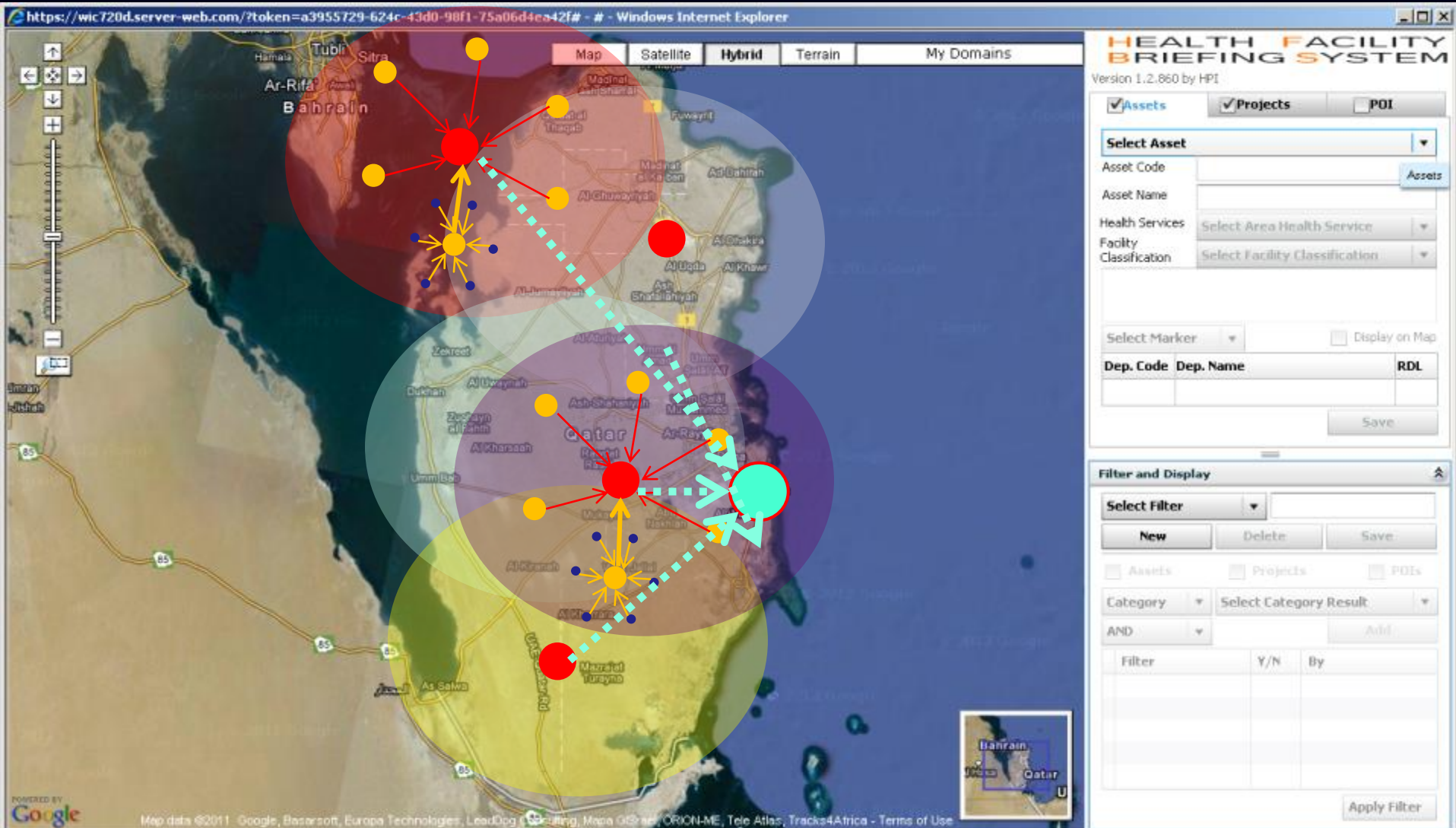


By Service
Mode,
Speciality,
DRG,
Age,
Gender,

Determine Role Delineation and Distribution

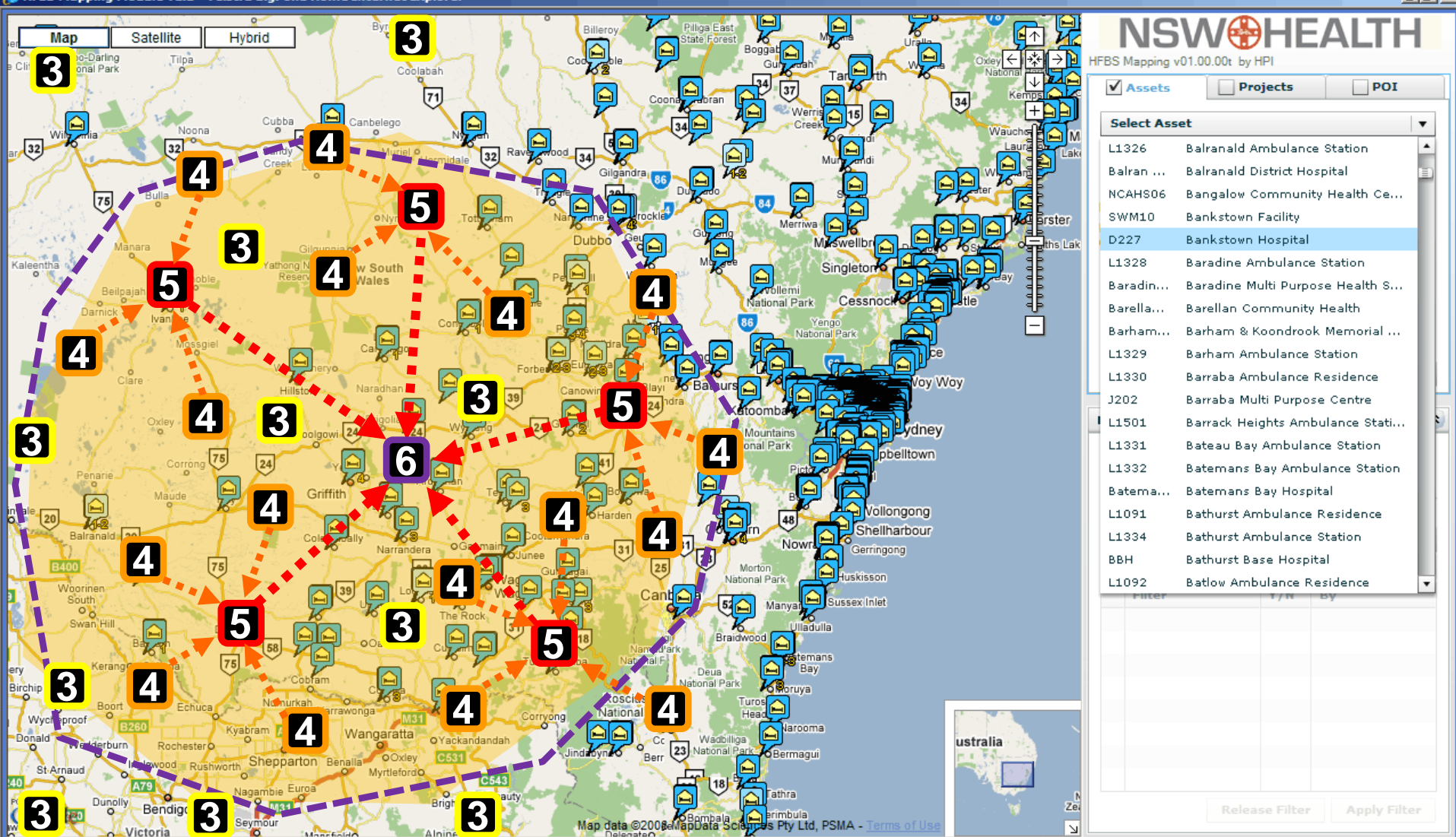
Role Delineation Level (RDL)	General Description
 RDL 6	Statewide Services Hospital with Research, Education & Training
 RDL 5	Tertiary Hospital with Education and Training
 RDL 4	General Hospital (most typical Private Hospitals)
 RDL 3	Small Regional Hospital + visiting specialists, low risk elective surgery
 RDL 2	Remote and Rural Hospitals and Clinics
 RDL 1	Outpatient only by Registered Nurse and GP, possible phone support

Role Delineation Levels & Referral Pattern

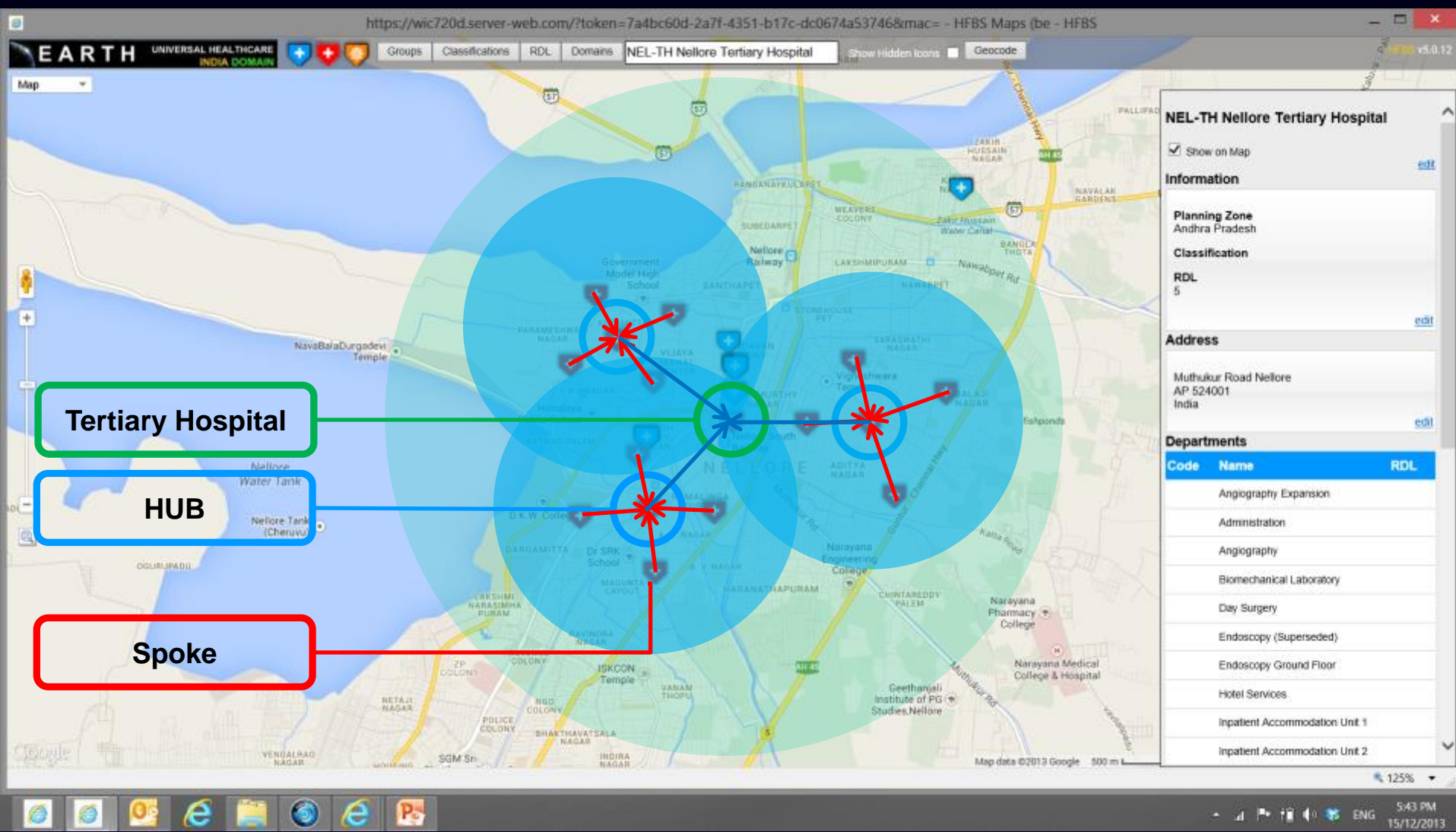


Distribute projected services by RDL for equitable access

HFBS Mapping Module v1.1 - Telstra BigPond Home Internet Explorer



Distribute projected services by Hub & Spoke network model



Capture current supply side of healthcare (existing facilities)

https://wic720d.server-web.com/?token=23cfa40f-16c2-4899-921c-5fcd6406a7cf&mac=- HFBS Maps (be - HFBS

EARTH UNIVERSAL HEALTHCARE INDIA DOMAIN Groups Classifications RDL Domains NEL-TH Nellore Tertiary Hospital Show Hidden Icons Geocode

Satellite

Existing Hospitals

NEL-TH Nellore Tertiary Hospital

☒ Show on Map

Information

Planning Zone
Andhra Pradesh

Classification
RDL
5

Address
Muthukur Road Nellore
AP 524001
India

Departments

Code	Name	RDL
	Angiography Expansion	
	Administration	
	Angiography	
	Biomechanical Laboratory	
	Day Surgery	
	Endoscopy (Superseded)	
	Endoscopy Ground Floor	
	Hotel Services	
	Inpatient Accommodation Unit 1	
	Inpatient Accommodation Unit 2	

Map data ©2013 Google Imagery ©2013 Cnes/Spot Image, DigitalGlobe, Landsat | 500 m

125%

6:24 PM
15/12/2013

Map icons linked to the facility primary information

The screenshot displays a web application interface for facility management. The top navigation bar includes tabs for Service Planning, Guidelines, Briefing, Budgeting, FF&E, Design, Construction, HR and Recurrent, and Maintenance. The main area shows a satellite map of Nellore, India, with a pop-up window for 'NEL-TH Nellore Tertiary Hospital' at Muthukur Road. The pop-up window has buttons for 'Nearby', 'Edit', 'Delete', and 'Info'. A red box highlights the 'Info' button, which is linked to a sidebar on the right. The sidebar contains the following information:

NEL-TH Nellore Tertiary Hospital

☒ Show on Map [edit](#)

Information

Planning Zone
Andhra Pradesh

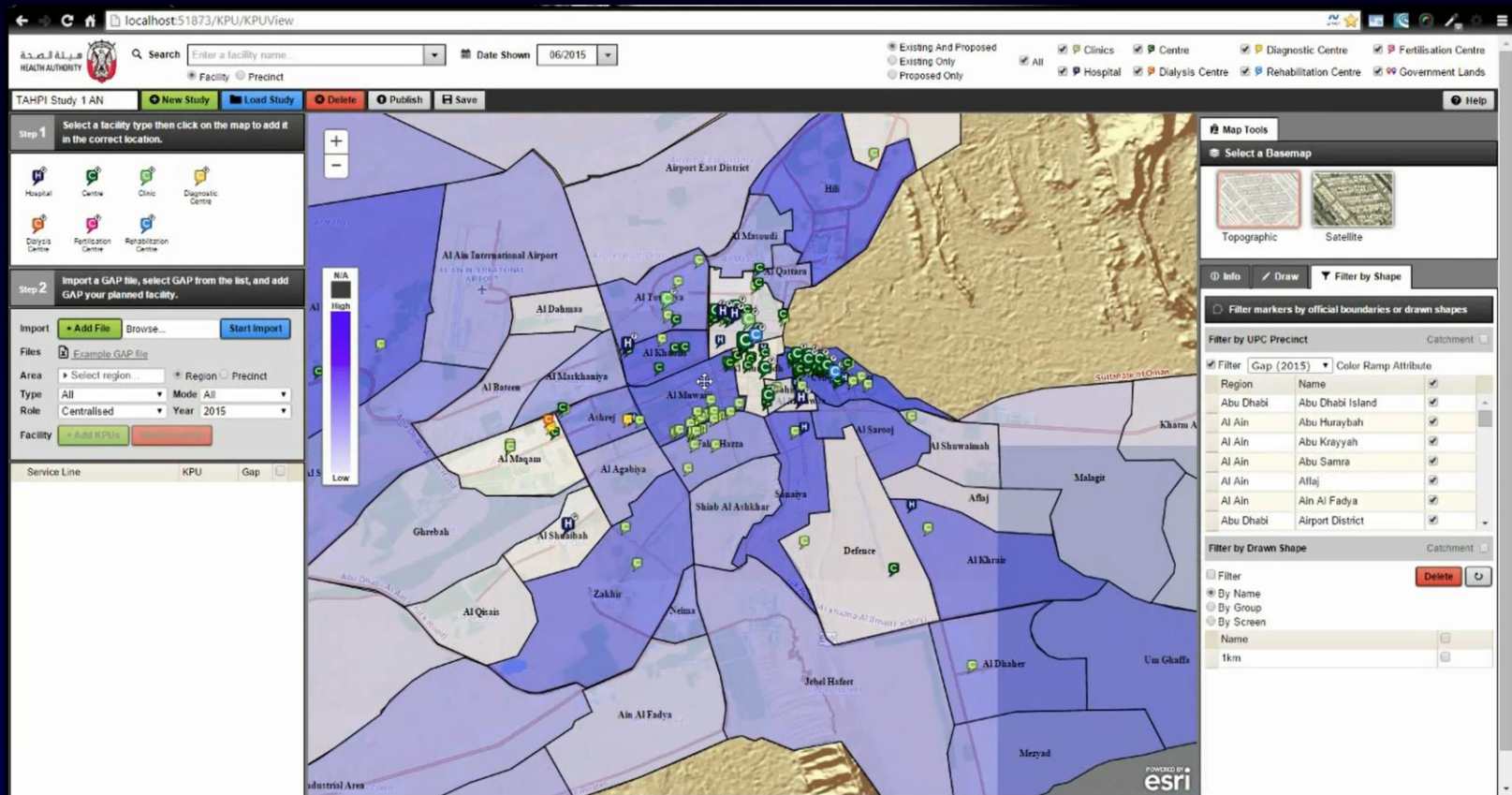
Classification
RDL
5 [edit](#)

Address
Muthukur Road Nellore
AP 524001
India [edit](#)

Departments

Code	Name	RDL
	Angiography Expansion	
	Administration	
	Angiography	
	Biomechanical Laboratory	
	Day Surgery	
	Endoscopy (Superseded)	
	Endoscopy Ground Floor	
	Hotel Services	
	Inpatient Accommodation Unit 1	
	Inpatient Accommodation Unit 2	

Generate 'Heat Maps' to study area deficiencies



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

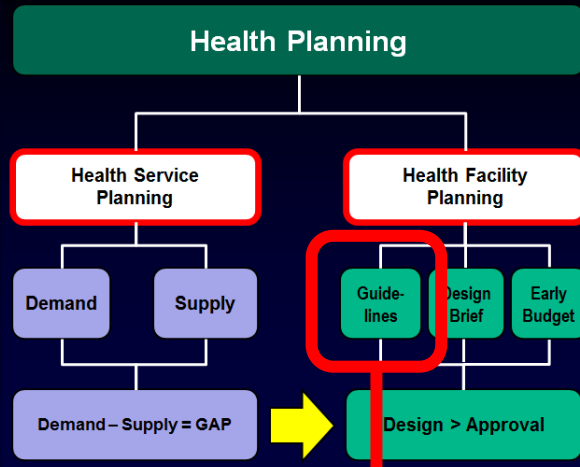
Construction

HR and
Recurrent

Maintenance

HFBS 5 hosting Health Facility Guidelines

Soft Modular



Health Facility Guidelines

Role Delineation Level Guide (RDL)

Functional Planning Units (FPU)

Standard Components (SC)

Schedule of SCs for FPUs by RDL

Operational Policies (OP)

