

Financial sustainability in public health: the imperative for forecasting

AHHA—Innovation Collaboration Network
25 May 2016



QUEENSLAND
TREASURY
CORPORATION



QTC and its clients

Queensland Treasury Corporation

The Government's central financing authority

- Our mission: securing the State's financial success
 - focused on whole-of-State outcomes
- Provides financial services to the State and its public sector entities, including local government
 - debt funding and management
 - surplus cash management facilities
 - financial risk management advisory services
 - specialist public finance education

An abstract graphic on the left side of the slide, composed of several overlapping blue triangles and parallelograms in different shades of blue, creating a dynamic, geometric pattern.

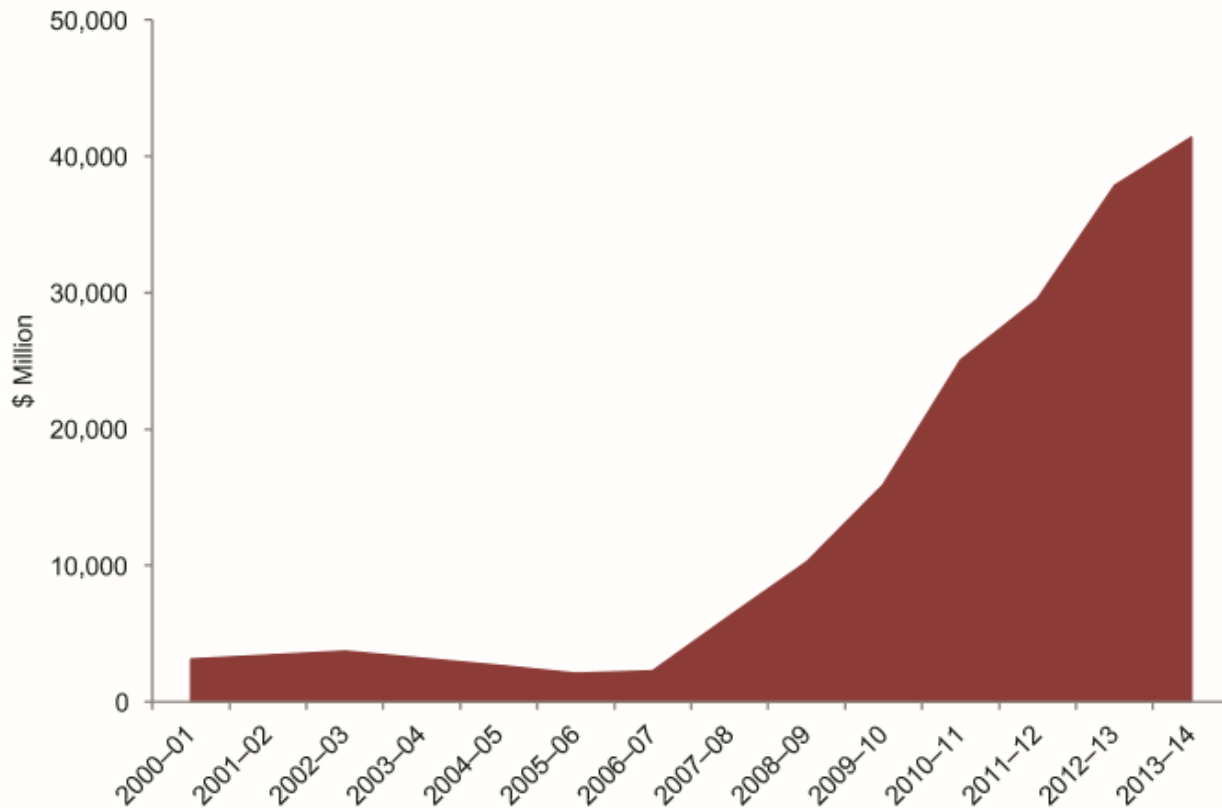
Financial sustainability in the public sector

We define financial sustainability as:

“... being able to maintain infrastructure and manage services through likely policy changes and unexpected financial shocks without the need for economically significant or socially destabilising revenue or expenditure adjustments.”

QTC's interest in financial sustainability

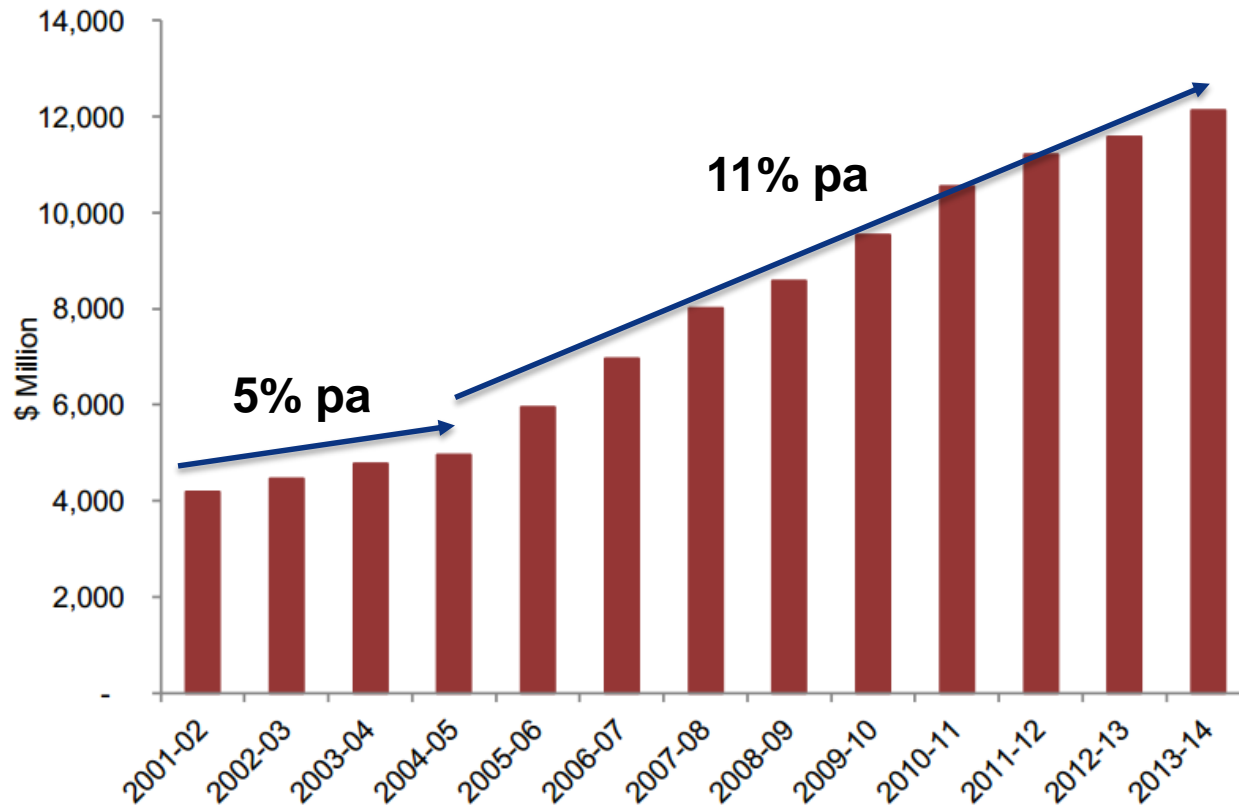
Chart 2.19
General Government Gross Debt Balance
2000-01 to 2013-14