New types of Guidelines

Ready-to-use Health Facility Design Guidelines

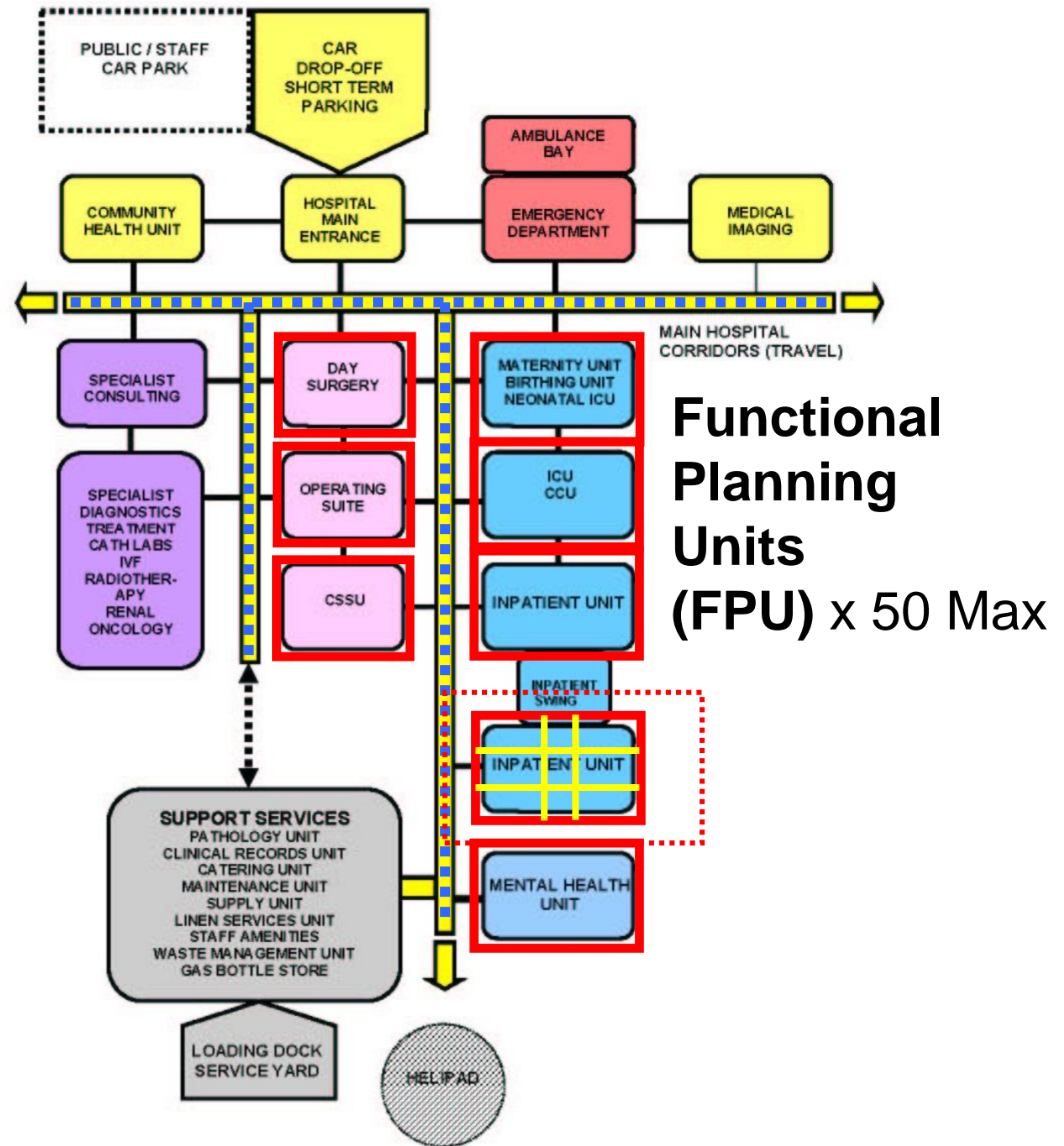
- International (IHFG)
- HAAD (HAAD HFG)
- Australia (AHFG) Standard Components
- New Zealand (AHFG)
- Singapore (MOHH)
- India (Indian HFG)
- SHCC (SHCC HFG)
- PNG (PNG HFG)

Other types of Guidelines

- FGI 2014
- HTM
- HBN
- NFPA
- ADA



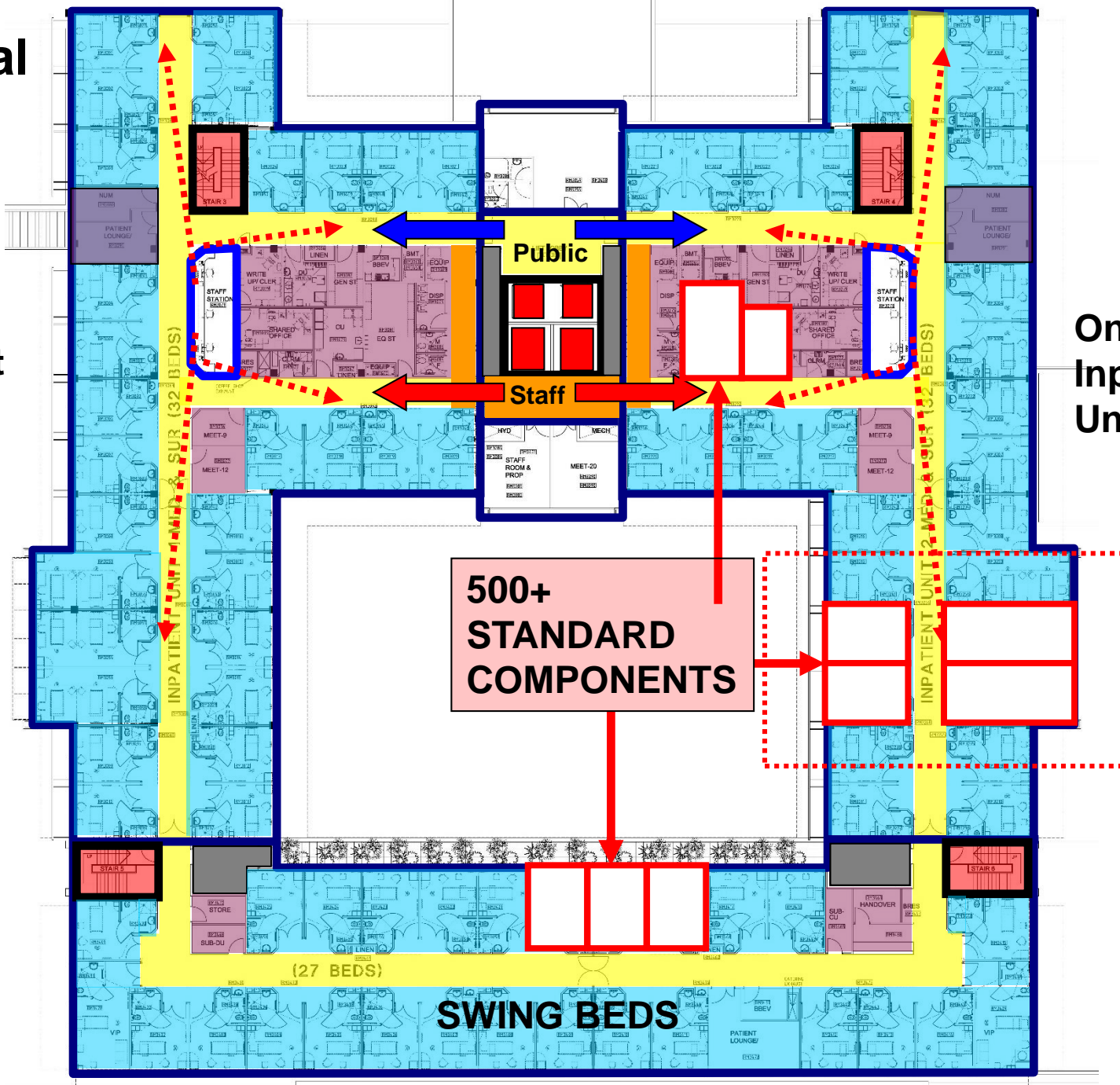
Typical Hospital Diagram



Typical
FPU

Medical
Inpatient
Unit

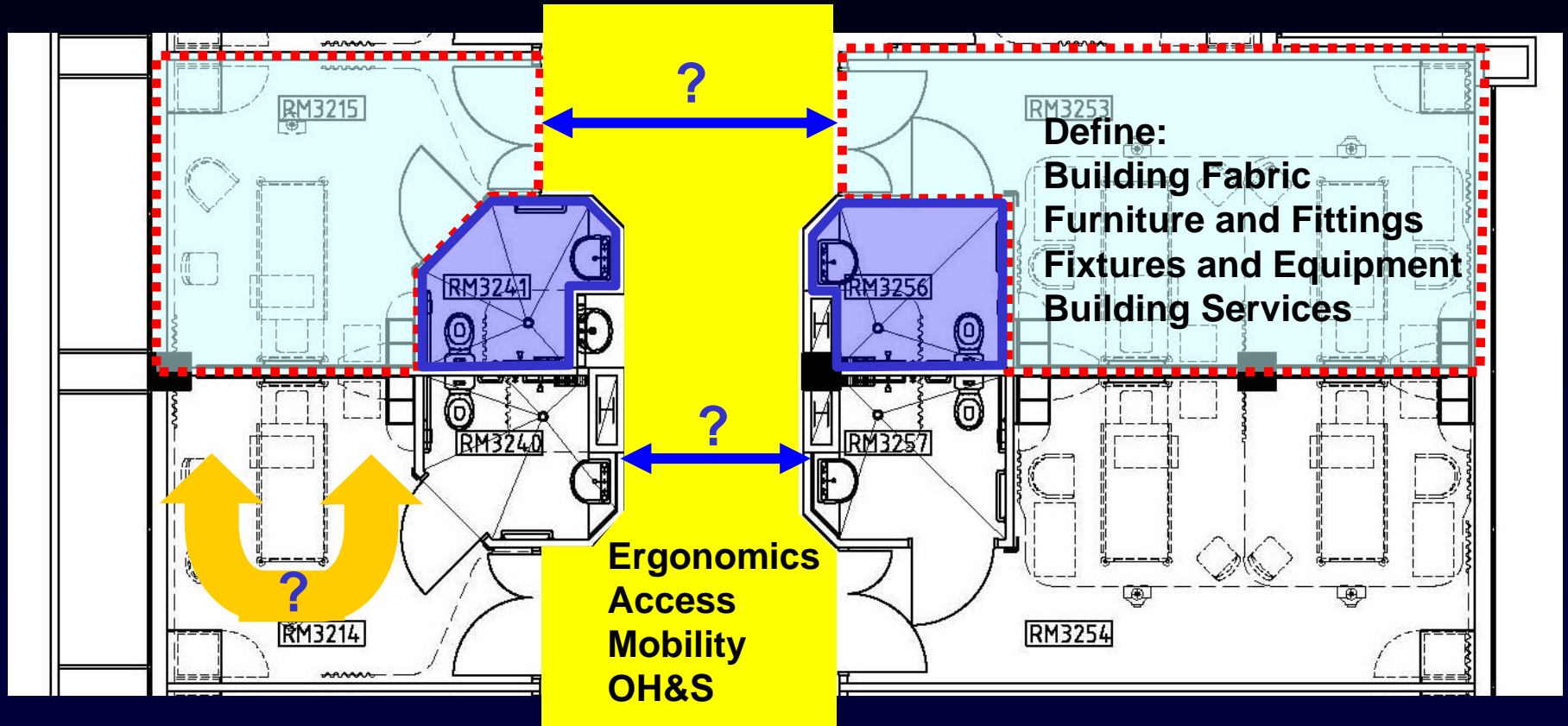
Oncology
Inpatient
Unit



Standard Components x 500

Standard Single 15 m²

Standard Double 25 m²



Typical Bedrooms

Approximately 500 Standard Components can define any hospital

need to be sustainable in every respect as an essential public service. Therefore they need to carefully balance the required features and standards against capital and operational costs without compromising the quality of care. Sustainability demands that the precious knowledge of healthcare design be shared rather than wasted after every successful project. These guidelines bring that shared knowledge to the world to achieve these key objectives:

- Establish the minimum acceptable standards
- Maintain public confidence in the facilities which comply with these guidelines
- Provide a basis for the approval and licensing of healthcare facilities
- Provide guidance to designers on the special needs of healthcare facilities
- Consider the wellbeing, safety, privacy and dignity of patients, staff and visitors
- Eliminate design features that result in unacceptable practices
- Allow Health Authorities to require compliance with these guidelines
- Provide a knowledge base to inform future healthcare design consultants

These Guidelines will be continually reviewed, updated and expanded. Readers are encouraged to provide feedback and to contribute material for future updates.



and Security.

Part D – Infection Control This part details the Infection Control requirements of healthcare facilities.

Part E – Engineering This part focuses on the acceptable International engineering guidelines and standards for Mechanical, Electrical, Plumbing, Fire and other building services.

Part F – Feasibility Planning & Costing Guidelines This part includes feasibility planning, capital costing, financial appraisal and procurement strategy.

Part Q – Equipment Planning Guidelines This part covers the methodology for the planning, procurement & placement the Furniture Fittings, Fixtures & Equipment (FF&FE) both Medical and Non-medical.

Part S – Health Service Planning Guidelines This part includes catchment identification, service definition, needs assessment, demand projections, gap analysis and service profiling.

Guideline Sections	Size	Price			
Part A - Administrative Provisions	1.5mb	Free	View Index	Preview	Download
Part B - Health Facility Briefing and Design	9.3mb	Free	View Index	Preview	Download
Part C - Access, Mobility, OH&S Revised	1.5mb	Free	View Index	Preview	Download
Part D - Infection Control Revised	1.1mb	Free	View Index	Preview	Download
Part E - Engineering Services and Environmental Design	67.3kb	Free	View Index	Preview	Download
Part F - Feasibility Planning & Costing Guidelines New	175.0kb	Free	View Index	Preview	Download
Part Q - Equipment Planning Guidelines New	449.4kb	Free	View Index	Preview	Download
Part S - Health Service Planning	866.6kb	Free	View Index	Preview	Download

[Back](#)**Part B - Health Facility Briefing and Design**

Planning Preliminary Information

9.3mb

Free

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Planning Preliminaries

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Role Delineation Guide

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Standard Components

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Planning

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Acceptable Standard and Guidelines

26.8kb

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[Preview](#)[Download](#)**Functional Planning Units (FPU)**

Administration Unit

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Admissions Unit & Discharge

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[Preview](#)[Download](#)

Birthing Unit

365.2kb

Free

[Preview](#)[Download](#)

Cardiac Investigation Unit

778.8kb

Free

[Preview](#)[Download](#)

Catering Unit

582.0kb

Free

[Preview](#)[Download](#)

Clinical Information Unit

565.2kb

Free

[Preview](#)[Download](#)

Community Health Unit

813.6kb

Free

[Preview](#)[Download](#)

2. Call points, Power, Light Switch, Data and Gas outlets
3. Bed Screens
4. Sanitary Fixtures

1

2

4

6

A

B

C

D

E

F ↔ P

Q ↔ Z

Standard Components

1 Bed Room - Bariatric, 20m2

3D

1 Bed Room - Isolation, 18m2, Neg Pressure

1 Bed Room - Isolation, 28m2, Neg Pressure

1 Bed Room - Isolation, 18m2, Pos Pressure

1 Bed Room - Isolation, 28m2, Pos Pressure

1 Bed Room - Large, 28m2, Inboard Ensuite

3D

Room Data Sheet

1_bed_room_large_28m2_rds.pdf

63.3kb

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Preview

Download

Room Layout Sheet

1_br-lg-28a-i.pdf

1.3mb

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Preview

Download

AutoCAD Drawing

1br-lg-28a-i-a1.dwg

285.6kb

\$2.99

Add to Cart

Autodesk Revit

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36.1mb

\$64.99

Add to Cart

1 Bed Room - Large, 28m2, Outboard Ensuite

3D

1BR-LG-I-B

1 Bed Room - Mental Health, 18m2, Inboard Ens

3D

1BR-MH-18-I-A

1 Bed Room - Mental Health, 18m2, Corridor Ens

3D

1BR-MH-18-I-B

iHFG Standard Components

Room Layout Sheet

Room Name 1 Bed Room - Large, 28m2

RDS Room Code 1 BR-LG-28A-I

RDS Room Code 1 BR-LG-28A-I



PERSPECTIVE 01



PERSPECTIVE 02

REV	DESCRIPTION	DATE	BY	CHKD	APPD
1	1 BR-LG-28A-I	2020-10-01	1	1	1
2	1 BR-LG-28A-I	2020-10-01	1	1	1
3	1 BR-LG-28A-I	2020-10-01	1	1	1
4	1 BR-LG-28A-I	2020-10-01	1	1	1
5	1 BR-LG-28A-I	2020-10-01	1	1	1
6	1 BR-LG-28A-I	2020-10-01	1	1	1
7	1 BR-LG-28A-I	2020-10-01	1	1	1
8	1 BR-LG-28A-I	2020-10-01	1	1	1
9	1 BR-LG-28A-I	2020-10-01	1	1	1
10	1 BR-LG-28A-I	2020-10-01	1	1	1

iHFG International Health Facility Guidelines

This document is for advisory purpose only.

This document is for advisory purpose only.

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

1 BR-LG-28A-I

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1 BR-LG-28A-I

Look up the 50 relevant FPU guidelines



Volumes

doi:10.1186/1745-6215-10-104
10227-674007 - 10.1186/1745-6215-10-104

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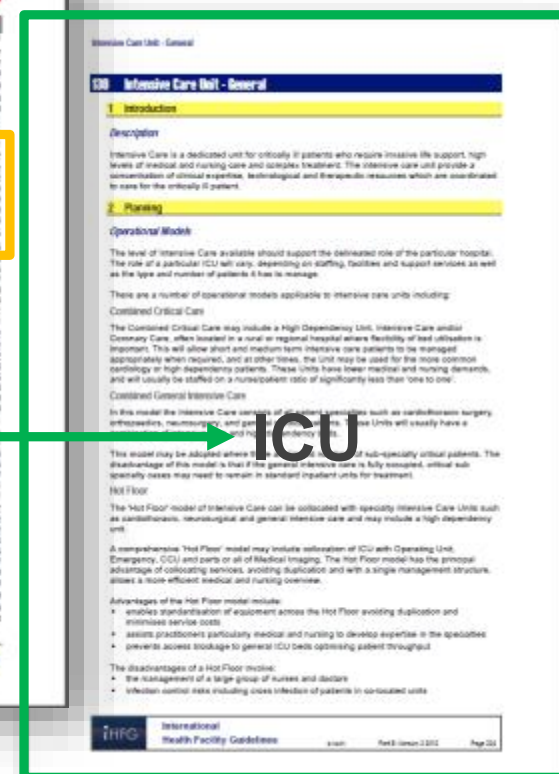
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Page 2

Index of 50 FPU's



FPU Guidelines

29.0 Operating Unit

29.1 Introduction

29.1.1 Description

The Operating Unit provides a safe and controlled environment for the operative care of patients undergoing diagnostic surgical procedures under anaesthesia and peri-operative care including post procedure recovery.

29.2 Planning

29.2.1 Operational Models

Operation models include the following options:

INTEGRATED AMBULATORY CARE MODEL

This is a dedicated unit where patients access surgical and/or medical procedures and other complementary services on a planned day-only basis.

PERI-OPERATIVE MODEL

In this model patients have planned surgery and are admitted as a day-only or day-of-surgery admission in a dedicated facility. Surgery and 1st stage recovery is undertaken in the Operating Unit. Day-only cases are then transferred back to the facility for pre-discharge care. Day-of-surgery admissions may be transferred to an inpatient unit following recovery.

SHORT STAY SURGERY MODEL

This is a dedicated unit where patients have planned surgery as a day-only or overnight admission; patients are transferred to the Operating Unit for surgery and 1st stage recovery, and then returned to the facility. Post-operative stay is usually less than 48 hours.

SPECIALIST SURGERY MODEL

This model provides for a single specialty or compatible specialties such as ophthalmology, plastic surgery or urology. Patients are admitted and discharged on a day-only basis.

29.2.2 Planning Models

The Operating Unit shall be located and arranged to prevent non-related traffic through the suite.

The number of Operating Rooms and Recovery beds and the sizes of the service areas shall be based on the service plan and expected surgical workload. The size, location, and configuration of the surgical suite and support service departments shall reflect the projected case load and service plan of the Unit.

A number of planning models may be applied including:

SINGLE CORRIDOR

The single corridor model involves a central corridor (clean or used) as well as patients (pre and post operative) in the main corridor. There is no separate suite as to the suitability of this approach. However, this option is considered sub-optimal.