Source: Queensland Treasury 2015 Review of State Finances

QTC's interest in financial sustainability

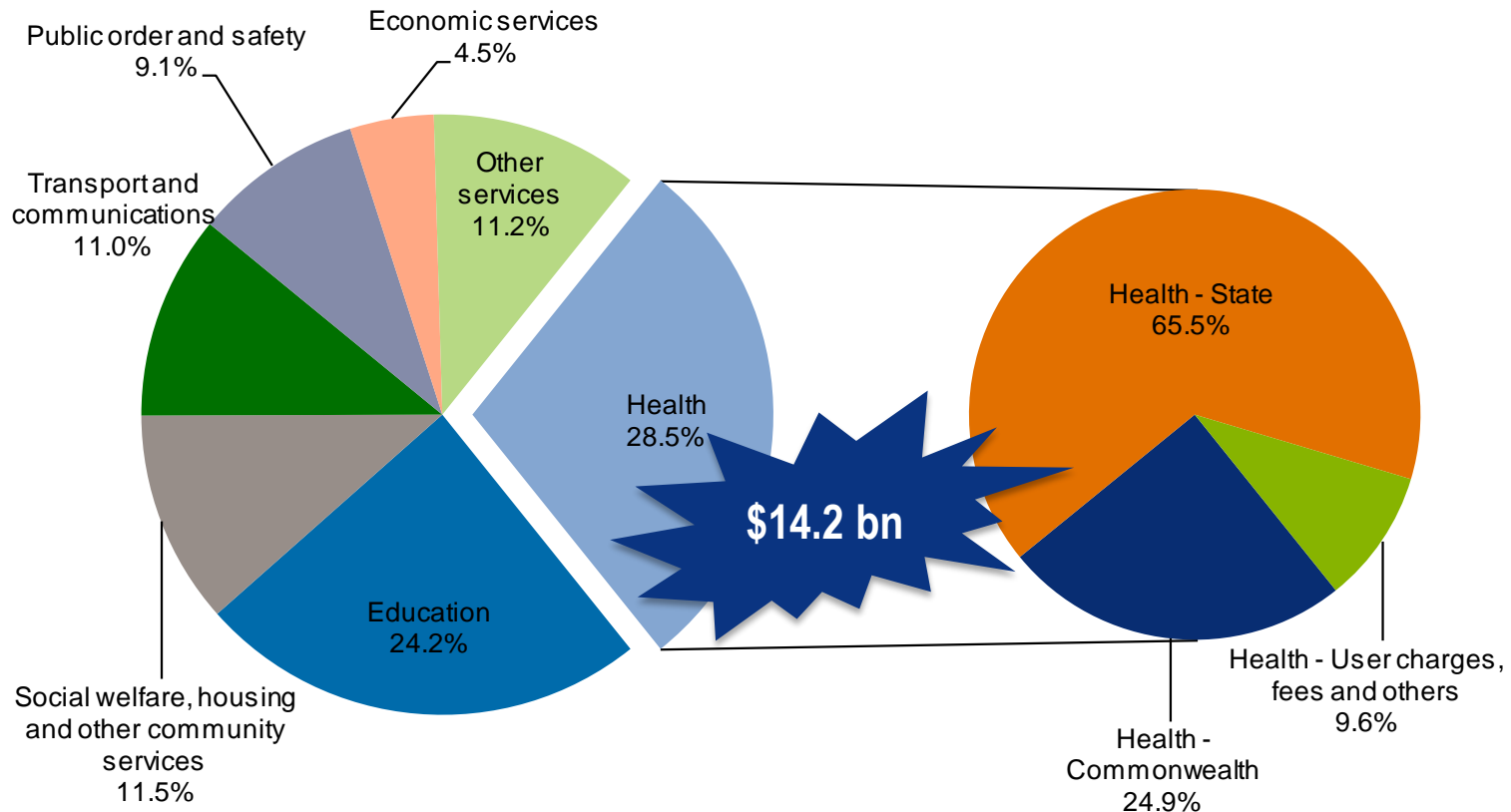
Chart 2.6
Queensland Health Total Expenses



Source: Queensland Treasury 2015 Review of State Finances

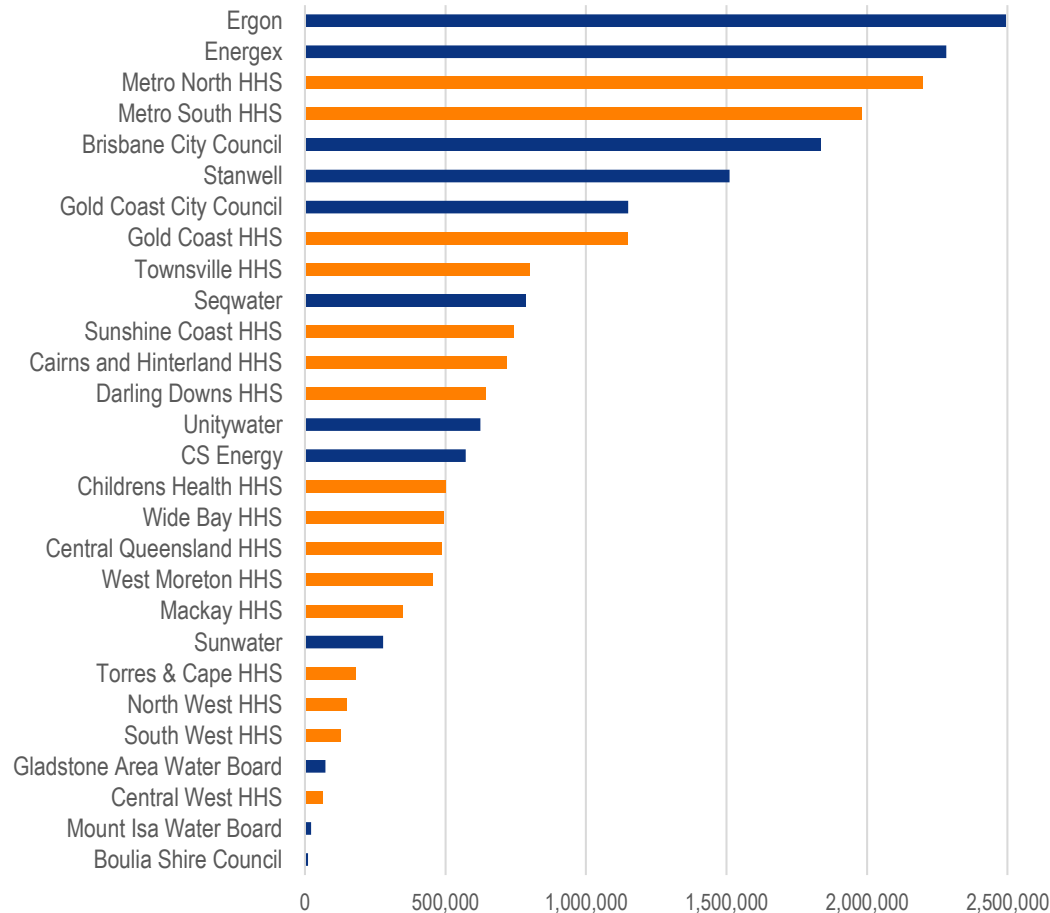
The State spends 28.5 cents in the dollar on health

Six years ago it was 23 cents in the dollar



Financial sustainability embedded across sectors

FY2015 Operating revenue (excl. capital grants, abnormal items and non-recurring items) in \$'000s