- the main corridor is sufficiently wide in order to permit separation of passage of goods and services;
- handling of clean supplies and waste is carefully managed to avoid cross contamination

A major disadvantage of this planning model is that a patient awaiting surgery may be exposed to post operative patients

Part B - Version 2, January 2011

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29.5 Schedule of Accommodation

29.5.1 Operating Unit Generic Schedule of Accommodation Schedule of Accommodation for an Operating Unit for Level 2-6

ROOM SPACE	Standard Component	Level 2 200 x 100 x 100	Level 3 200 x 100 x 100	Level 4 200 x 100 x 100	Level 5 200 x 100 x 100	Level 6 200 x 100 x 100	Remarks
ADMISSIONS/RECEPTION AREA		100	100	100	100	100	
RECEPTION/CLERICAL	yes	1 x 4	1 x 4	1 x 4	1 x 4	1 x 4	May include space for porter
WAITING - MALE/FEMALE	yes	2 x 10	2 x 10	2 x 10	2 x 10	2 x 10	
MEETING ROOM			1 x 4	1 x 4	1 x 4	1 x 4	
PRE-OPERATIVE HOLDING AREA							
PATIENT DAY - HOLDING MALE/FEMALE	yes	2 x 6	2 x 6	4 x 4	4 x 4	4 x 4	Separate Male/Female areas
OFFICE - WRITE UP BAY	yes		1 x 4	1 x 4	1 x 4	1 x 4	Staff work area based on 300 sq ft per person
STAFF STATION			1 x 4	1 x 4	1 x 4	1 x 4	Reception area can be used until 24
DAY - HANDWASHING	yes	1 x 1	1 x 1	1 x 1	1 x 1	1 x 1	Handwash accessible
DAY - LINEN	yes			1 x 2	1 x 4	1 x 4	1 per 16 seats
DAY - BLANKET WARMER	yes			1 x 1	2 x 1		
CLEAN UTILITY	yes	1 x 6	1 x 6	1 x 6	1 x 6	1 x 6	For level 2-3 clean utility could be allocated with staff station
DIRTY UTILITY	yes		1 x 6	1 x 6			
OPERATING ROOMS AREA							
ANAESTHETIC INDUCTION	yes	1 x 10	2 x 10	4 x 10	10 x 10		
ANAESTHETIC INDUCTION - LARGE	yes				2 x 10		
OPERATING ROOM - GENERAL	yes	1 x 40	2 x 40	4 x 40	6 x 40		
OPERATING ROOM - LARGE	yes				6 x 50		
OPERATING ROOM - DIGITAL	yes				1 x 50		Provide according to service demand
OPERATING ROOM - HYBRID C.T	yes				1 x 50		Provide according to service demand
OPERATING ROOM - VASCULAR/IMAGING/SCUB-UP	yes	1 x 6	2 x 6	4 x 6	10 x 6		1 per theatre
EXIT BAY	yes				1 x 6		1 per theatre
CLEAN UP	yes						per 2 theatres
FLASH STERILISING	yes	1 x 2	1 x 2	1 x 2	1 x 2		
STORE - NON STERILISING	yes		1 x 20	1 x 30	1 x 40		based on 10-12 m2 per 100
STORE - STERILE STOCK	yes	1 x 10	1 x 20	1 x 40	1 x 100		

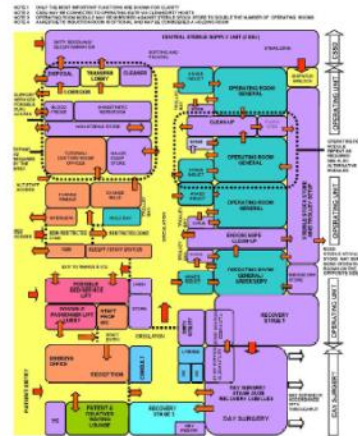
SOA

Part B - Version 2, January 2011

www.haad.ae

Page 215

ENCLOSURE 2: DUAL CORRIDOR MODEL



FRD

Part B - Version 2, January 2011

www.haad.ae

Page 221

Emergency Unit

Engineering & Maintenance Unit

Hospital Morgue

Inpatient Accommodation Unit

Intensive Care Unit

IVF Unit (Fertilisation Centres)

Linen Handling Unit

Main Entrance Unit

Medical Imaging Unit

Mobile Unit

Nuclear Medicine Unit

Obstetrics Unit

Operating Unit

Pathology Unit

(1.83kb PDF)

(59kb PDF)

(205kb PDF)

(3.80kb PDF)

(1.617kb PDF)

(1.97kb PDF)

(59kb PDF)

(252kb PDF)

(1.52kb PDF)

(40kb PDF)

(1.82kb PDF)

(1.2kb PDF)

(9.82kb PDF)

(8.1kb PDF)

Look up Room Schedules under RDL columns

Part B - Health Facility Briefing and Planning

Operating Unit Generic Schedule of Accommodation
 520.37.00 ADMINISTRATIVE AND STAFF AREAS

Note: Offices and Support Areas are dependent on Operational Policy and management structure.

ROOM/SPACE	Standard Component	Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
WAY - BEVERAGE	yes	1 x 10	2 x 15	2 x 30	2 x 40	Allocated with Staff Room
CHARGE ROOM - STAFF	yes	2 x 10	2 x 15	2 x 30	2 x 40	May need to be apportioned for Male & Female Users
MEETING ROOM - MEDIUM	yes					
OFFICE - SINGLE PERSON 1 M2	yes	1 x 9	1 x 9	1 x 9	1 x 9	1st Manager
OFFICE - SINGLE PERSON 1 M2	yes	1 x 9 optional	1 x 9 optional	2 x 9 optional	2 x 9 optional	According to staffing establishment
OFFICE - SINGLE PERSON 1 M2	yes					The Educator's
OFFICE - SINGLE PERSON 1 M2	yes					Recovery Unit Manager
OFFICE - SINGLE PERSON 1 M2	yes					Photographer
OFFICE - WRITE-UP BAY	yes					Station Area
SHOWER - STAFF	yes	2 x 2	2 x 2	4 x 2	4 x 2	
STAFF LOUNGE	see remarks	1 x 10	1 x 15	1 x 30	1 x 40	Refer to Standard Component - Staff Room; see according to staffing establishment
STORE - FILES	yes			1 x 10	1 x 10	
STORE - PHOTO COPY/STATIONERY	yes					
TOILET - STAFF	yes	2 x 2	2 x 2	4 x 2	4 x 2	

520.38.00 SHARED AREAS

ROOM/SPACE	Standard Component	Level 3 Qty x m2	Level 4 Qty x m2	Level 5 Qty x m2	Level 6 Qty x m2	Remarks
RADIOLOGICAL ENGINEERING						
INTERVIEW ROOM	yes	1 x 9	1 x 9	1 x 9	1 x 9	
MEETING ROOM - LARGE	yes			1 x 30	1 x 30	
STORE - GENERAL	yes	1 x 9	1 x 9	1 x 9	1 x 9	
WAITING	yes			1 x 4	1 x 4	

References and Further Reading
 520.39.00 - American Institute of Architects, Guidelines for Design & Construction of Hospital & Healthcare Facilities, 1997.
 - Health Department Western Australia, Private Hospital Guidelines, 1998.

Selection of Standard Components

Role Delineation Level (RDL) 1 to 6

Rooms Required

FPU= 50
RDS= 500
RLS= 500

RDS

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens 3D 1BR-MH-18-I-C

1 Bed Room - Mental Health, 28m2, Inboard Ens 3D 1BR-MH-28-I-A

Room Data Sheet 1_bed_room_mental_health_28m2_rds.pdf 62.3kb Free Preview Download

AutoCAD Drawing 1br-mh-28-I-a.dwg 208.1kb \$2.99 Add to Cart

Room Layout Sheet 1br-mh-28-a-I.pdf 567.2kb Free Preview Download

Autodesk Revit 1br-mh-28-a-I.rvt 55.5mb \$64.99 Add to Cart

RLS

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

1 Bed Room - Mental Health, 28m2, Inboard Ens

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

1 Bed Room - Mental Health, 28m2, Inboard Ens

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

1 Bed Room - Mental Health, 28m2, Inboard Ens

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

1 Bed Room - Mental Health, 28m2, Inboard Ens

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

1 Bed Room - Mental Health, 28m2, Inboard Ens

1 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

1 Bed Room - Mental Health, 28m2, Inboard Ens

2 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

2 Bed Room - Mental Health, 28m2, Inboard Ens

2 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

2 Bed Room - Mental Health, 28m2, Inboard Ens

2 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

2 Bed Room - Mental Health, 28m2, Inboard Ens

2 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

2 Bed Room - Mental Health, 28m2, Inboard Ens

2 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

2 Bed Room - Mental Health, 28m2, Inboard Ens

2 Bed Room - Mental Health, 18m2, Bk-t-bk Ens

2 Bed Room - Mental Health, 28m2, Inboard Ens

4 Bed Room - Standard, 42m2, Inboard Ensuite

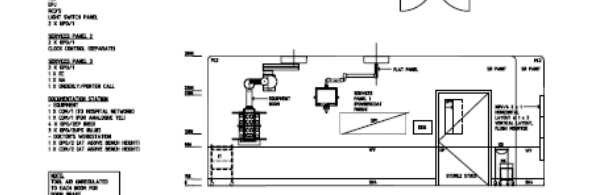
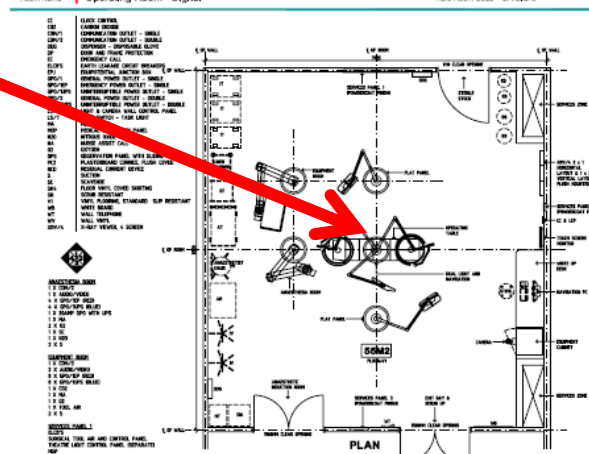
Department	Standard Components	Room Tag: 3278
Room Name	Operating Room - Digital	Room Code: OR-210-U
Net Room Area: Briefed	55.0 M2	Room No:
No of Rooms	1	
Subtotal of Briefed Area	55.00 M2	
Hours of Operation	24 Hours	
Occupancy	1 patient, 5 - 12 staff	
Also covers these Rooms		
Description/ Special Requirements	<p>The Operating Room - Digital provides a fully digital integrated aseptic environment in which to carry out surgical procedures under local, regional or general anaesthetic. The digital operating room will include ceiling pendant systems, operating theatre imaging equipment and video monitoring equipment.</p> <p>The Operating Room - Digital may be used for surgical procedures that require large and bulky equipment, including Neurosurgery, Orthopaedics and Cardiac Surgery or may also be used for general surgery and specialties including ENT, Urology, Gynaecology, Ophthalmology, Plastic Surgery and any other procedures that do not require bulky equipment. The Operating Room will have direct access to a Scrub-up Room, exit bay and sterile stock-up area.</p> <p>Cardiac Protected electrical area</p> <p>Special Air Conditioning - HEPA filtration</p> <p>Additional Design Considerations:</p> <ul style="list-style-type: none"> - Minimum critical dimension 6000mm. - Laser in Use warning lights may be required outside all exit doors to room if laser equipment is to be used. - Lead shielding may be required depending on use of X-ray equipment; to be assessed by Radiation Consultant. - External windows are desirable - double glazed with integral Venetian blinds. - Provide isolated power supply individually to each large Operating Room, together with its associated line isolation and overload monitors. 	
Amendment	24.10.10 - First Draft	

Room Fabric and outline specifications

ID	Fabric	Material	Finish	Specification	Selection	Remarks
8010	Ceiling	Plasterboard	Paint, washable	Flush and suspended		
8015	Corridor	Plasterboard	Paint	Flush and between wall & ceiling		
8010	Door protection	Composite	Pre-finished PVC	Protection plate to 900 AFFL		
8040	Door protection	Composite	Pre-finished PVC	To door frame		

UAE STANDARD COMPONENTS

Room Name: Operating Room - Digital RLS Room Code: OR-210-U RDS Room Code: OR-210-U



NO.	COMPONENT	UNIT	QTY	DESCRIPTION	UNIT	QTY	DESCRIPTION	UNIT	QTY	DESCRIPTION
1	CEILING	SQ. M	55.00	CEILING	SQ. M	55.00	CEILING	SQ. M	55.00	CEILING

HAAD Guidelines

by TAHIR CONSULTANTS OR-210-U OR-210-U

4BR-ST-42-I-A



The International Health Facility Guidelines (IHFG) by Health Projects International (HPI) and its network (TAHPI) is available from the panel below. Click on "Guidelines" to navigate to the individual chapters. Click on the "Standard Components" to see individual Room Data Sheets and matching Room Layout Sheets (Medical Templates). Any item selected will be downloaded to the iPad from the web. The content is updated automatically if a newer version becomes available. "Guidelines" on the navigation bar to the left or the symbol below.

Guidelines

Standard Components

< Back Part B - Health Facility Briefing and Design >

Introduction >

Role Delineation Guide >

Standard Components >

Planning >

Acceptable Standard and Guidelines >

Administration Unit >

Admissions Unit >

Adult Mental Health Inpatient Unit >

Ambulatory Care Unit >

Catering Unit >

Child & Adolescent Mental Health Unit >

Part B – Health Facility Briefing & Design
Volume 1 **1–5 Planning Preliminaries**



International Health Facility Guidelines
Version 3 December 2012



International Health Facility Guidelines



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▼

Guidelines

Standard Components

Office - Workstation OFF-WS-U ➤

Office - Write-up Bay, 1m2 OFF-WI-1-U ➤

Office - Write-up Bay, 6m2 OFF-WI-6-U ➤

Office - Write-up, 3m2 OFF-WI-3-U ➤

Office - Write-Up (Shared), 12m2 OFF-WIS-U ➤

Operating Room - CT Control OR-CTCR-U ➤

Operating Room - CT Procedure OR-CT-U ➤

Operating Room - Digital OR-DIG-U ▼

Room Layout Sheet

Room Data Sheet

Operating Room - General ORGN-U ➤

Operating Room - Hybrid - CT Scanning Room OR-HY-CT-U ➤

Operating Room - Large ORLA-U ➤

IHFG Standard Project Milestone: **Current**

Milestone: Current

Room Data Sheets

Department	HFBS Standard Components	Room Tag: 3276
Room Name	Operating Room - Digital	Room Code: OR-DIG-U
Net Room Area Briefed	55.0 M2	
No of Rooms	1	
Subtotal of Briefed Area	55.00 M2	
Hours of Operation	24 Hours	
Occupancy	1 patient; 5 - 12 staff	
Also covers these Rooms		
Description/ Special Requirements	<p>The Operating Room - Digital provides a fully digital integrated aseptic environment in which to carry out surgical procedures under local, regional or general anaesthetic. The digital operating room will include ceiling pendant systems, operating theatre imaging equipment and video monitoring equipment.</p> <p>The Operating Room - Digital may be used for surgical procedures that require large and bulky equipment, including Neurosurgery, Orthopaedics and Cardiac Surgery or may also be used for general surgery and specialties including ENT, Urology, Gynaecology, Ophthalmology, Plastic Surgery and any other procedures that do not require bulky equipment. The Operating Room will have direct access to a Scrub-up Room, exit bay and sterile stock/set-up area.</p> <p>Cardiac Protected electrical area</p> <p>Special Air Conditioning - HEPA filtration</p> <p>Additional Design Considerations:</p> <ul style="list-style-type: none"> - Minimum critical dimension 6000mm. - "Laser In Use" warning lights may be required outside all exit doors to room if laser equipment is to be used - Lead shielding may be required depending on use of X-ray equipment; to be assessed by Radiation Consultant - External windows are desirable - double glazed with integral Venetian blinds - Provide isolated power supply individually to each large Operating Room, together with its associated line isolation and overload monitors 	
Amendment	24.10.10. - First Draft	

Room Fabric and outline specifications

ID	Fabric	Material	Finish	Specification	Selection	Remarks
5010	Ceiling	Plasterboard	Paint, washable	Flush set, suspended		
6015	Cornice	Plasterboard	Paint	Flush coved between unit &		



International Health Facility Guidelines



The International Health Facility Guidelines (iHFG) by Health Projects International (HPI) and its network (TAHPI) is available from the panel below. Click on "Guidelines" to navigate to the individual chapters. Click on the "Standard Components to see individual Room Data Sheets and matching Room Layout Sheets (Medical Templates). Any item selected will be downloaded to the iPad from the web. The content is updated automatically if a newer version becomes available. "Guidelines" on the navigation bar to the left or the symbol below.

Guidelines

Standard Components

▲
I
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M
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▼

Office - Single Person, 12m2	OFF-S12-U >
Office - Workstation	OFF-WS-U >
Office - Write-up Bay, 1m2	OFF-WI-1-U >
Office - Write-up Bay, 6m2	OFF-WI-6-U >
Office - Write-up, 3m2	OFF-WI-3-U >
Office - Write-Up (Shared), 12m2	OFF-WIS-U >
Operating Room - CT Control	OR-CTCR-U >
Operating Room - CT Procedure	OR-CT-U >
Operating Room - Digital	OR-DIG-U ▼
Room Layout Sheet	Room Data Sheet
Operating Room - General	ORGN-U >
Operating Room - Hybrid - CT Scanning Room	OR-HY-CT-U >

HFBS STANDARD COMPONENTS

Room Layout Sheet

Room Name | Operating Room - Digital

RLS Room Code OR-DIG-U
RDS Room Code OR-DIG-U

- CC CLOCK CONTROL
- CD COMMUNICATION OUTLET - SINGLE
- CDU/1 COMMUNICATION OUTLET - DOUBLE
- DD DISPENSER - DISPOSABLE GLOVE
- DP DOOR AND FRAME PROTECTION
- EC EMERGENCY CALL
- ELCB EARTH LEAKAGE CIRCUIT BREAKER
- EP EQUIPMENT JUNCTION BOX
- EP/1 GENERAL POWER OUTLET - SINGLE
- EP/2 EMERGENCY POWER OUTLET - SINGLE
- EP/3 UNINTERRUPTIBLE POWER OUTLET - SINGLE
- EP/4 GENERAL POWER OUTLET - DOUBLE
- EP/5 UNINTERRUPTIBLE POWER OUTLET - DOUBLE
- LCF LIGHT & CAMERA WALL CONTROL PANEL
- LS/T LIGHT SWITCH - TASK LIGHT
- MA MEDICAL AIR
- MAP MEDICAL GAS ALARM PANEL
- NA NITROUS GAUGE
- NA TYPING ASSIST CALL
- OD OXYGEN
- OPS OBSERVATION PANEL WITH SLIDING PANEL
- PCF PLASTERBOARD CORNER, FLUSH COVER
- PCD RESIDUAL CURRENT DEVICE
- S SCAVENGE
- SP FLOOR VINYL COVERED SCUFFING
- SPR SCUBA RESISTANT
- VI VINYL FLOORING, STANDARD SLIP RESISTANT
- WB WHITE BOARD
- WT WALL TELEPHONE
- WV WALL VINYL
- WV/1 JOURNEY VIEWER & SCREEN



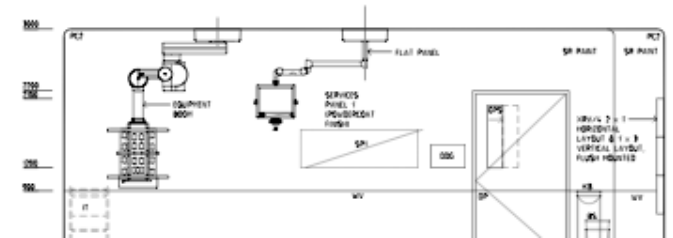
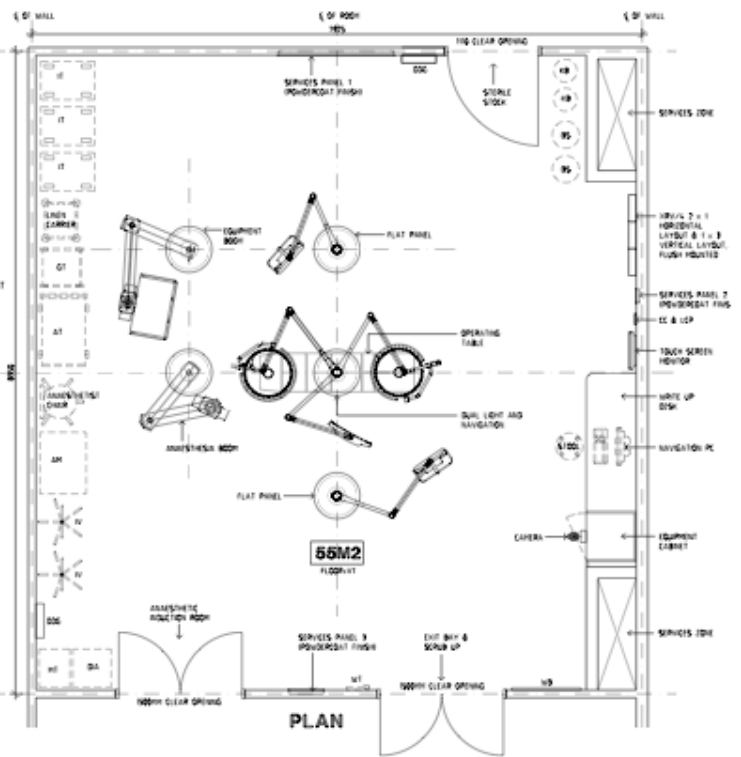
- ANESTHESIA ROOM**
- 1 X CDU/2
 - 1 X AUDIO/VIDEO
 - 4 X EP/2 (RED)
 - 4 X EP/3 (BLUE)
 - 1 X 20AMP CPO with UPS
 - 1 X MA
 - 2 X G2
 - 1 X SC
 - 1 X T20
 - 2 X S
- EQUIPMENT ROOM**
- 1 X CPO/2
 - 2 X AUDIO/VIDEO
 - 8 X EP/2 (RED)
 - 8 X EP/3 (BLUE)
 - 1 X CD
 - 1 X MA
 - 1 X G2
 - 1 X T20
 - 2 X S

- SERVICES PANEL 1**
- ELCB'S
 - SURGICAL TOOL AIR AND CONTROL PANEL
 - THEATRE LIGHT CONTROL PANEL (SEPARATE)
 - MAP
 - EP/1
 - REDS
 - LIGHT SWITCH PANEL
 - 2 X GPO/1

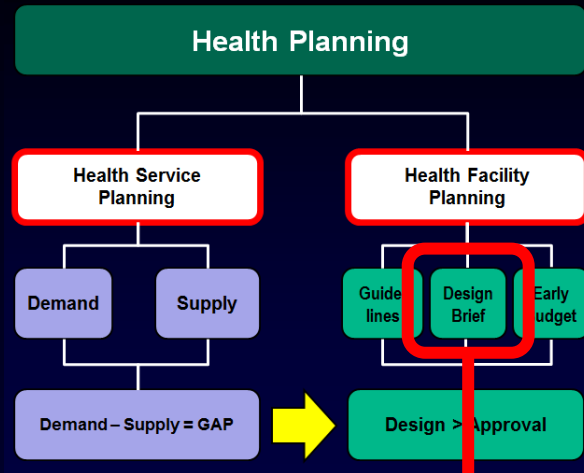
- SERVICES PANEL 2**
- 2 X GPO/1
 - CLOCK CONTROL (SEPARATE)

- SERVICES PANEL 3**
- 1 X EC
 - 1 X NA
 - 1 X GPO/1-PORTER CALL

- DOCUMENTATION STATION**
- EQUIPMENT
 - 1 X CPO/1 (TO HOSPITAL NETWORK)
 - 1 X CPO/1 (FOR ANALOGUE TEL)
 - 4 X EP/2 (RED)
 - 4 X EP/3 (BLUE)
 - DOCTOR'S WORKSTATION
 - 1 X GPO/2 (AT ABOVE BENCH HEIGHT)
 - 1 X CPO/2 (AT ABOVE BENCH HEIGHT)



Soft Modular



Health Facility Briefing

Obtain Service Plan or Clinical Service Plan (CSP)

Determine Models of Care

Convert KPU's to SOA

- What room types? How large? How many?