Long-Term Financial Sustainability Statement

Boulia Shire Council - \$10 million business

Boulia Shire Council Long-Term Financial Sustainability Statement Prepared as at 30 June 2015												
		Projected for the years ended										
Measures of Financial Sustainability	Measure	Target	Actuals at 30 June 2015	30 June 2016	30 June 2017	30 June 2018	30 June 2019	30 June 2020	30 June 2021	30 June 2022	30 June 2023	30 June 2024
Council												
Operating Surplus Ratio	Net result divided by total Operating Revenue	0% to 10%	-4%	-22%	-24%	-36%	-43%	-38%	-31%	-26%	-34%	-32%
Asset Sustainability Ratio	Capital Expenditure on the replacement of Assets (renewals) divided by Depreciation Expense.	> 50%	216%	25%	35%	41%	40%	51%	31%	40%	31%	31%
Net Financial Liabilities Ratio	Total Liabilities less Current Assets divided by total Operating Revenue	< 50%	-118%	-110%	-103%	-117%	-101%	-92%	-87%	-88%	-91%	-73%

Council's Financial Management Strategy

Council aims to operate within a set of Conservative Guide-posts to ensure we are Financially Sustainable in the Short, Medium and Long term. As part of our Financial Strategy, we have adopted Seven (7) Key Financial Performance Indicators to guide our Financial Health. In addition to the Financial Indicators, we have the above Three (3) Sustainability Indicators that have been set by the Department of Local Government, Community Recovery and Resilience to help monitor the Long-term Sustainability of all Councils across Queensland. Throughout the Financial Year, these Indicators are calculated and reported on monthly at Council Meetings, as part of a full suite of Financial Reports. Should there be any deviation outside these parameters, the Executive Management and Council will be fully informed and may take corrective action as required.

Forecasting is a sustainability imperative

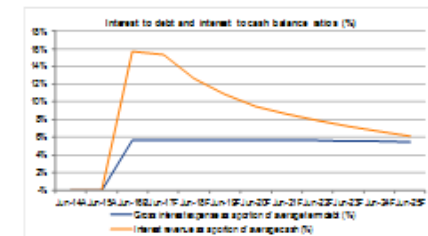
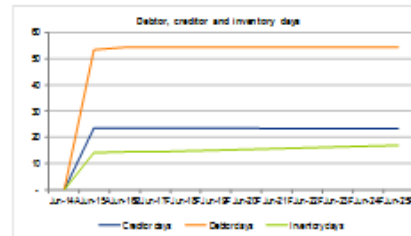
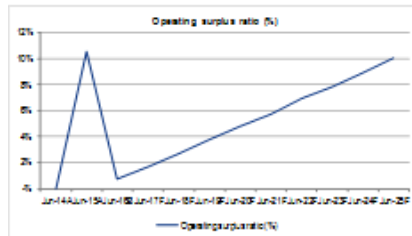
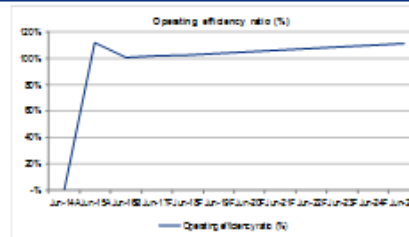
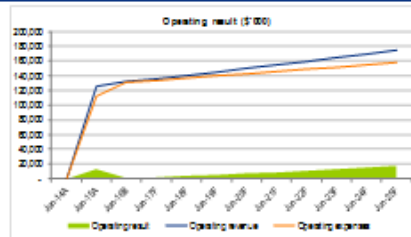
QTC Hospital & Health Service Forecasting Model—Example HHS Dashboard



All outputs are in thousands (\$'000) unless otherwise indicated

Operating Performance

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Operating performance indicators	Actual		Budget	Forecast										Annual average		
	Jun-14A	Jun-15A	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F	Jun-25F	Actual (FY14-15)	Forecast (FY16-20)	Forecast (FY21-25)	
Operating performance metrics																
Operating surplus ratio (%)	-%	10.5%	0.7%	1.7%	2.7%	3.7%	4.6%	5.7%	6.6%	7.6%	8.6%	10.1%	10.5%	2.7%	5.3%	
Operating efficiency ratio (%)	-%	111.5%	100.7%	101.7%	102.7%	103.6%	105.0%	106.1%	107.4%	108.5%	109.5%	111.2%	111.5%	102.5%	105.7%	
Creditor days	-	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.4	23.4	23.4	
Debtor days	-	53.5	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	53.5	54.2	54.2	
Inventory days	-	14.0	14.3	14.6	14.9	15.2	15.5	15.8	16.1	16.4	16.7	17.1	-%	-%	-%	
Gross interest expense as a portion of average loan debt (%)	-%	-%	5.6%	5.7%	5.7%	5.6%	5.7%	5.6%	5.6%	5.6%	5.6%	5.4%	-%	5.7%	5.6%	
Interest revenue as a portion of average cash (%)	-%	-%	15.7%	15.4%	12.6%	10.9%	9.4%	8.7%	7.9%	7.2%	6.7%	6.1%	-%	12.5%	10.1%	
Operating result (\$'000)																
Operating revenue	-	125,581	121,237	125,737	140,261	145,075	149,835	154,702	159,610	164,552	169,529	175,149	na	3.5%	3.4%	
Operating expense	-	112,591	120,597	123,491	135,506	139,852	142,692	146,912	149,582	151,755	154,027	157,531	na	4.9%	3.4%	
Operating result	-	13,270	941	2,246	3,755	5,223	7,142	8,381	11,028	12,826	15,112	17,618	na	-11.7%	2.9%	

There are some crucial questions that only get answered through **forecasting**

How do changes to the funding model impact my business?

Given our forecast activity levels, do we foresee a funding gap in the future?

How can we afford to fund major projects in the future?

What is the bottom-line impact of ... (x% less funding, x% more activity)?

At what condition level can we afford to maintain our assets?

Given my cash commitments, how liquid will I be in the future?

Can we afford the whole-of-life costs of XXX project?

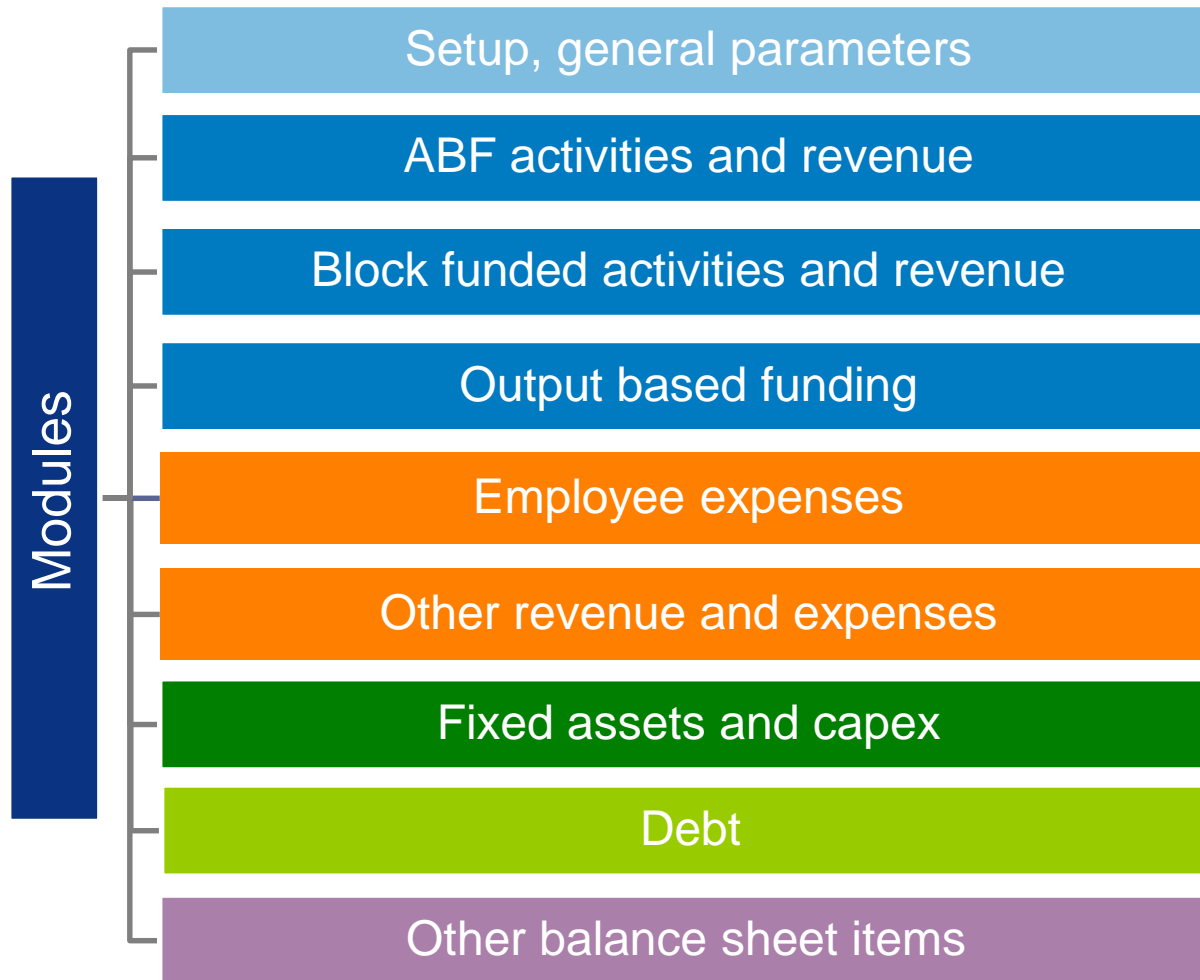


HHS Forecasting Model

Model objectives

- Develop robust “bottom-up” revenue and expense forecasts derived from expected activity levels
- Enhance long-term planning by understanding financial implications of strategic decisions
- Identify revenue shortfalls under different sets of assumptions
- Understand financial sustainability impact of asset management plans

Modular approach to building up forecasts



Model benefits

- Helps the HHS understand the key drivers of the business
- Adds value to Service Agreement negotiations
- Can inform the discussion about policy directions (eg, HHS autonomy)
- Offers a strategic view → get the Board thinking beyond the 12-month mark
- Supports data-driven decision making
- Helps integrated planning → bring everything together and cost it up!

Key features of HHS Forecasting Model

- Flexibility
- Scenario capability
- Reporting capability
- “Theoretical” vs “Funded” results (activity and revenues)
- Roll forward capability

Model example – activity level

Details

Formatted name	Activity category	Activity driver	Number of activities
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Activity—General Parameters

ABF activities by category

Inpatient—part 1	Inpatient	Incidence rate	30
Inpatient—part 2	Inpatient	Bed-days	2
Sub non acute	Sub non acute	Bed-days	2
Outpatients	Outpatients	Incidence rate	1
Mental health	Mental health	Bed-days	1
Emergency	Emergency	Bed-days	2
Procedures and intervention	Procedures and intervention	Incidence rate	1

User-defined:

- Activity category
- Activity driver
- Number of activities

ABF Activities

Formatted activity category	Activity name
Inpatient—part 1	Neurology
Inpatient—part 1	Cardiology
Inpatient—part 1	Renal
Inpatient—part 1	Dermatology
Inpatient—part 1	SRG 1
Inpatient—part 1	SRG 2
Inpatient—part 1	User-defined group 1
Inpatient—part 1	DRG 1
Inpatient—part 1	DRG 2
Inpatient—part 1	DRG 3
Inpatient—part 1	DRG 4

Full flexibility in defining activity level based on:

- Facility
- SRG
- DRG
- Group of DRGs/SRGs
- Whole-of-hospital
- Any other user-defined groups

Model example – sub-populations

Details

Annual inputs—Sub-population growth rate

Formatted name	Name / description	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F
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ABF Sub-Populations

Sub-population forecast

Whole-of-HHS Population

Age 0-14

Age 15-24

Age 25-44

Age 45-64

Age 65-74

Age 75+

[Sub-population name] 8

[Sub-population name] 9

Whole-of-HHS Population	1.80%	1.80%	1.80%	1.60%	1.60%
Age 0-14	1.80%	1.80%	1.80%	1.60%	1.60%
Age 15-24	1.80%	1.80%	1.80%	1.60%	1.60%
Age 25-44	2.00%	2.00%	2.00%	1.80%	1.80%
Age 45-64	1.70%	1.70%	1.70%	1.50%	1.50%
Age 65-74	1.50%	1.50%	1.50%	1.30%	1.30%
Age 75+	1.50%	1.50%	1.50%	1.30%	1.30%

Flexibility in defining any sub-populations, its growth rate and numbers.

Sub-populations are not mutually exclusive.

If preferred, 'Whole-of-HHS population' can be used to minimise granularity

Forecasting activities

HHS is able to forecast activities at DRG-level by each defined sub-population

Details		Average QWAUs per activity				Forecasting based on sub-population and incidence rate						
Item			Historical QWAUs	No. of episodes or bed-days	Override QWAU per episode or bed-day	Average QWAUs per episode or bed-day	Incidence rate					
							Default rate	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F
ABF Activity Calculation Input												
Activity	Sub-population	Activity driver	A	B	C	A/B or C	Default rate	Override				
Inpatient —DRG - B03A	Whole-of-HHS Population	Incidence rate				-						
Inpatient —DRG - B03A	Age 0-14	Incidence rate	500	350		1.4	0.40%	0.36%				
Inpatient —DRG - B03A	Age 15-24	Incidence rate	400	140		2.9	0.20%	0.16%			0.15%	
Inpatient —DRG - B03A	Age 25-44	Incidence rate	300	420		0.7	0.30%	0.26%			0.24%	
Inpatient —DRG - B03A	Age 45-64	Incidence rate	600	380		1.6	0.30%	0.26%			0.24%	
Inpatient —DRG - B03A	Age 65-74	Incidence rate	700	120		5.8	0.30%	0.26%			0.24%	
Inpatient —DRG - B03A	Age 75+	Incidence rate	600	60		10.0	0.20%	0.16%			0.12%	
Inpatient —DRG-B03B	Whole-of-HHS Population	Incidence rate				-						
Inpatient —DRG-B03B	Age 0-14	Incidence rate	600	180		3.3	0.20%	0.16%	0.16%		0.14%	
Inpatient —DRG-B03B	Age 15-24	Incidence rate	300	200		1.5	0.30%	0.26%	0.26%		0.24%	
Inpatient —DRG-B03B	Age 25-44	Incidence rate	300	430		0.7	0.30%	0.26%	0.26%		0.24%	
Inpatient —DRG-B03B	Age 45-64	Incidence rate	600	390		1.5	0.30%	0.26%	0.26%		0.24%	
Inpatient —DRG-B03B	Age 65-74	Incidence rate	800	80		10.0	0.20%	0.16%	0.16%		0.14%	
Inpatient —DRG-B03B	Age 75+	Incidence rate	700	30		23.3	0.10%	0.06%	0.06%			
Inpatient —DRG - B04A	Whole-of-HHS Population	Incidence rate				-						
Inpatient —DRG - B04A	Age 0-14	Incidence rate	200	80		2.5	0.10%	0.06%	0.06%			
Inpatient —DRG - B04A	Age 15-24	Incidence rate	400	130		3.1	0.20%	0.16%	0.16%		0.23%	0.23%
Inpatient —DRG - B04A	Age 25-44	Incidence rate	600	440		1.4	0.30%	0.26%	0.26%		0.32%	0.32%
Inpatient —DRG - B04A	Age 45-64	Incidence rate	800	390		2.1	0.30%	0.26%	0.26%		0.32%	0.32%
Inpatient —DRG - B04A	Age 65-74	Incidence rate	1,000	70		14.3	0.20%	0.16%	0.26%		0.22%	0.22%
Inpatient —DRG - B04A	Age 75+	Incidence rate	600	60		10.0	0.20%	0.16%	0.26%		0.22%	0.22%