Group KPU's into manageable unit sizes

Expand SOA to full RDS

- Where? What equipment? What finishes?

Obtain all Key Planning Units (KPU's) from Service Plan

KPU=Inpatient Bed numbers

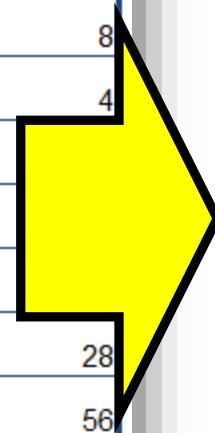
Clinical Facility Planning Unit Type	KPU
Medical	346
Surgical	
Obstetrics	
Delivery and Birthing Rooms	
Special Care Nursery	
Paediatrics	
Mental Health	
Rehabilitation	
Long Stay Care	83

KPU=ICU numbers

Clinical Facility Planning Unit Type	KPU
General Adult	24
Paediatrics	
Neonatal	
Cardiothoracic	
Neurosciences	
Coronary Care	
High Dependency Care	
ED Cubicles/Rooms	

KPU=OT numbers

Clinical Facility Planning Unit Type	KPU
Short stay theatres	6
General Operating Theatres	8
Specialist Theatres	4
Endoscopy	
Robotic Theatres	
Hybrid Imaging Theatres	
Presurgical Prepatation Beds	28
First Stage Recovery Beds	56
Second Stage Recovery Beds	28
Third Stage Recovery Chairs	28



Group KPU's into Functional Planning Units (FPU's)

FPU

Inpatient Unit
Medical/Surgical

30 beds x 6

FPU

Inpatient Unit
Maternity

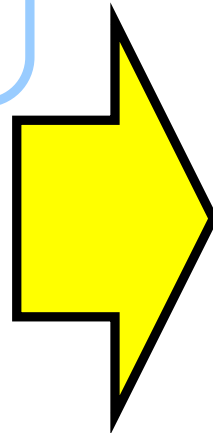
FPU

ICU, CCU

12 beds x 3

FPU

Surgery



Project Summary

HFBS 5 Briefing Module

https://wic720d.server-web.com/?token=ce0688bd-5bf5-43f3-8bc4-b244721c1f75&mac= - Briefing Modu - Windows Internet Explorer

NSW HEALTH **HFBS Briefing Module**
HFBS v5.2.2.57 by HPI

Current Project

Reference Project or AHFG

System Prompts

- Project: Guidelines downloading...
- Project: RDL 4 District Hospital Downloaded
- Project: Australasian Standard Pro... Downloaded
- Room: 1 Bed Room Room downloaded

Drag & Drop

Room Primary Information

Room Name: 4 Bed Room
Room Tag: 1805
Area M2: 41
No of Rooms: 4
Subtotal: 168
Functional Group: [Dropdown]

Hrs of Operation: 24 Hours
Also covers these rooms (eg 1102, 1103): 1806, 1807, 1808
New Room Tag: [Input] Add Tag Auto Tag

Occupancy: Up to 4 patients; 1-2 visitors each; 1-2 staff
Remarks: [Text Area]

Description / Special Requirements: A 4 Bed Room will accommodate four patients with similar nursing needs for the delivery of nursing and medical care and treatment. Each space will be individually equipped and allow for treatment of patients either in bed or sitting beside the bed in a comfortable chair, natural light and outlook is essential.

Amendment: 26.05.05, - First Draft

Save



Current Project

Reference Project



Test Project for training - please do not rename

Milestone: Default



Add Dept



Add Room



Delete Room

FPU Front of House Unit

FPU Hospital Morgue / Autopsy Unit

FPU Inpatient Accommodation Unit - RDL All

Room 1001 - 1 Bed Room

5

Also covers

1002

1003

1004

1005

Room 1007 - 1 Bed Room - Special

Room 1008 - 1 Bed Room - Isolation

Room 1009 - Anteroom

Room 1010 - 2 Bed Room

Room 1011 - 4 Bed Room

5

Room 1017 - Ensuite - Standard

5

Room 1023 - Ensuite - Super

Australasian Standard Project

Milestone: 2008 AUSHFG Review

Click and hold then drag to "My Project"

FPU Ambulatory Care Unit - 24 Spaces

Room 1003 - Toilet - Disabled

Room 1001 - Lobby/ Airlock

Room 100

Drag + Drop

1

Also covers

1007

Room 1000 - Clerical Support/ Medical Records

Room 1004 - Toilet - Public

1

Room 1002 - Reception/ Clerical

Room 1010 - Ensuite - Isolation Room

1

Room 1013 - Meeting Room - Medium

Room 1014 - Meeting Room - 12m2

Room 1015 - Patient Bay - Acute Treatment

23



Current Project

Reference Project



Test Project for training - please do not rename

Milestone: Default



Add Dept



Add Room



Delete Room

FPU Front of House Unit

FPU Hospital Morgue / Autopsy Unit

FPU Inpatient Accommodation Unit - RDL All

Room 1001 - 1 Bed Room

5

Australasian Standard Project

Milestone: 2008 AUSHFG Review

Click and hold then drag to "My Project"

FPU Ambulatory Care Unit - 24 Spaces

Room 1003 - Toilet - Disabled

Room 1001 - Lobby/ Airlock

Room 1006 - 1 Bed Room (Class S Isolation)

1

Fabric Menu Items

Type in your filter keyword

ID	Fabric	Finish	Material	Specification
9889	Ceiling	Acoustic	Prefinished	Acrylic
9882				Cardloom
9881	Doors	Solid Core	Paint	1 1/2 leaf
9822	Ceiling	Acoustic	Prefinished	Acrylic
9821	Skirting	Vinyl	Prefinished	150mmH, coved

Drag + Drop



Menu

Occupancy

1 patient; 1-2 staff; 1-2 visitors

Remarks

FPU - mix and no. depend on service demand.

Description / Special Requirements

A 1 Bed Room will accommodate one patient for the delivery of nursing and medical care and treatment; natural light and outlook is essential; requires ability to view out of the window

Amendment

Save

Information

Fabric

FF

FE

Services



Room Data Sheets (RDS)

Building Services and Outlets

Soft Modular

Health Planning

Health Service Planning

Health Facility Planning

Demand

Supply

Demand - Supply = GAP

Guide-
linesDesign
BriefEarly
Budget

Design > Approval

Early Budgeting

Use the Briefing Information with or without design:

- FPU's and SOA
- Adjust for RDL
- Adjust for Level of Refurbishment
- Adjust for Locality Factor
- Apply unit rates and calculate cost

HFBS 5 Project Budget Module

[Project] RDL 4 District Hospital [Project] > PDP

Proj. Info

Contract Info

Proj. Program

Dept. Cost Rates

Costing Templates

Proj. Specific Cost

Proj. Summary

Departments (HPU's) & Cost Rates

Calculated Cost Rates as % of Domain or Project Cost Rate \$

Set to Default

Cost Category	Category Description	% of Domain or Project Cost Rate
NEW	New Work	100
MAJR	Major Refurbishment	75
MEDR	Medium Refurbishment	50
MINR	Minor Refurbishment	20
NONE	No Work	

Automated calculation of building budget based on HFBS briefing data and FPU cost rates

Departmental Cost Rates + New / Refurbishment Area %

Name	Code	Domain Cost Rate \$	RDL	Project Cost Rate \$	Gross Area	NEW %	MAJR %	MEDR %	MINR %	NONE %	Dept. Cost \$
_Test Department for demonstration			N/A		337	100					0
Administration	EU	1,675	3-4	1,175	287	25	50	15	5	5	239,430
Adult Acute Mental Health Inpatient Unit	IAU	1,600	4	1,600	468	100					748,800
Ambulatory Care Unit	ACU	1,125	4	1,125	1,495	100					1,681,875
Cardiac Catheterisation Unit - L5			5		802	100					0
Catering Unit	CATERU	1,725	4	1,725	464	100					800,400
Central Sterile Supply Unit - L5			5		615	100					0
Child Care Unit	CCCU	1,125	N/A	1,125	4	100					4,500
Cleaning/ Housekeeping Unit	CLEANU	875	4	875	132	100					115,500
Coffee Shop	MEU	1,025	N/A	1,368	42	100					57,456
Community Health	CHU	1,125	4	1,125	831	100					934,875
Community Mental Health	CHU	1,125	4	1,125	345	100					388,125
Dental Unit	ACU	1,125	4	1,125	274	100					308,250
Education & Training Unit	EDU	1,100	4	1,100	337	100					370,700
Emergency Unit	EU	1,750	5	1,750	774	100					1,354,500
Engineering & Maintenance Unit	MAINTU	900	4	900	139	100					125,100

NCC

Net Construction Cost

350,382,000 AED

GCC

Gross Construction Cost

350,382,000 AED

TPC

Total Project Cost

350,822,001 AED

TEC

Total End Cost

350,822,001 AED

Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

HFBS 5 Purchasing Module; get budget, determine FF&E cost

NSW HEALTH HFBS Purchasing Pro
HFBS v5.2.2.55 by HPI

Project: RDL4 - RDL 4 District Hospital Milestone: PDP Auto Save

FF + FE Orders Invoices Manufacturers Procurement: Download Upload

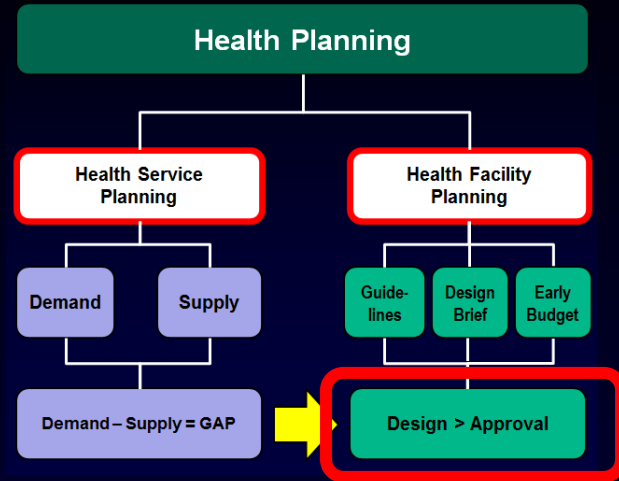
Filter by: Menu Type FF Menu Group 1 Search: For selected item: Order N/A Invoice N/A Refresh

Briefing Requirements from Room Data Sheets							Domain Budget \$		Project Budget \$		Actual Cost \$	
ID	Rev.	Date	Description	Grp	Qty	Selection	Unit \$	Subtotal \$	Unit \$	Subtotal \$	Unit \$	Subtotal \$
FF-390		29/1/2008	Baby change table	1	21	optional	\$780.00	\$16,380.00	0.00			
FF-530		19/12/2008	Basin vanity top	1	207		\$300.00	\$62,100.00	0.00			
FF-10...	1	19/12/2008	Bench seat	1	77		\$850.00	\$65,450.00	0.00		\$0.00	
FF-10...		19/12/2008	Bench seat: fold up/down	1	2		\$645.00	\$1,290.00	0.00			
FF-10...		29/1/2009	Bench: laminate	1	337		\$450.00	\$151,650.00	0.00		\$0.00	
FF-10...		19/12/2008	Bench: laminate, free standing	1	1	@ 1000mmH, preparati...	\$1,200.00	\$1,200.00	0.00		\$1,200.00	\$1,200.00
FF-11		20/1/2009	Bench: laminate, writing	1	15		\$450.00	\$6,750.00	0.00		\$0.00	
Total								\$2,667,829.10		\$47,517.00		\$256,345.00

Furniture, Fittings, Fixtures and Equipment Groups 1, 2, 3 ...

Dept	AID	Grp	Selection	Qty	Total ...	Unit \$	Subtotal \$	Unit \$	Subtotal \$	Unit \$	Subtotal \$
Cardiac Cath...	100000004028180	1	to shower cubicle	1	2	\$850.00	\$1,700.00				
Cardiac Cath...	100000004028184	1	under lockers	1	2	\$850.00	\$1,700.00				
Central Sterile Su...	100000004027990	1	to shower cubicle	1	2	\$850.00	\$1,700.00				
Central Sterile Su...	100000004027994	1	under lockers	1	2	\$850.00	\$1,700.00				
Day Surgery / Proc...	100000005228183	1	to Change Cubicle	2	2	\$850.00	\$1,700.00				
Day Surgery / Proc...	100000005228184	1	under lockers	1	1	\$850.00	\$850.00				
Day Surgery / Proc...	100000005228215	1	to Change Cubicle	2	2	\$850.00	\$1,700.00				
Day Surgery / Proc...	100000005228216	1	under lockers	1	1	\$850.00	\$850.00				
Day Surgery / Proc...	100000005228955	1	to shower cubicle	1	1	\$850.00	\$850.00				
Total						77	\$0.00		\$0.00		\$0.00

Domain Budget **Project Budget** **Actual Cost**



Planning and Design

What Standards ?

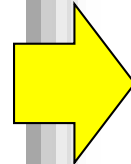
What Functional Relationships ?

What Spacial Configurations?

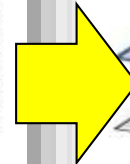
What finishes and materials?

What building services?

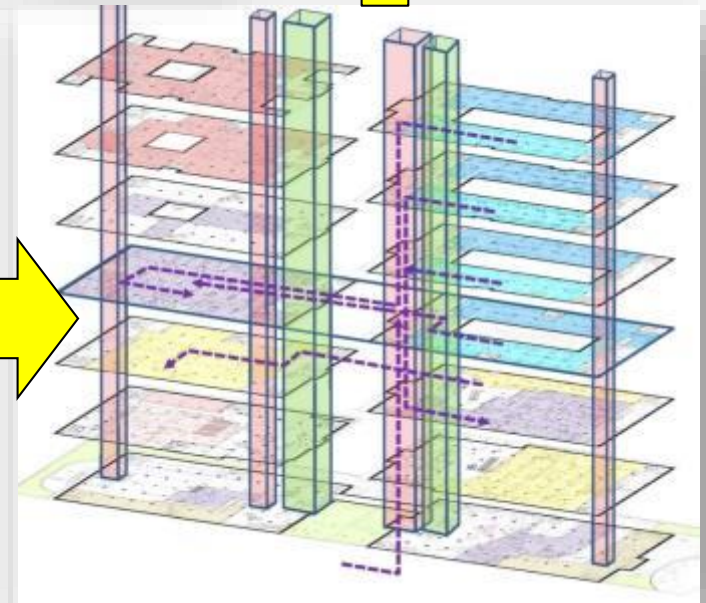
Guide Architectural Massing & Design



Each FPU Functional Flows



Blocking and Stacking



Service Planning

Guidelines

Briefing

Budgeting

FF&E

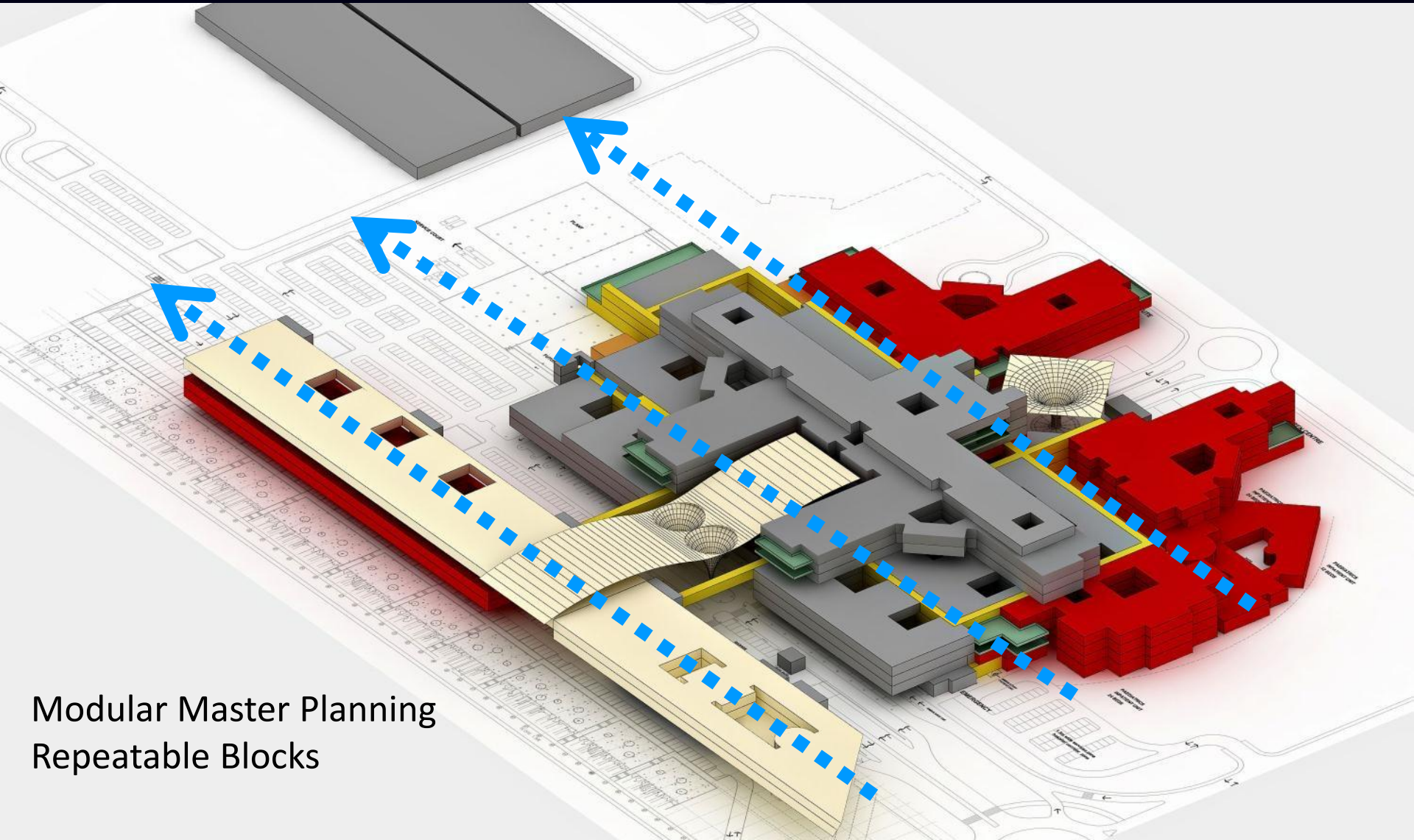
Design

Construction

HR and
Recurrent

Maintenance

Departmental Design Models



Modular Master Planning
Repeatable Blocks

Service Planning

Guidelines

Briefing

Budgeting

FF&E

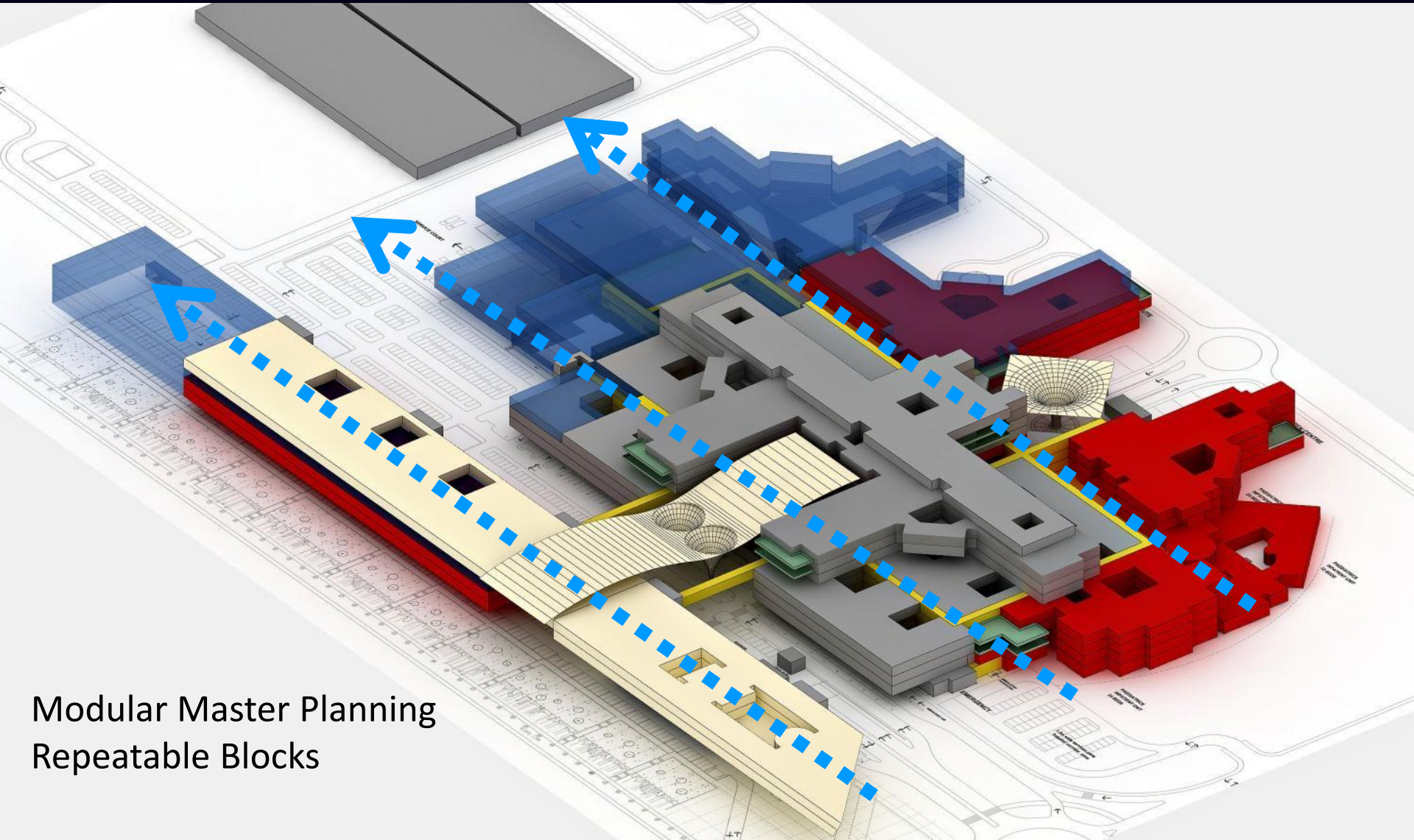
Design

Construction

HR and
Recurrent

Maintenance

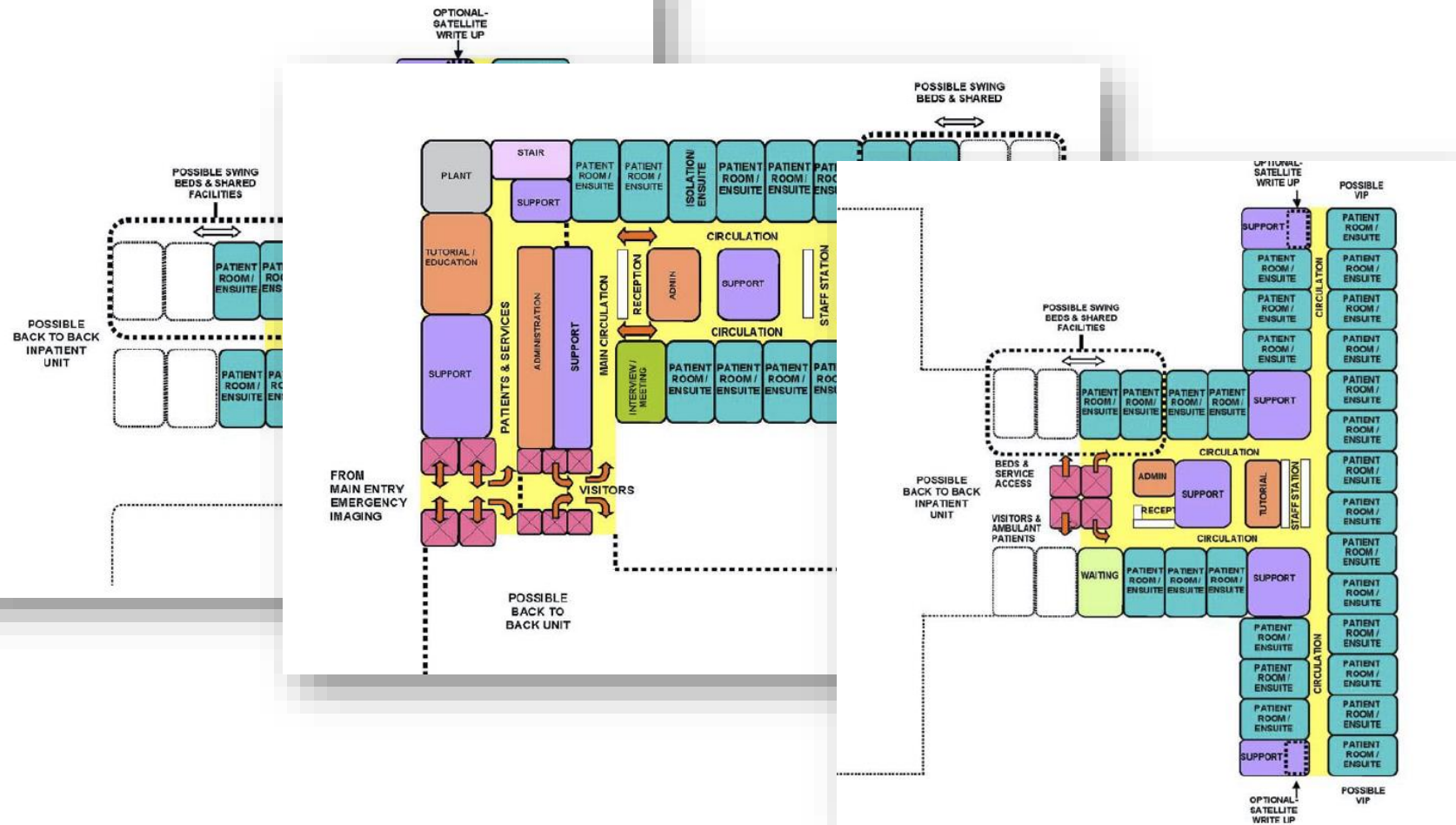
Departmental Design Models, Repeatable Blocks



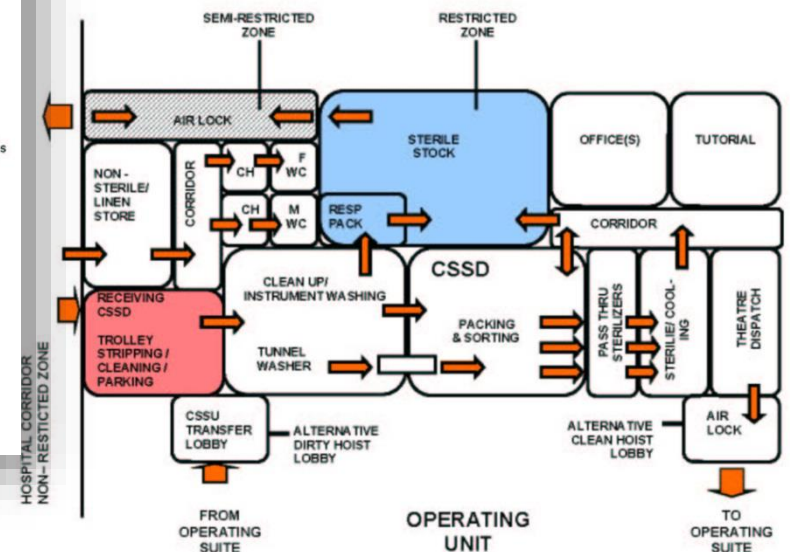
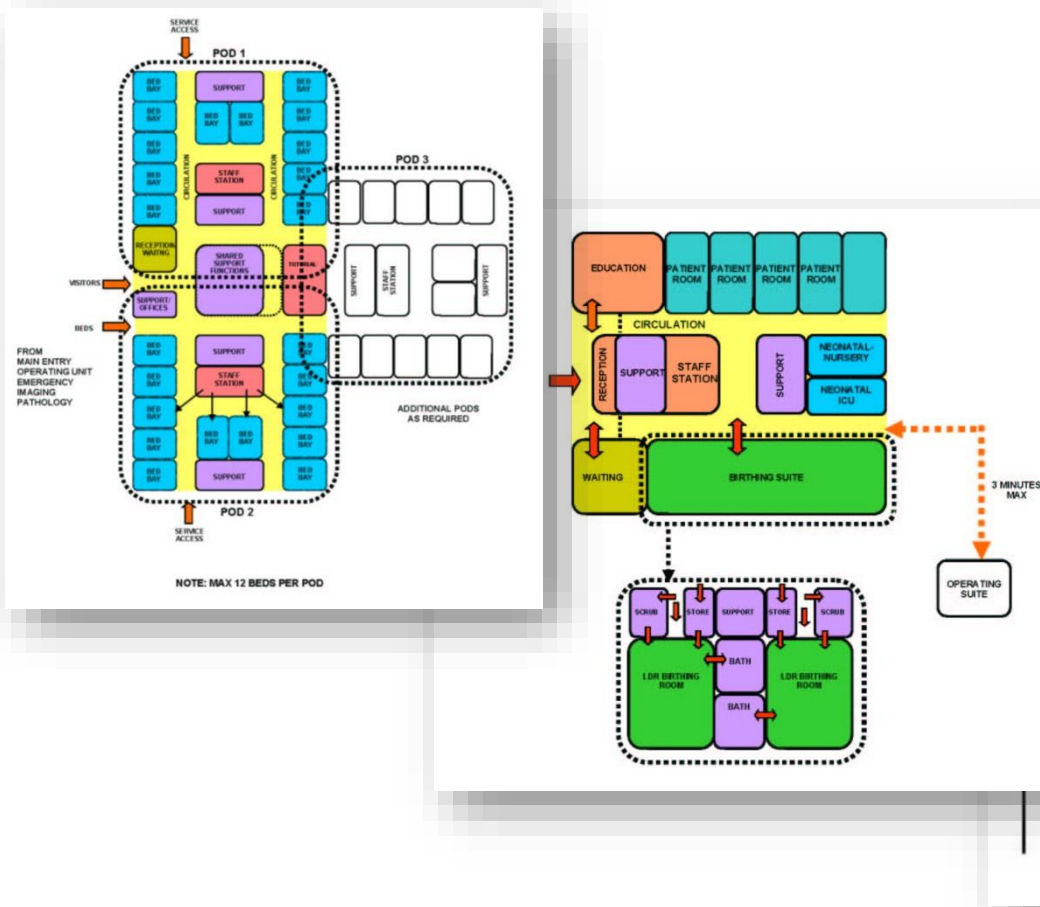
Modular Master Planning
Repeatable Blocks

Departmental Design Models

L Shaped Corridor Model



Departmental Design Models

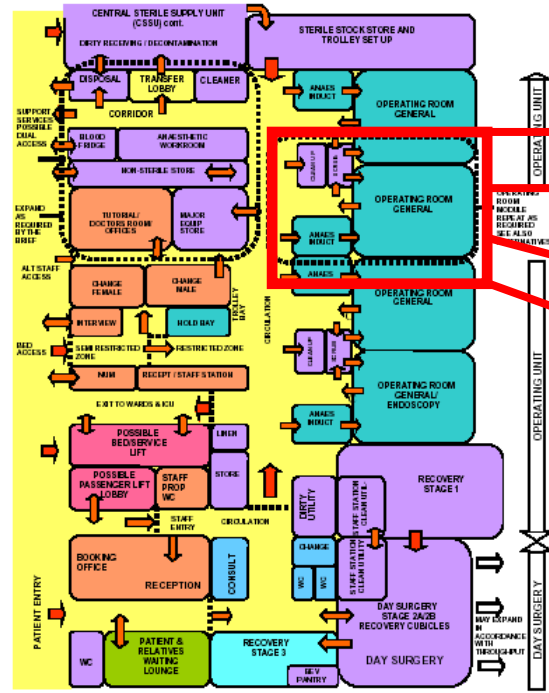


Departmental Design Models

Part B - Health Facility Briefing and Planning

FUNCTIONAL RELATIONSHIPS DIAGRAM - OPERATING UNIT Alternative Single Corridor Model Sheet 1 of 4

- NOTE 1: ONLY THE MOST IMPORTANT FUNCTIONS ARE SHOWN FOR CLARITY.
 NOTE 2: CIRCULARITY BE CONNECTED TO OPERATING ROOMS VIA CLEANING STATIONS.
 NOTE 3: STERILE STOCK IS IN CLOSE PROXIMITY TO OPERATING ROOMS. A CASE CART SYSTEM MAY BE USED.
 NOTE 4: ANAESTHETIC INDUCTION ROOM IS OPTIONAL AND MAY BE CONSIDERED A HOLDING ROOM.

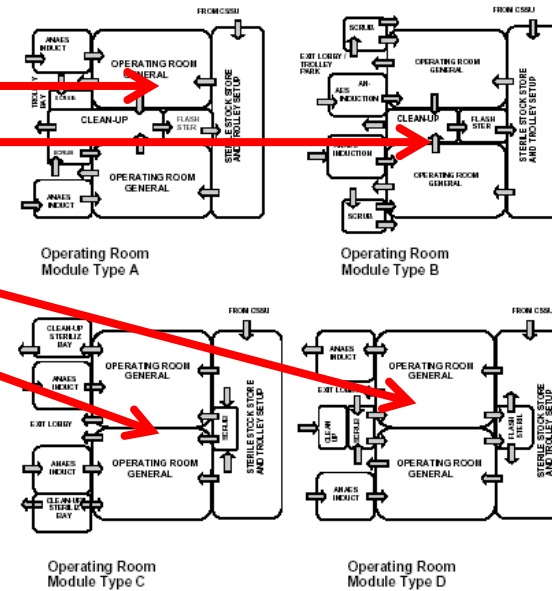


Part B - Health Facility Briefing and Planning

FUNCTIONAL RELATIONSHIPS DIAGRAM - OPERATING UNIT Sheet 3 of 4

Operating Room Modules

- NOTE 1: ONLY THE MOST IMPORTANT FUNCTIONS ARE SHOWN FOR CLARITY.
 NOTE 2: CIRCULARITY BE CONNECTED TO OPERATING ROOMS VIA CLEANING STATIONS.
 NOTE 3: OPERATING ROOMS MAY BE IMPROVED AGAINST STERILE STOCK STORE TO DOUBLE THE NUMBER OF OPERATING ROOMS.
 NOTE 4: ANAESTHETIC INDUCTION ROOMS OPTIONAL AND MAY BE CONSIDERED A HOLDING ROOM.



Soft Modular



Modular Plans – Plug and Play



Modular Plans – Plug and Play



Service Planning

Guidelines

Briefing

Budgeting

FF&E

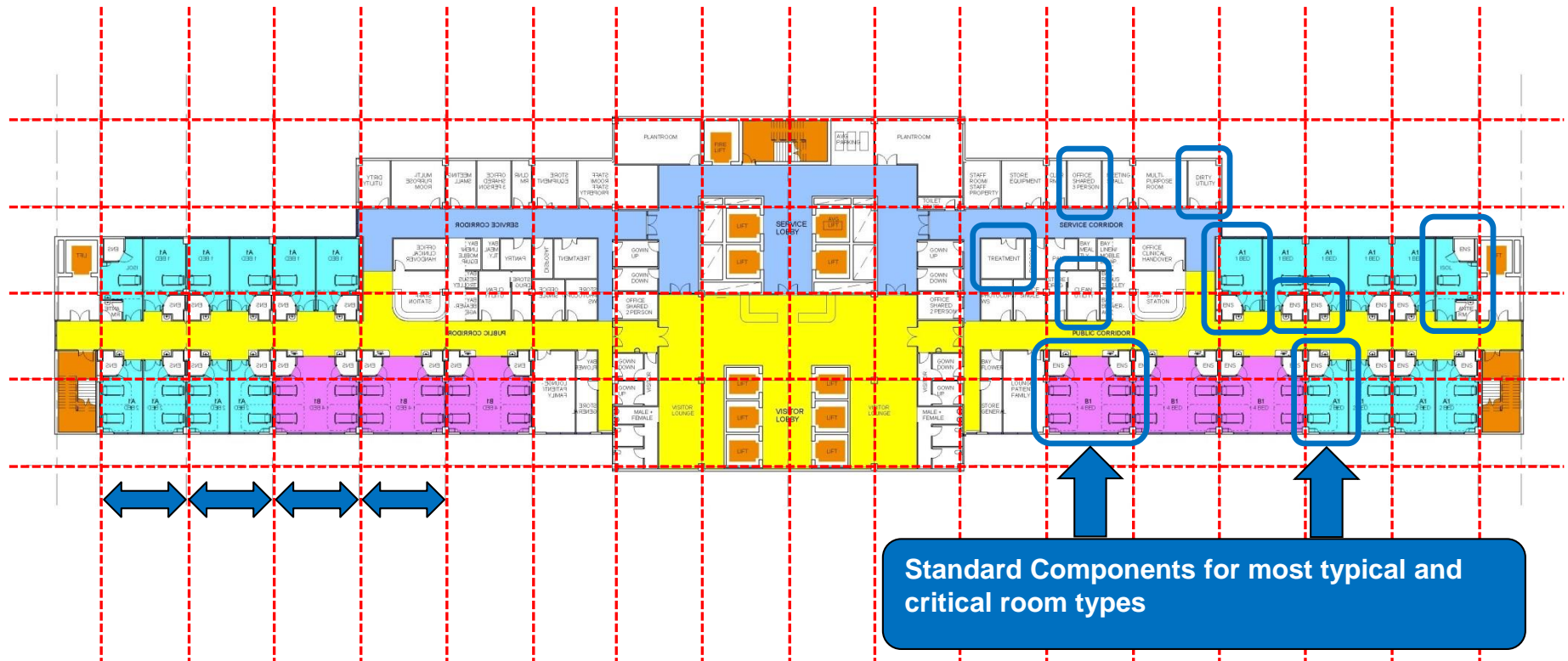
Design

Construction

HR and
Recurrent

Maintenance

Modular Plans – Plug and Play



Room Layout Sheets (RLS), eg bedrooms

These represent “Deemed to Satisfy” or DTS

AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

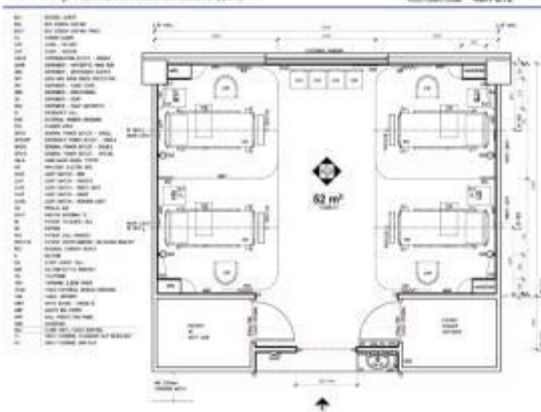
AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