Growth rates – model examples

Description			Actual	1. Growth rates	
Formatted name	Name	Line item	Annual total in Jun-15A	First rate	Second rate
Other Revenue & Expense Inputs					
Other revenues					
ABF Adjustment 1	ABF Adjustment 1	User charges and fees—ABF adjustments	5,122.5	ABF QWAU growth—Total	
ABF Adjustment 2	ABF Adjustment 2	User charges and fees—ABF adjustments		ABF QWAU growth—Total	
Block Funding Adjustment 1	Block Funding Adjustment 1	User charges and fees—block funding adjustments		ABF QWAU growth—Inpatient	
Block Funding Adjustment 2	Block Funding Adjustment 2	User charges and fees—block funding adjustments		ABF QWAU growth—Sub non acute	
Other non-ABF Funding	Other non-ABF Funding	User charges and fees—block funding adjustments		ABF QWAU growth—Outpatients	
Retail sales	Retail sales	User charges and fees—sale of goods and services		ABF QWAU growth—Mental health	
Private patient fees	Private patient fees	User charges and fees—others		ABF QWAU growth—Emergency	
Grants—part 1	Grants	Grants,subsidies,contributions and donations—operating	23,591.0	ABF QWAU growth—Procedure and intervention	
Rental income	Rental income	Other revenue	918.0	ABF QWAU growth—Teaching and training	
Others—part 1	Others	Other revenue	166.6	Consumer Price Index (CPI)	
[—]				Consumer Price Index (CPI)	
[—]				Consumer Price Index (CPI)	
[—]				Consumer Price Index (CPI)	

Details		Forecast number of FTEs										
Item		Jun-15A	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24I	
Forecast Number of FTEs and Average Salary per FTEs												
Employee group	Employee category	FTE growth rate	Number of FTEs									
			Override number of FTEs									
Neurology	JHO	ABF QWAU growth—Outpatients				1.0	1.0	1.0	2.0	2.0	2.0	
Neurology	Reg 1	ABF QWAU growth—Outpatients				1.0	1.0	1.0	1.0	2.0	2.0	
Neurology	Reg 2	ABF QWAU growth—Mental health				1.0	1.0	1.0				
Neurology	Reg	ABF QWAU growth—Emergency	20.0									
Neurology	Sreg	ABF QWAU growth—Procedures and inte	20.0									
Neurology	Consult	ABF QWAU growth—Teaching and trainin	20.0									
Neurology	VMO	ABF QWAU growth—[Activity category] 9	20.0									
Neurology	Nurses	ABF QWAU growth—[Activity category] 1	20.0	21.0	22.0	23.0	23.0	23.0	23.0	23.0	23.0	2
Neurology	Administration	ABF QWAU growth—Total	20.0									
Neurology	Clinician	ABF QWAU growth—Total	20.0	5.0	5.0	21.0	21.0	21.0	21.0	21.0	21.0	2
Cardiology	JHO	ABF QWAU growth—Inpatient	15.0									
Cardiology	Reg 1	ABF QWAU growth—Inpatient	23.0									
Cardiology	Reg 2	ABF QWAU growth—Inpatient	25.0									

Forecasting FTEs

Details

Forecast number of FTEs

Item Jun-15A Jun-16B Jun-17F Jun-18F Jun-19F Jun-20F Jun-21F Jun-22F

Forecast Number of FTEs and Average Salary per FTEs

Enter the number of FTEs in the base year.

Employee group	Employee category	FTE growth rate	Number of FTEs	Override number of FTEs						
Neurology	JHO	ABF QWAU growth—Outpatients				1.0	1.0	1.0	2.0	2.0
Neurology	Reg 1	ABF QWAU growth—Total				1.0	1.0	1.0	1.0	2.0
Neurology	Reg 2	ABF QWAU growth—Total				1.0	1.0	1.0		
Neurology	Reg 3	ABF QWAU growth—Total	20.0							
Neurology	Sreg 1	ABF QWAU growth—Total	20.0							
Neurology	Consultant	ABF QWAU growth—Total	20.0							
Neurology	VMO	None	20.0	21.0	22.0	23.0	23.0	23.0	23.0	23.0
Neurology	Nurses	ABF QWAU growth—Total	20.0							
Neurology	Administration	ABF QWAU growth—Total	20.0	5.0	5.0	21.0	21.0	21.0	21.0	21.0
Neurology	Clinician	ABF QWAU growth—Total	20.0							
Cardiology	JHO	ABF QWAU growth—Inpatient	15.0							
Cardiology	Reg 1	ABF QWAU growth—Inpatient	23.0							
Cardiology	Reg 2	ABF QWAU growth—Inpatient	25.0							

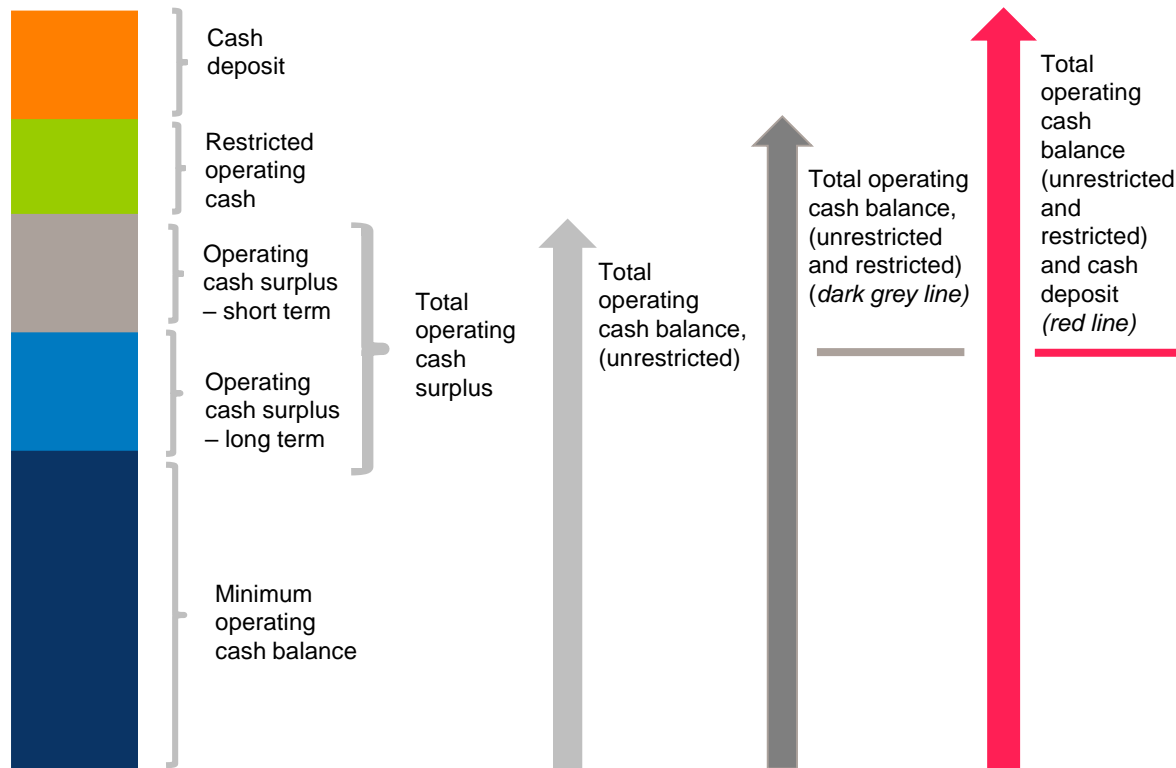
Escalation method 1 –

Select the required growth rate from the drop-down list. For example, select Inpatient QWAU growth to escalate FTEs.