Room Name: 4 Bed Room - Inboard Ensuite (Type 2)

R/L Room Code: 4BR-ST-A2
R/S Room Code: 4BR-ST2

PLAN



ELEVATION 1

NO. 0000000000	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]
Australasia KFG				HCAMC				R/L Room Code: 4BR-ST-A2				R/S Room Code: 4BR-ST2

AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

AUSTRALASIAN HFG STANDARD COMPONENTS

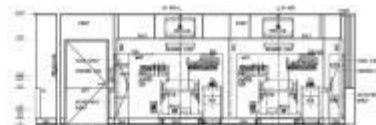
Room Layout Sheet

Room Name: 4 Bed Room - Inboard Ensuite (Type 2)

R/L Room Code: 4BR-ST-A2
R/S Room Code: 4BR-ST2

ELEVATION 2

ELEVATION 3



ELEVATION 4



ELEVATION 5

NO. 0000000000	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]
Australasia KFG				HCAMC				R/L Room Code: 4BR-ST-A2				R/S Room Code: 4BR-ST2

AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

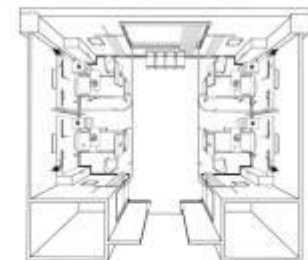
AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

AUSTRALASIAN HFG STANDARD COMPONENTS

Room Layout Sheet

Room Name: 4 Bed Room - Inboard Ensuite (Type 2)

R/L Room Code: 4BR-ST-A2
R/S Room Code: 4BR-ST2

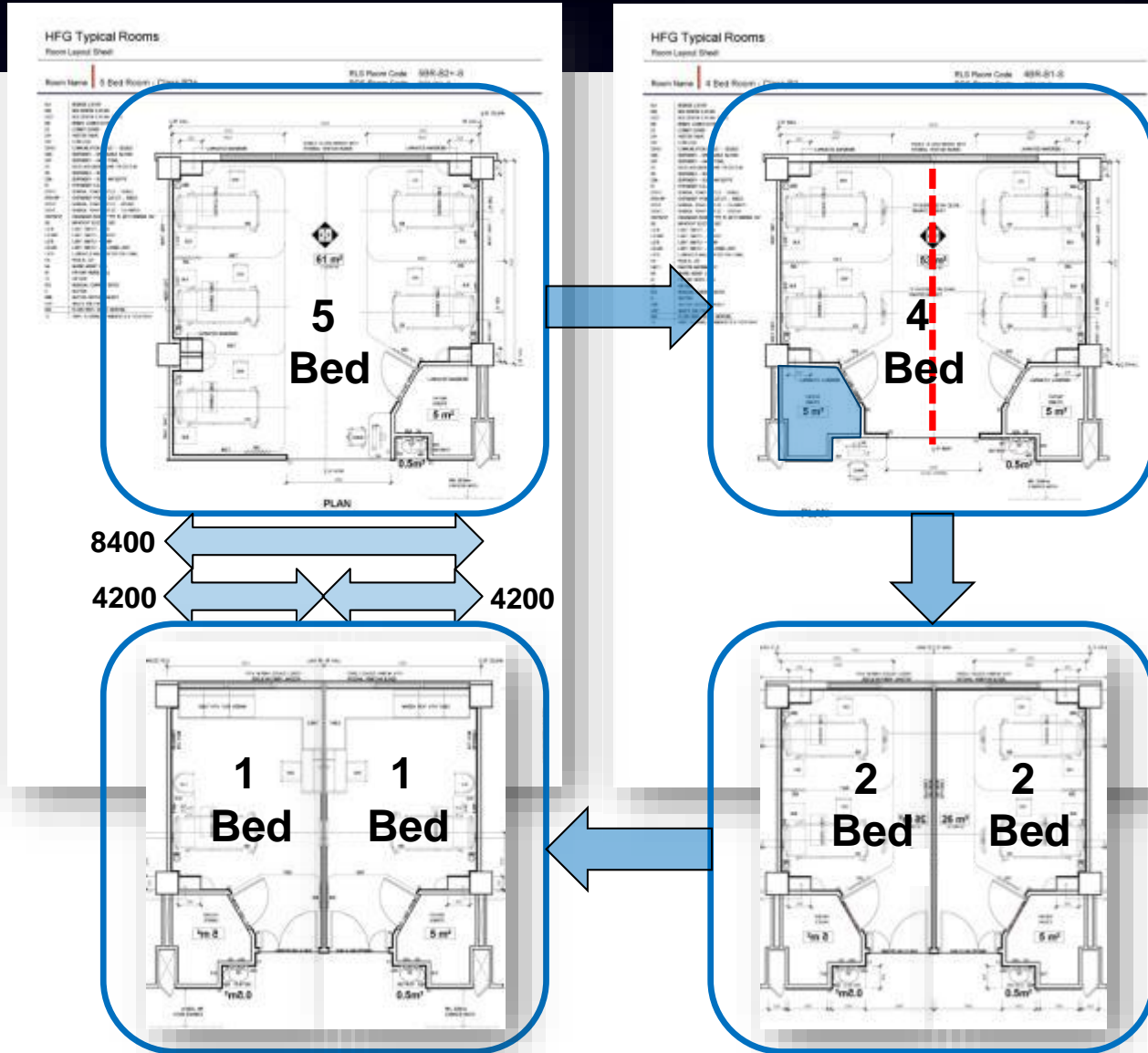
PERSPECTIVE - PLAN VIEW



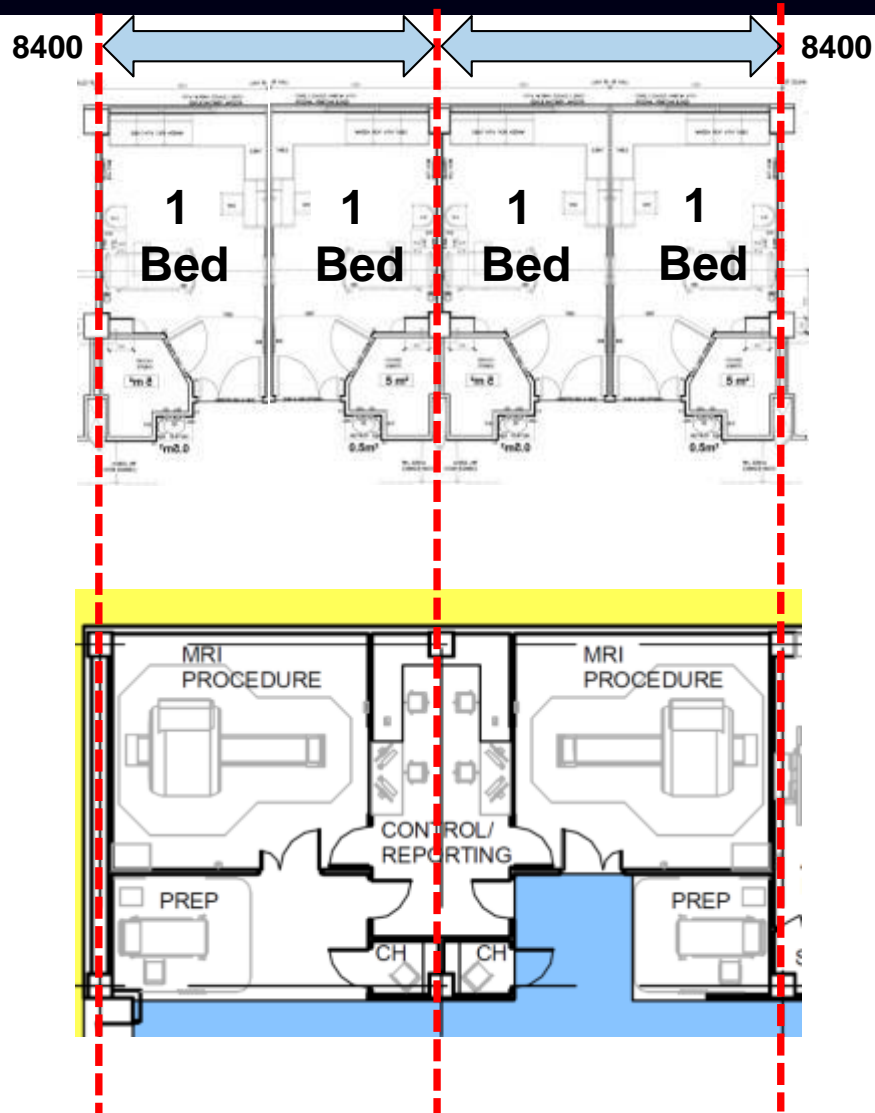
PERSPECTIVE 01

NO. 0000000000	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]	DATE: 15.06.2012	BY: [Signature]	CHK: [Signature]	APP: [Signature]
Australasia KFG				HCAMC				R/L Room Code: 4BR-ST-A2				R/S Room Code: 4BR-ST2

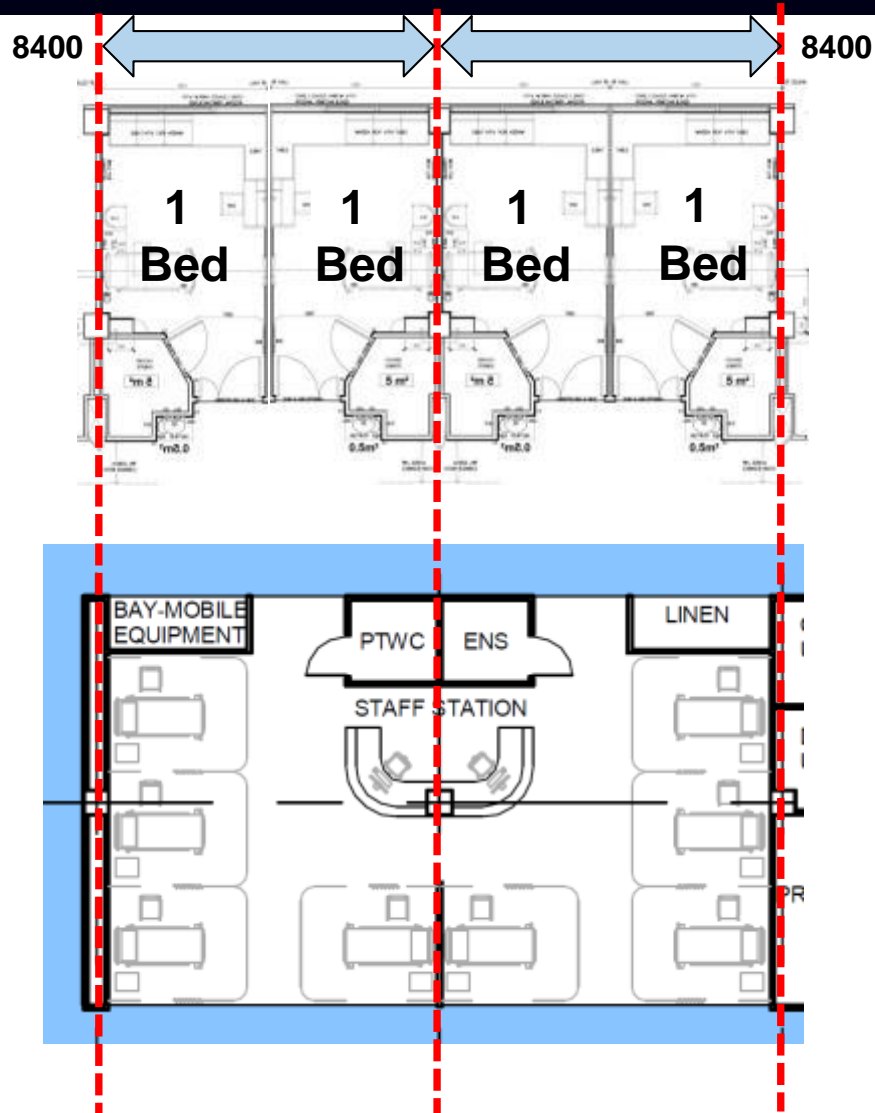
Future Proofing and Flexibility from 5/6 beds >> to 1 bed



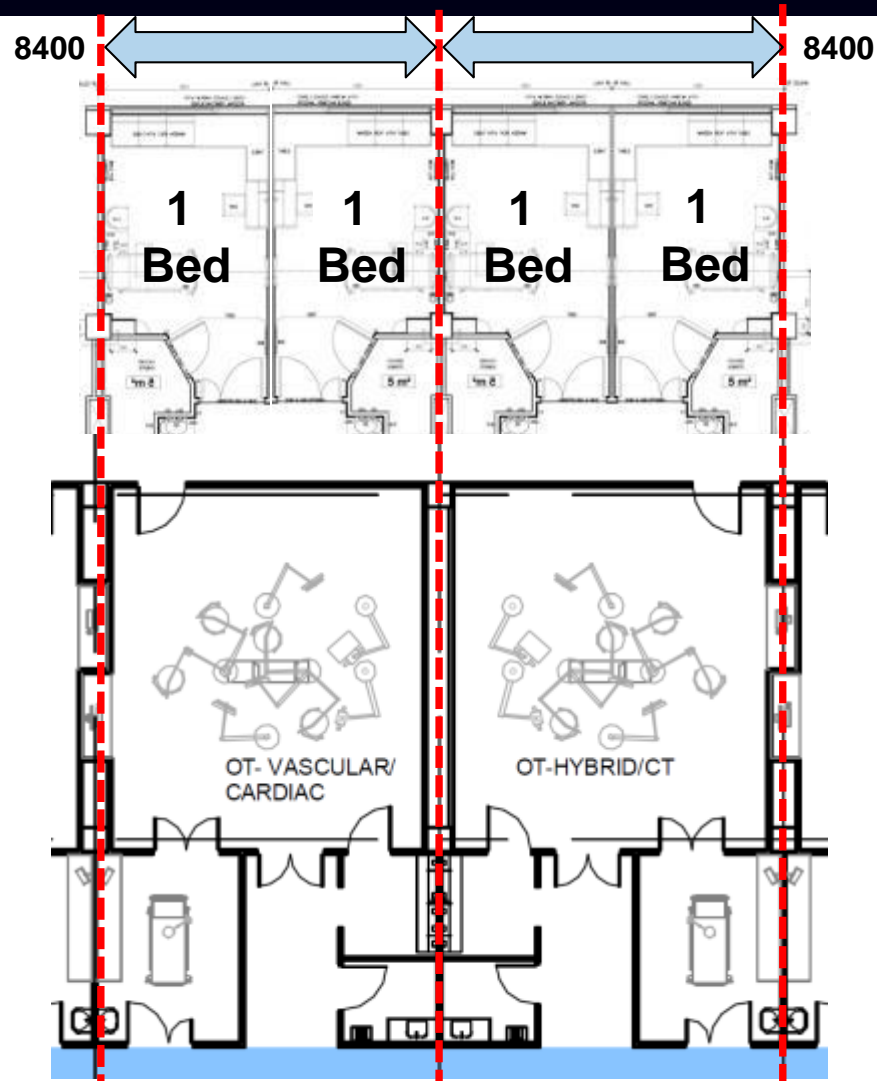
Test the grid against other Standard Components



Test the grid against other Standard Components



Test the grid against other Standard Components



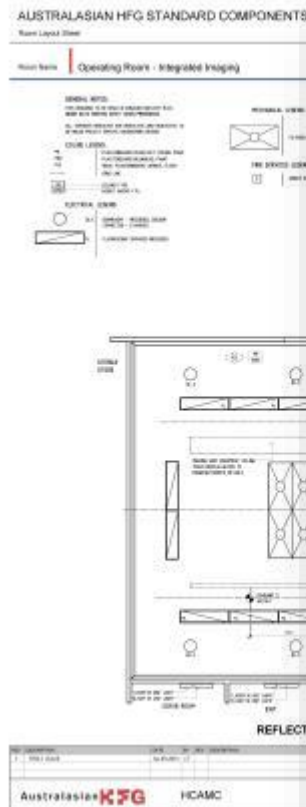
Ready to Use Modular RLS – Typical elements included



Plans



Elevations



RCP

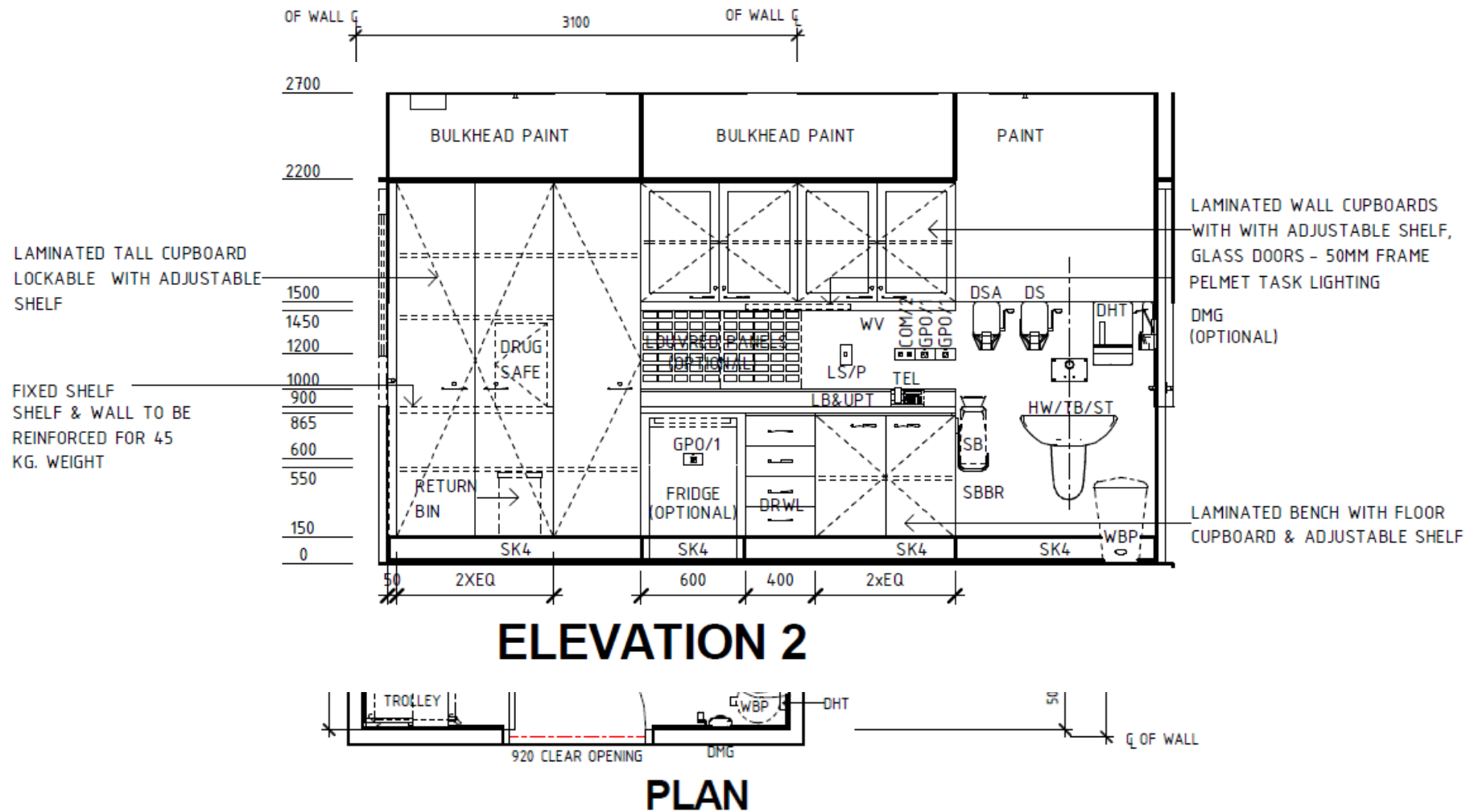


Axonometrics

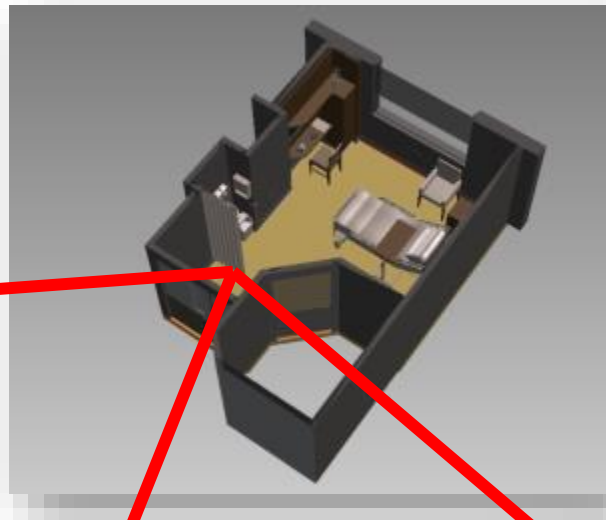
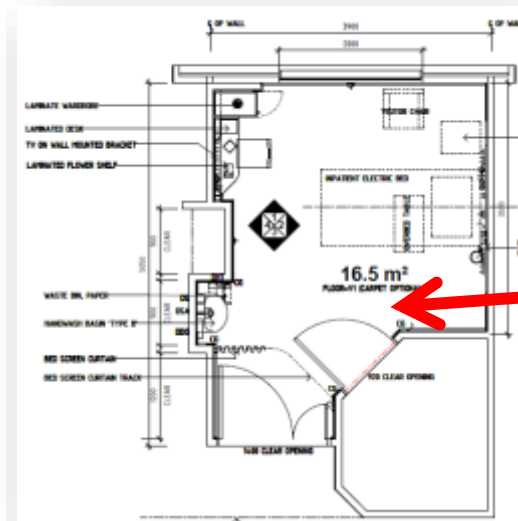


Rendered 3D

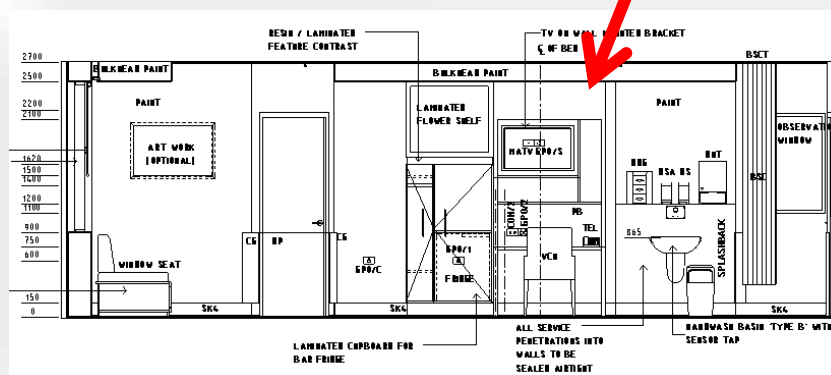
Ready to Use Modular RLS – High level of resolution



Brief > Single Model > HFBS for Revit



The Brief ie RDS



Service Planning

Guidelines

Briefing

Budgeting

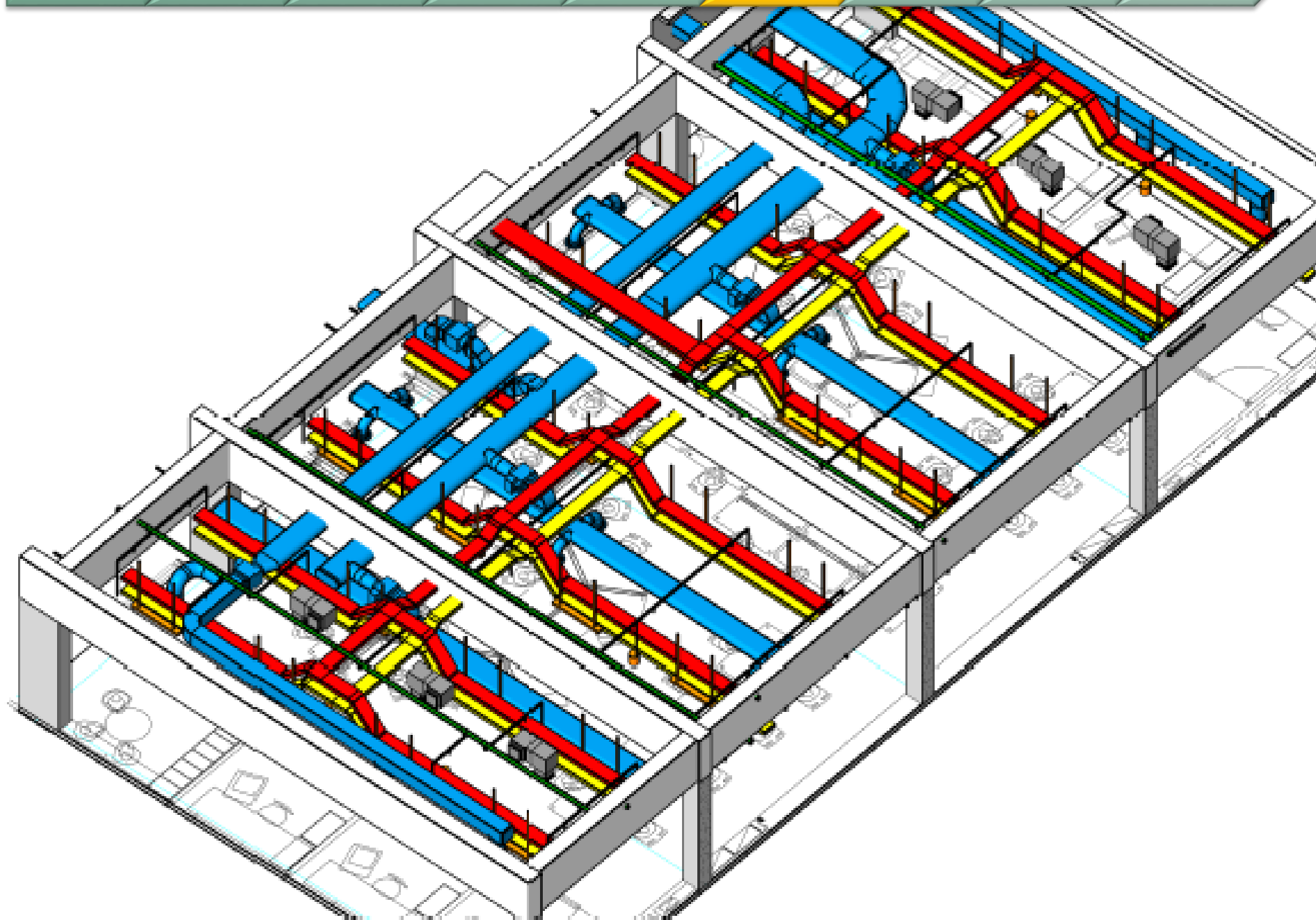
FF&E

Design

Construction

HR and
Recurrent

Maintenance



Design for Prefabrication



Service Planning

Guidelines

Briefing

Budgeting

FF&E

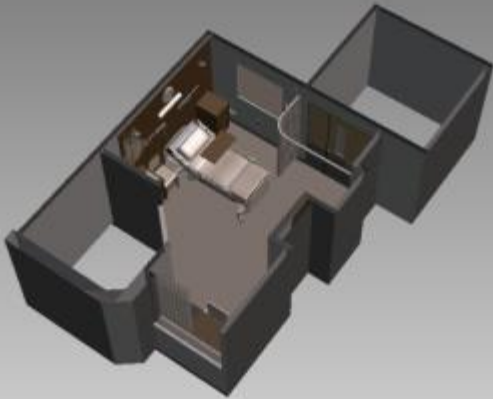
Design

Construction

HR and
Recurrent

Maintenance

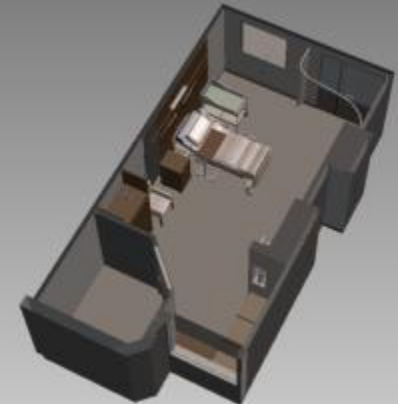
Create a catalogue of options, continually innovate + improve



1 br-is-n-18-i



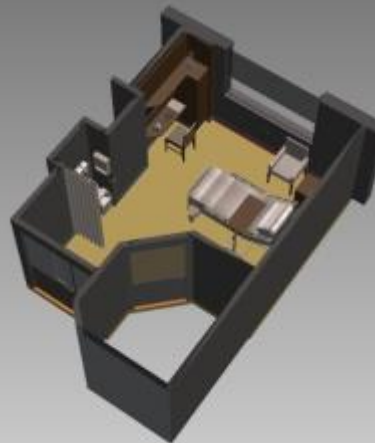
1 br-lg-28-i-a1



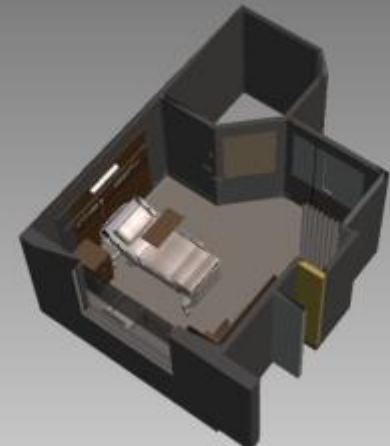
1 br-lg-28-i-b1



1br-st-16-i-a

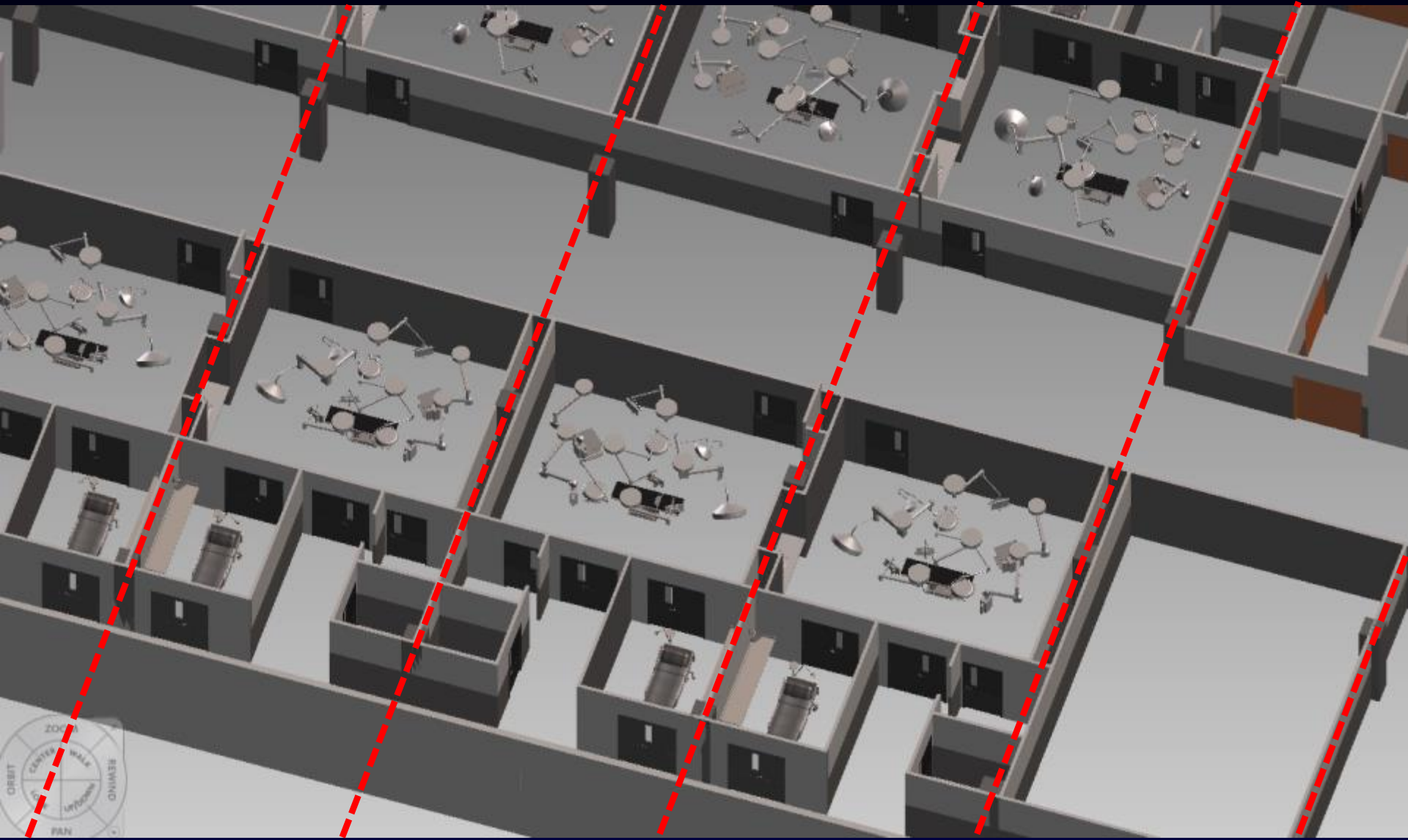


1br-st-16-i-b

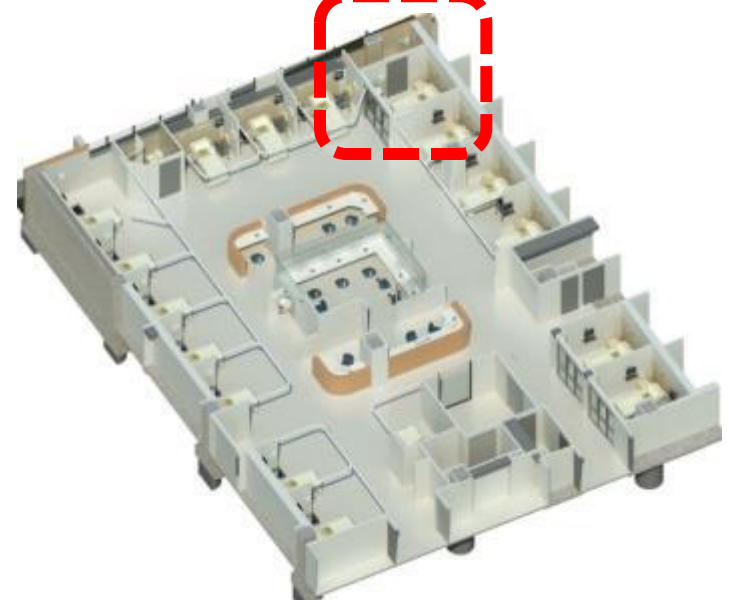


1br-st-16-i-c

Assemble the Standard Components as “Proof of Concept”



HFBS 5 Planning model based on Standard Components



Mock-ups/ Prototypes – do it, then share it



**Video removed
Due to size restrictions**

Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Mock-up in the virtual world, then share it



**Video removed
Due to size restrictions**

HFBS 5 + BIM generated Room Layout Sheets + 3D views

iHFG Standard Components

Room Layout Sheet

Room Name | 1 Bed Room - Standard, 16.5m2 (Inboard Ensuite)

 RLS Room Code 1 BR-ST-16-I-B
 RDS Room Code 1 BR-ST-16-I-B


PERSPECTIVE VIEW 01



PERSPECTIVE VIEW 02

REV	DESCRIPTION	DATE	BY	REV	DESCRIPTION	DATE	BY	REV	DESCRIPTION	DATE	BY
1	INITIAL REVIEW	2012-09-11	ET								
iHFG International Health Facility Guidelines International Health Facility Guidelines at Health Facilities International (HFI) Inc. 1 BR-ST-16-I-B 1 BR-ST-16-I-Bd											

This document is for advisory purpose only

iHFG Standard Components

Room Layout Sheet

Room Name | 1 Bed Room - Standard, 16.5m2 (Inboard Ensuite)

 RLS Room Code 1 BR-ST-16-I-B
 RDS Room Code 1 BR-ST-16-I-B


PERSPECTIVE VIEW 03

Full information package:

- Easy to understand
- Based on 3D modelling
- Includes RCP

REV	DESCRIPTION	DATE	BY	REV	DESCRIPTION	DATE	BY	REV	DESCRIPTION	DATE	BY
1	INITIAL REVIEW	2012-09-11	ET								
iHFG International Health Facility Guidelines International Health Facility Guidelines at Health Facilities International (HFI) Inc. 1 BR-ST-16-I-B 1 BR-ST-16-I-Bd											

This document is for advisory purpose only

Standards-compliant Room Modules for 8400 grid



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Standards-compliant Room Modules for 7800 grid



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Standards-compliant Room Modules for 7200 grid



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Standards-compliant Room Modules for special use



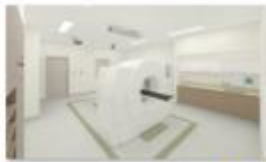
Standards-compliant Room Modules for special room types