Escalation method 2 –

Select 'none' in the FTE growth rate drop-down list and hard-code the number of FTEs in each year in the 'Override cells'.

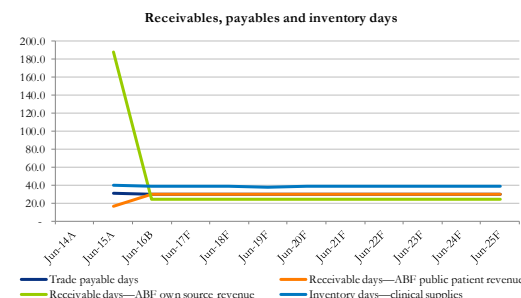
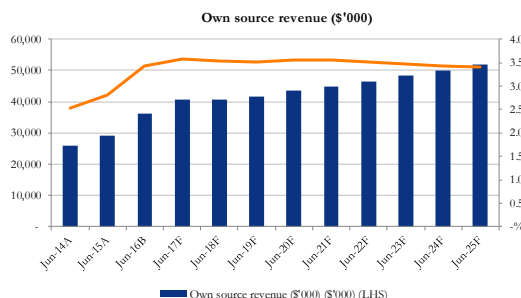
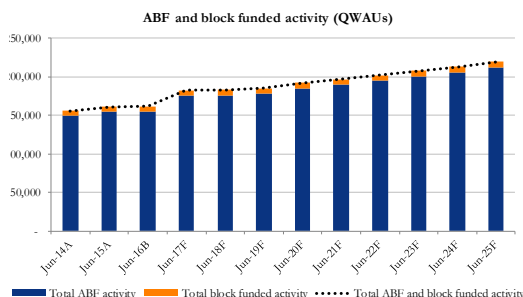
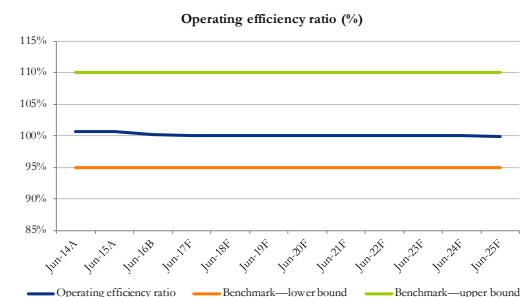
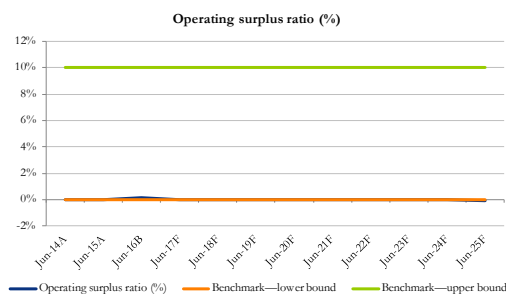
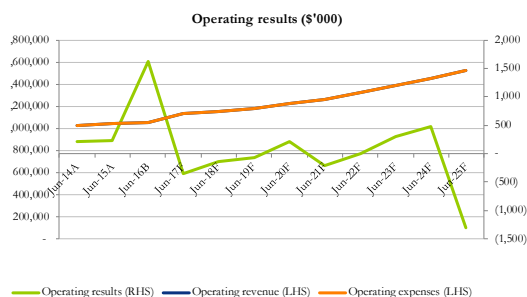
Cash segmentation



Dashboard examples

Operating Performance—Overview

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Operating performance indicators	Actual		Budget	Forecast								
	Jun-14A	Jun-15A	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F	Jun-25F
Operating performance metrics												
Operating surplus ratio (%)	0.0%	0.0%	0.2%	-0.0%	-0.0%	-0.0%	0.0%	-0.0%	0.0%	0.0%	0.0%	-0.1%
Operating efficiency ratio (%)	100.6%	100.6%	100.2%	100.0%	100.0%	100.1%	100.1%	100.0%	100.0%	100.0%	100.0%	99.9%
Receivable days—ABF public patient revenue	-	16.4	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Receivable days—ABF own source revenue	-	187.6	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Trade payable days	-	31.6	30.4	30.4	30.5	30.0	30.4	30.3	30.3	30.3	30.3	30.3
Clinical supplies inventory days	-	40.2	38.9	38.7	38.8	38.2	38.9	38.8	38.8	38.7	39.0	38.9
Activities and own source revenue												
Total ABF and block funded activity (QWAUs)	155,938	161,400	161,730	182,717	183,212	185,280	192,657	196,699	202,093	207,742	213,557	219,851
ABF—own source revenue (\$'000)	26,000	29,188	36,284	40,728	40,819	41,605	43,646	44,932	46,555	48,264	50,044	51,963
Operating results (\$'000)												
Operating revenue	1,025,815	1,039,921	1,054,738	1,135,914	1,156,153	1,182,531	1,226,160	1,262,589	1,323,255	1,386,237	1,454,765	1,526,638
Operating expenses	1,025,600	1,039,683	1,053,117	1,136,268	1,156,290	1,182,607	1,225,944	1,262,790	1,323,253	1,385,940	1,454,296	1,527,936
Operating results	215	238	1,621	(354)	(137)	(77)	216	(201)	2	297	469	(1,298)

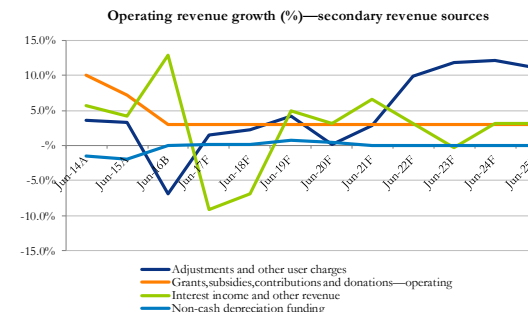
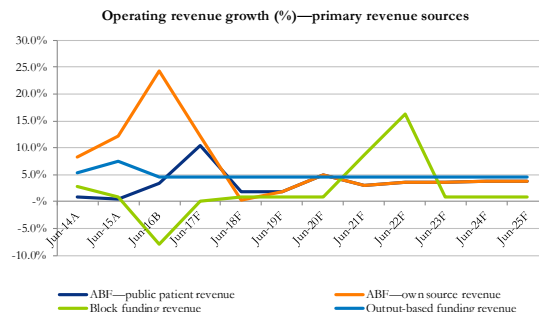
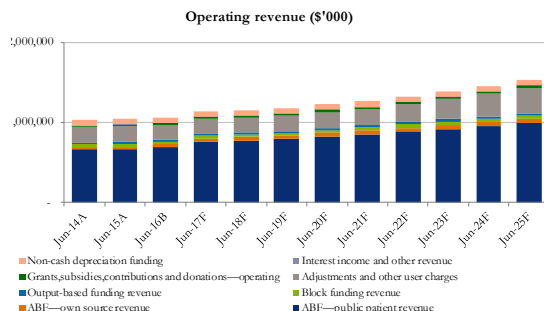
Annual average, unless stated otherwise			
Actual (FY11-15)	Forecast (FY16-20)	Forecast (FY16-25)	
0.0%	0.0%	0.0%	
100.6%	100.1%	100.0%	
16.4	30.0	30.0	
187.6	24.0	24.0	
31.6	30.3	30.3	
40.2	38.7	38.8	
4.8% #	4.5% #	3.5% #	
5.0% #	4.7% #	4.1% #	
0.8% #	3.8% #	4.2% #	
0.8% #	3.9% #	4.2% #	
-6.4%	-39.6%	na	

Compounded annual growth rate

Dashboard examples

Operating Performance—Revenue

Page 2 of 6



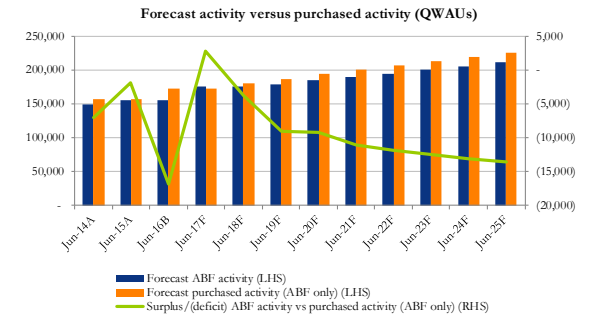
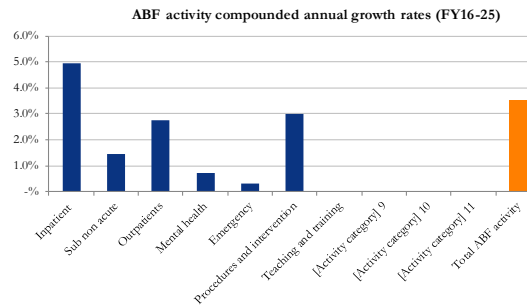
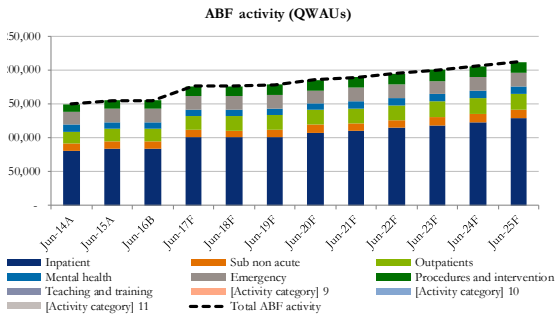
Operating revenue breakdown (\$'000)	Actual		Budget	Forecast								
	Jun-14A	Jun-15A	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F	Jun-25F
Operating revenue breakdown												
ABF—public patient revenue	664,600	667,200	689,396	761,634	775,570	790,489	829,266	853,701	884,553	917,015	950,835	987,299
ABF—own source revenue	26,000	29,188	36,284	40,728	40,819	41,605	43,646	44,932	46,555	48,264	50,044	51,963
Block funding revenue	36,000	36,290	33,383	33,383	33,650	33,919	34,190	37,121	43,158	43,503	43,851	44,202
Output-based funding revenue	20,000	21,506	22,485	23,508	24,577	25,695	26,865	28,087	29,365	30,701	32,098	33,558
Adjustments and other user charges	188,500	194,695	181,277	184,062	188,133	196,127	196,408	202,082	222,067	248,284	278,477	309,135
Grants,subsidies,contributions and donations—operating	22,000	23,591	24,299	25,028	25,779	26,552	27,348	28,169	29,014	29,884	30,781	31,704
Interest income and other revenue	1,215	1,266	1,429	1,298	1,208	1,268	1,307	1,393	1,437	1,434	1,478	1,524
Non-cash depreciation funding	67,500	66,185	66,185	66,274	66,417	66,877	67,131	67,104	67,105	67,152	67,201	67,252
Total operating revenue	1,025,815	1,039,921	1,054,738	1,135,914	1,156,153	1,182,531	1,226,160	1,262,589	1,323,255	1,386,237	1,454,765	1,526,638

Compounded annual growth rate		
Actual (FY11-15)	Forecast (FY16-20)	Forecast (FY16-25)
0.3%	4.7%	4.1%
5.0%	4.7%	4.1%
0.9%	0.6%	3.2%
3.1%	4.5%	4.5%
1.7%	2.0%	6.1%
4.2%	3.0%	3.0%
2.4%	-2.2%	0.7%
-0.9%	0.4%	0.2%
0.8%	3.8%	4.2%

Dashboard examples

Operating Performance—ABF QWAUs

Page 3 of 6



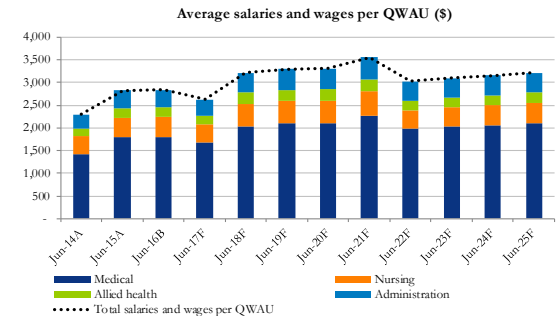
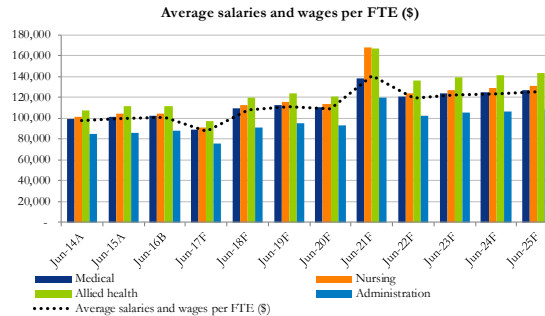
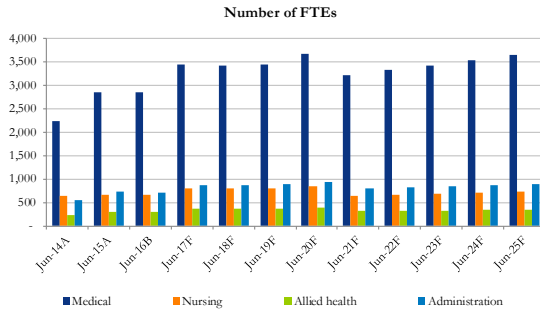
	Actual		Budget	Forecast								
Operating performance—ABF QWAUs	Jun-14A	Jun-15A	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F	Jun-25F
ABF activity												
Inpatient	81,000	83,430	83,439	100,514	100,272	100,928	107,617	109,697	114,302	118,430	123,365	128,763
Sub non acute	9,800	10,620	10,628	10,628	10,628	11,362	11,362	11,362	11,362	12,097	12,097	12,097
Outpatients	18,600	18,820	18,830	20,836	21,211	21,550	21,895	22,289	22,690	23,099	23,561	24,032
Mental health	9,600	9,870	9,873	9,873	9,873	9,873	9,873	10,532	10,532	10,532	10,532	10,532
Emergency	18,900	19,490	19,496	19,496	19,496	19,496	19,496	20,026	20,026	20,026	20,026	20,026
Procedures and intervention	12,100	12,920	12,925	14,620	14,883	15,121	15,363	15,640	15,921	16,208	16,532	16,862
Teaching and training	-	-	-	-	-	-	-	-	-	-	-	-
[Activity category] 9	-	-	-	-	-	-	-	-	-	-	-	-
[Activity category] 10	-	-	-	-	-	-	-	-	-	-	-	-
[Activity category] 11	-	-	-	-	-	-	-	-	-	-	-	-
Total ABF activity	150,000	155,150	155,192	175,967	176,364	178,332	185,607	189,545	194,833	200,390	206,112	212,311