A catalogue of virtual prototypes



genxr-i_PERSPECTIVE 01.jpg



rad-sim-i_PERSPECTIVE 02.jpg



rad-sim-i_PERSPECTIVE 01.jpg



off-4p-i_PERSPECTIVE 02.jpg



off-4p-i_PERSPECTIVE 01.jpg



dtur-14-i_PERSPECTIVE 01.jpg



1br-st-16-i-c_PERSPECTIVE 02.jpg



1br-st-16-i-c_PERSPECTIVE 01.jpg



1br-st-16-i-b_PERSPECTIVE 03.jpg



1br-st-16-i-b_PERSPECTIVE 02.jpg



1br-st-16-i-a_PERSPECTIVE 03.jpg



1br-st-16-i-a_PERSPECTIVE 02.jpg



1 br-lg-28-i-b_PERSPECTIVE 03.jpg



1 br-lg-28-i-b_PERSPECTIVE 02.jpg

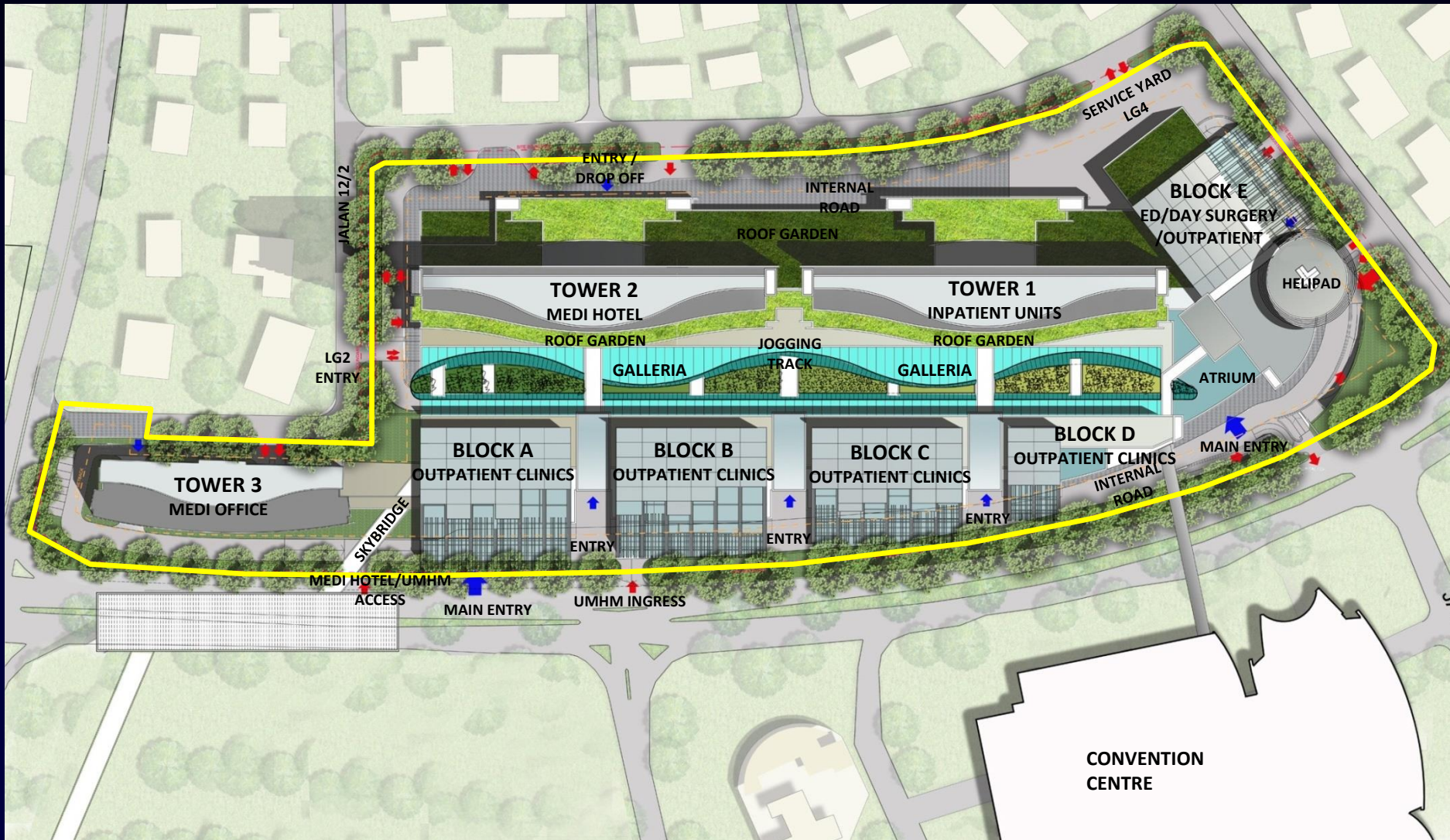


1 br-lg-28-i-b_PERSPECTIVE 01.jpg

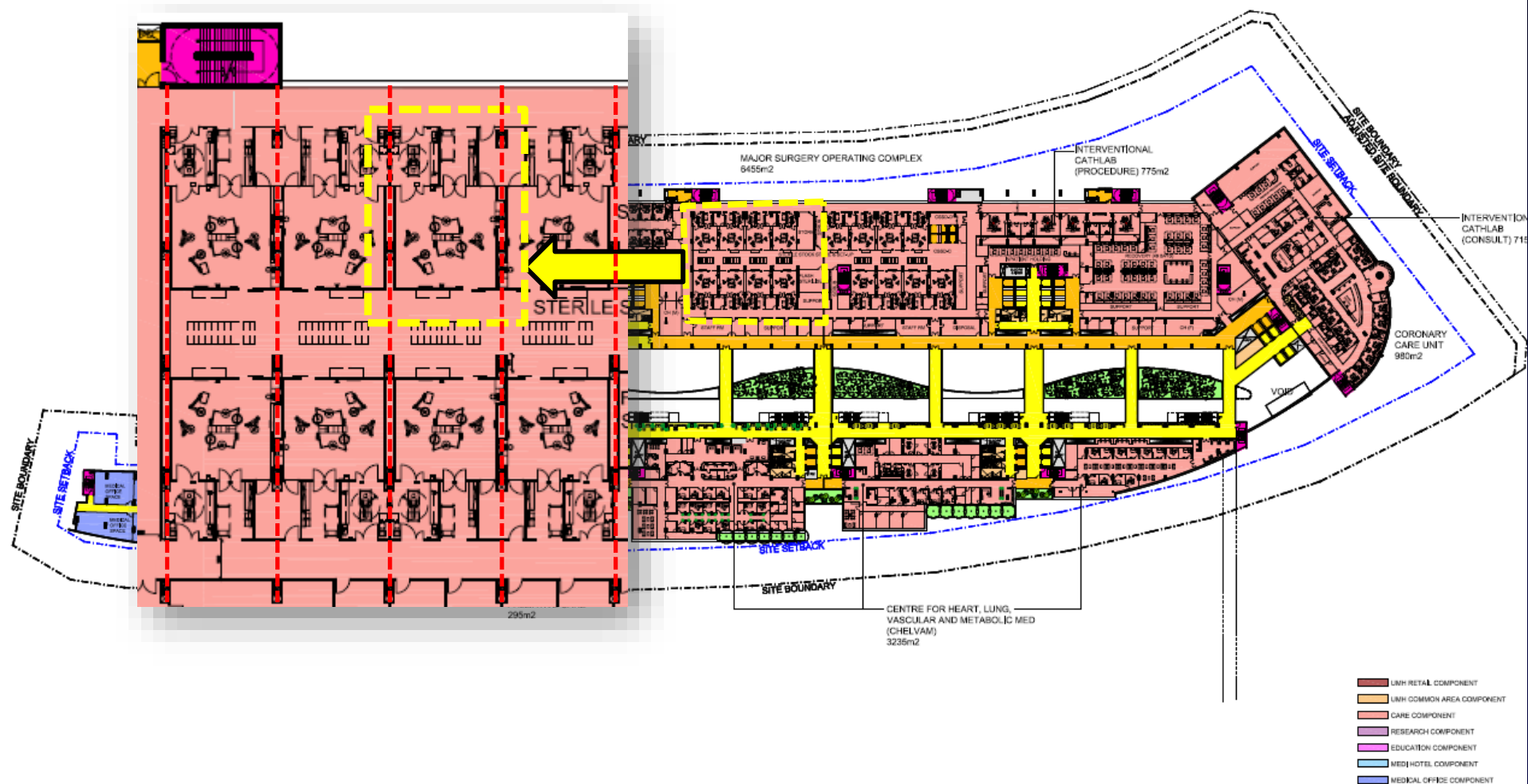


1 Bed Standard
1 Bed Mental Health
1 Bed VIP
2 Bed Standard
Clean Utility
Discharge Lounge
Dirty Utility 10
Dirty Utility 12
Ensuite Standard
ICU
ICU1
Induction Rm
LDR Birthing Room
Nursery
Office Consult
Office Standard
Operating Rm
Operating Rm 1
Recovery Stage 1
Recovery Stage 2
Staff Station 9
Staff Station 25
Waiting 46

Modular Design does not mean lack of innovation or small buildings
Buildings of any complexity or variety can benefit from Modular Approach



Modular Design does not mean lack of innovation or small buildings
It means Innovation at an **Industrial Scale** for any size building



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance



Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Prefab and Modular available at every level and scale



Custom Clinical Service Planning Module

Choose elements from a factory showroom

KEF-TAHPI Showroom in Dubai



Patient bedroom build in the factory



Patient bedroom build in the factory



Patient ensuite bathroom built in the factory

Service Planning

Guidelines

Briefing

Budgeting

FF&E

Design

Construction

HR and
Recurrent

Maintenance

Custom Clinical Service Planning Module

Example of fully prefabricated hospital



Service Planning

Guidelines

Briefing

Budgeting

FF&E

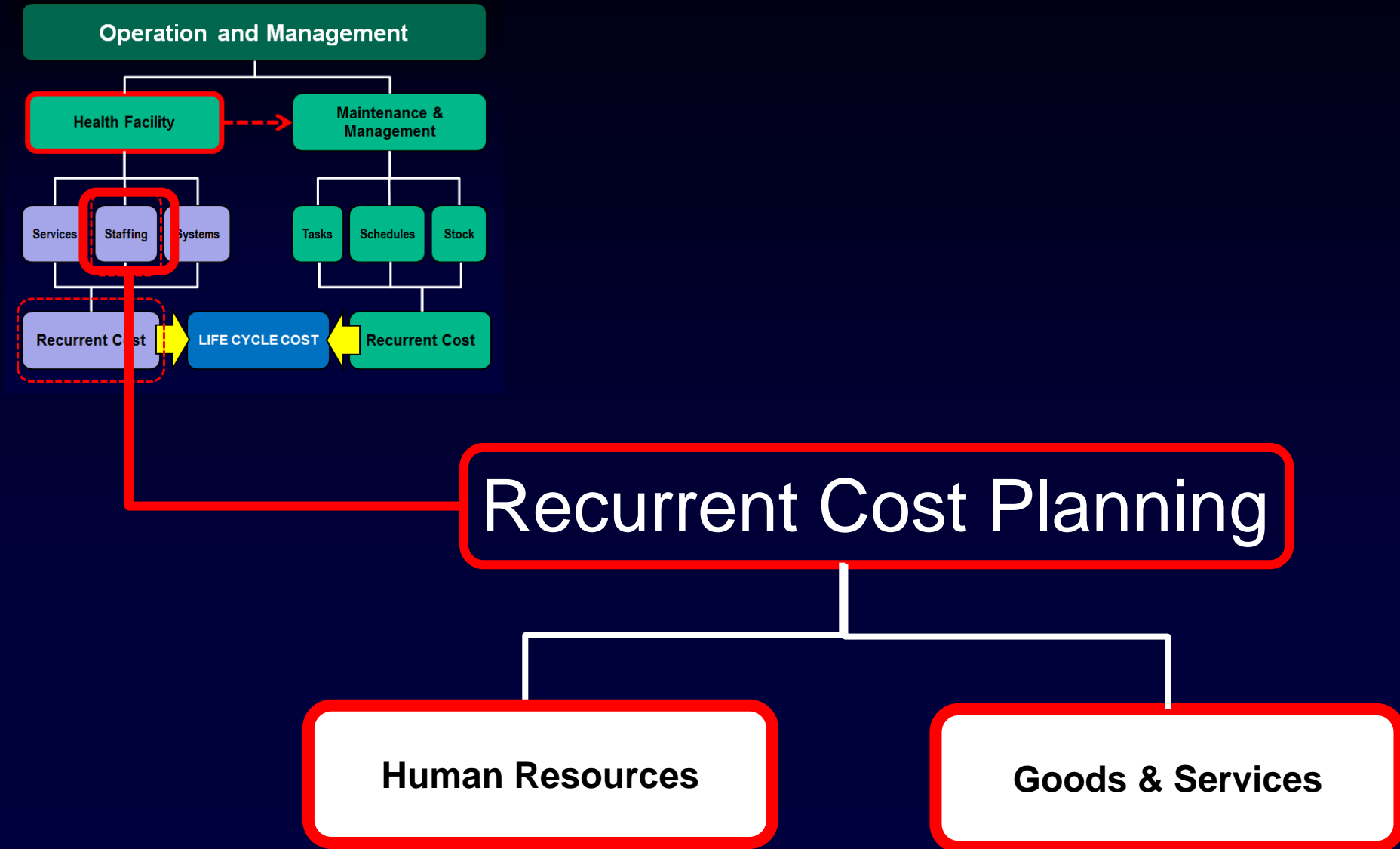
Design

Construction

HR and
Recurrent

Maintenance

Recurrent Cost Planning (running cost)



Recurrent Cost Planning

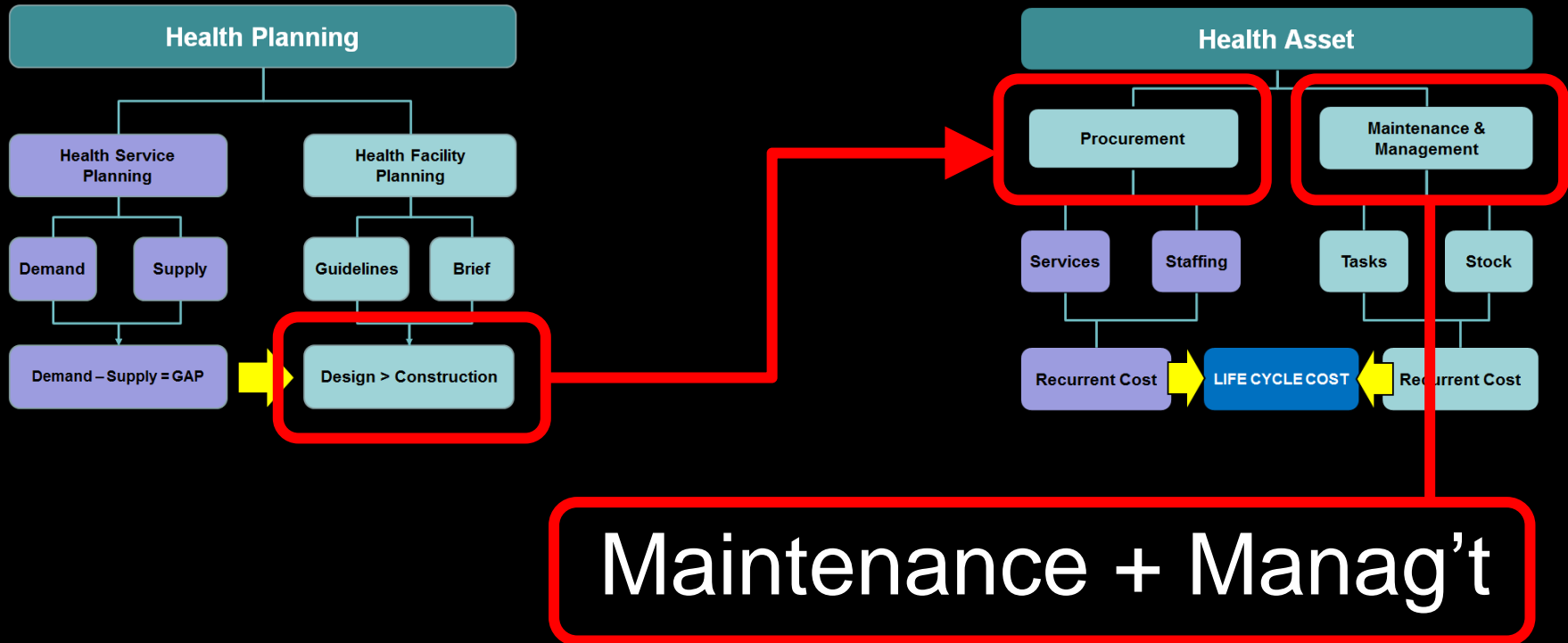
HR (Employment) Costs

- Calculate Optimum Staff FTE's per FPU
- Apply employment cost rates per Employment Type
- Add all the on-costs and escalate
- Arrive at TOTAL EMPLOYMENT COSTS

Goods and Services Costs (G&S)

- Use HFBS benchmarks to apply G&S costs
- Apply other recurrent costs
- Apply periodical renewals

Recurrent Cost = Employment \$ + G&S \$



Property Information
Asset Information
Asset Tracking
Maintenance and Alerts
Recurrent and Life Cycle costs

Maintenance Information on Tablets



Property Module to facilitate Maintenance

Tasks **Maps** **Properties** **Messages** **SAID search** **Alerts**

Admin null
Sun 18.09.2011

TASKS

- ASSETS >
- STOCK >
- DIARY >
- MAINTENANCE >
- SUPPLIERS >
- REPORTS >
- STAFF >
- ADMIN >

Maps

- Select Location >
- Internal Fabric >
- External Fabric >
- FF >
- FE >
- Service >
- Systems >

Properties

- by Campus >
- by Site >
- by Building >
- by Department >
- by Room >

Messages

SAID search

Alerts

NAVIGATION

Locations

- _NSW Public Hospital
 - Ambulance Shed (Temp)
 - Main Acute Block
 - Transitional Care
 - Rehabilitation Unit
 - 1070 - Store - Medical Records Archives
 - 1101 - 1 Bed Room
 - 1102 - 1 Bed Room
 - 1103 - 1 Bed Room
 - 1104 - 1 Bed Room
 - 1105 - 1 Bed Room
 - 1106 - 1 Bed Room
 - 1107 - 1 Bed Room
 - 1108 - 1 Bed Room
 - 1109 - 1 Bed Room - Special
 - 1110 - 1 Bed Room - Special
 - 1111 - 2 Bed Room
 - 1112 - 2 Bed Room
 - 1113 - 2 Bed Room
 - 1114 - 2 Bed Room

DATA

_NSW Public Hos... >

Property

Code*	6754
Name*	_NSW Public Hospital

Address

Country	AUSTRALIA
Unit No. / Level / Building	
Street No	

DataTabs **Data** **Action** **Navigation**

Primary Info Attachments Contacts Audits

+ Prty + Bldg + Site Save Delete Print



HFBS

MAINTENANCE + MANAGEMENT

Version 0.0.1 by HPI



ALERT!

Time Out: 15mins

2 Events

Select Property Campus



SAID Search



M+M

Mikel Kiriakos Wed

Time Out: 15mins 17/06/2010

2 Events

TASKS

DATA

Legend

Normal

Alert

Code: 246

Floor View



Emergency

NAVIGATION

- Hospital A
- Hospital B
- Hospital C
 - Department
 - Room A
 - Room B
 - Content
- Hospital E
- Hospital F
- Hospital G
- Hospital H
- Hospital I
- Hospital J
- Hospital K
- Hospital L

Primary Info

Audit Sheet

Key Units

ACTIONS

New

Edit

Delete

Save

3 ITEMS SELECTED - UNCollapse HERE



Tree



HFBS

MAINTENANCE + MANAGEMENT

Version 0.0.1 by HPI



ALERT!

Time Out: 15mins

2 Events

Select Property Campus



SAID Search



M+M

Mikel Kiriakos Wed

Time Out: 15mins 17/06/2010

2 Events

TASKS
DATA

SELECT FLOOR

Map View



4

3

2

1

G

P1

P2

NAVIGATION

- Hospital A
- Hospital B
- Hospital C
 - Department
 - Room A
 - Room B
 - Content
- Hospital E
- Hospital F
- Hospital G
- Hospital H
- Hospital I
- Hospital J
- Hospital K
- Hospital L

Primary Info

Audit Sheet

Key Units

ACTIONS

New

Edit

Delete

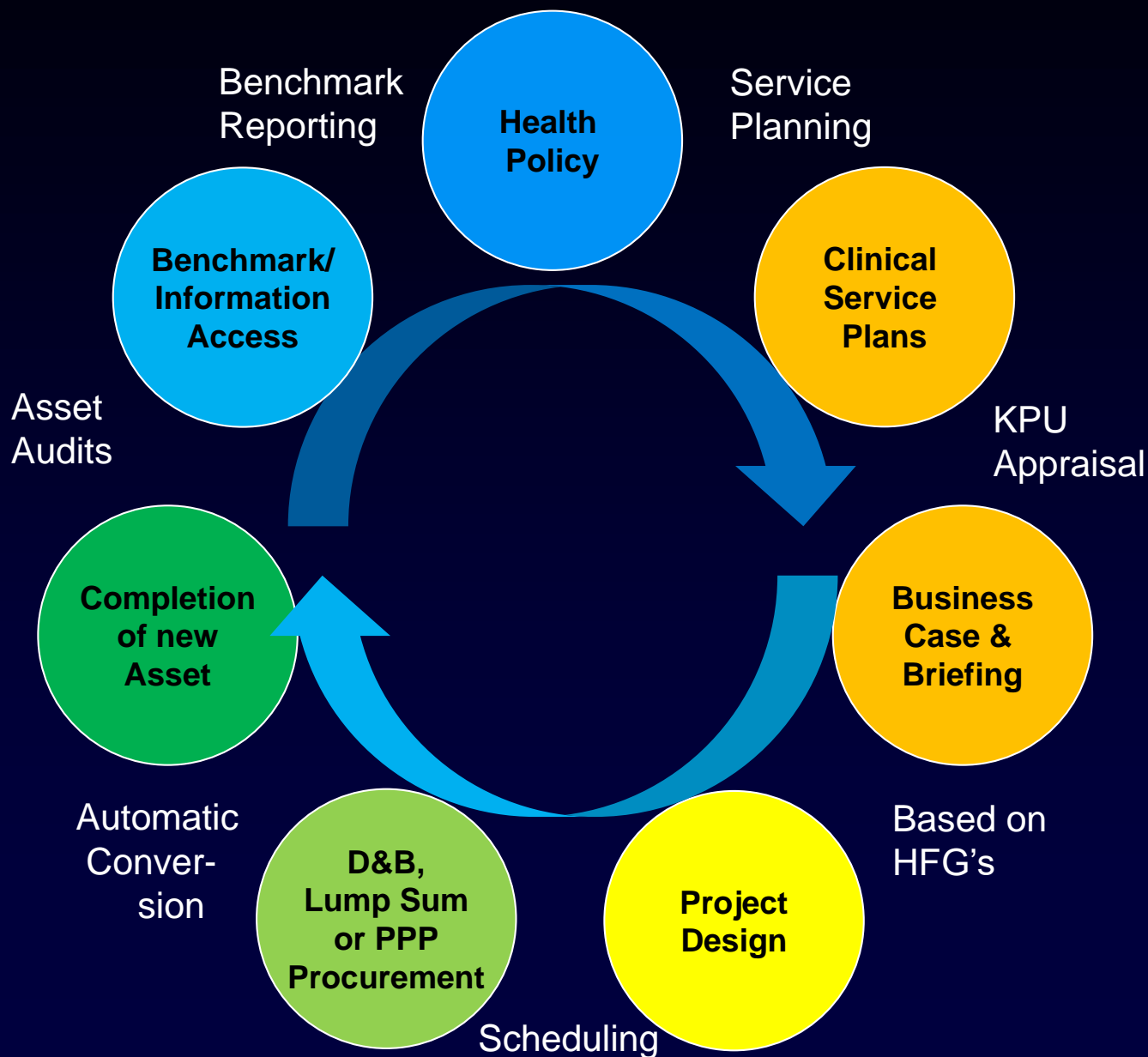
Save

3 ITEMS SELECTED - UNCollapse HERE



Map
Tree

Maintain the full Knowledge Cycle



THANK YOU

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<http://www.hfbsinfo.com/solutions/hfbsmodules/>

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