Compounded annual growth rate		
Actual (FY11-15)	Forecast (FY16-20)	Forecast (FY16-25)
4.7%	6.6%	4.9%
6.0%	1.7%	1.4%
4.2%	3.8%	2.7%
4.6%	-	0.7%
4.7%	-	0.3%
5.6%	4.4%	3.0%
na	na	na
na	na	na
na	na	na
na	na	na
4.8%	4.6%	3.5%

Dashboard examples

Operating Performance—Employee Expenses

Page 6 of 6



Operating performance indicators	Actual		Budget	Forecast								
	Jun-14A	Jun-15A	Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F	Jun-25F
Number of FTEs												
Medical	2,237	2,857	2,859	3,433	3,429	3,451	3,676	3,216	3,320	3,413	3,524	3,645
Nursing	630	663	663	797	796	801	853	636	660	683	709	738
Allied health	234	307	307	368	368	370	394	313	322	330	339	350
Administration	556	733	718	862	876	882	939	797	821	844	869	897
Total FTEs	3,657	4,560	4,547	5,461	5,469	5,505	5,862	4,962	5,124	5,270	5,442	5,630
Total salaries and wages, including overtime												
Medical	221,166	221,166	221,166	221,166	290,084	292,100	305,847	374,062	387,642	404,564	443,801	400,604
Nursing	63,709	63,709	63,709	63,709	69,137	69,418	72,764	89,715	92,783	96,770	106,425	81,713
Allied health	25,019	25,019	25,019	25,019	34,181	34,343	35,937	44,138	45,667	47,645	52,328	43,647
Administration	47,356	47,356	47,356	47,356	62,631	62,981	64,820	79,312	83,352	86,943	95,482	84,163
Total salaries and wages	357,250	357,250	357,250	357,250	456,033	458,842	479,368	587,226	609,444	635,922	698,036	610,127
Average salaries and wages per FTE (\$)												
Medical	98,867	101,534	102,176	89,096	109,087	112,312	110,062	138,002	120,650	123,455	125,161	127,157
Nursing	101,126	104,279	104,691	91,257	112,772	115,856	113,402	167,413	123,723	126,649	128,323	130,365
Allied health	106,918	111,339	111,853	97,535	120,046	123,362	120,887	167,165	135,601	138,760	140,932	143,387
Administration	85,172	85,444	87,707	75,165	90,495	94,495	92,581	119,748	102,493	104,716	106,599	108,347
Average salaries and wages per FTE (\$)	97,689	100,007	100,911	87,781	107,380	110,715	108,476	140,676	119,076	121,827	123,592	125,589

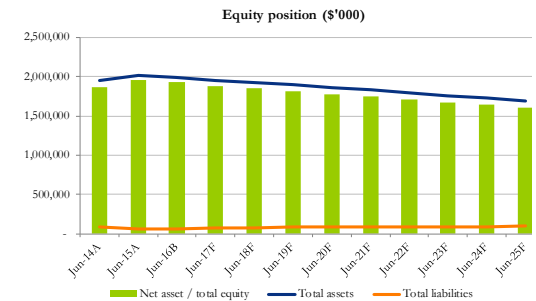
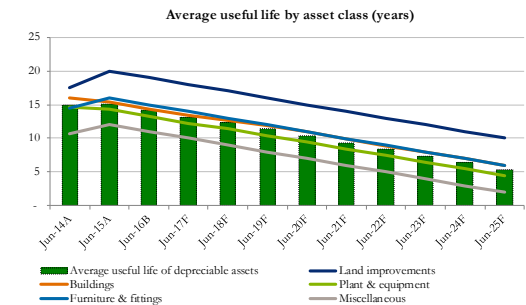
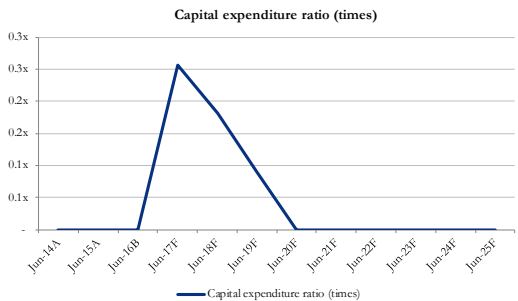
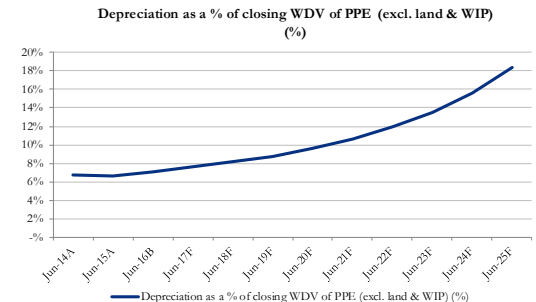
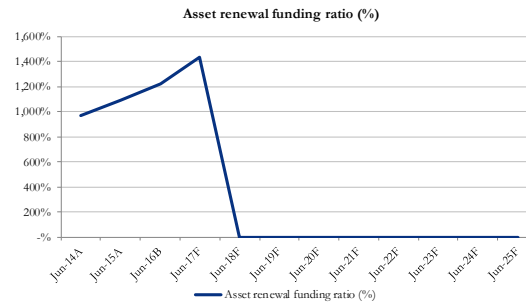
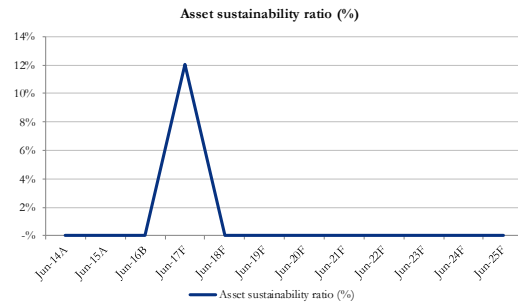
Compounded annual growth rate		
Actual (FY11-15)	Forecast (FY16-20)	Forecast (FY16-25)
6.3% *	5.2%	2.5%
1.3% *	5.2%	1.1%
7.0% *	5.1%	1.3%
7.2% *	5.1%	2.0%
5.7% *	5.2%	2.1%
7.0%	8.5%	5.3%
2.1%	8.7%	3.7%
8.1%	8.5%	4.3%
7.2%	8.4%	4.9%
6.3%	8.5%	4.9%
0.7%	1.9%	2.5%
0.8%	2.0%	2.5%
1.0%	2.0%	2.8%
0.1%	1.4%	2.4%
0.6%	1.8%	2.5%

* For the period FY12-15

Dashboard examples

Asset Sustainability

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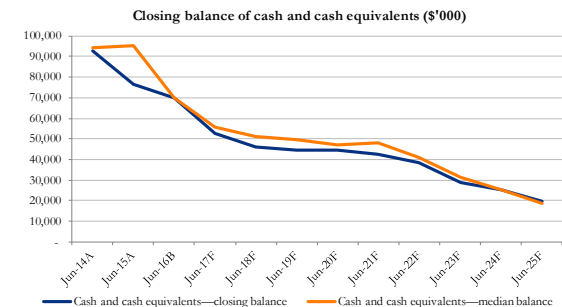
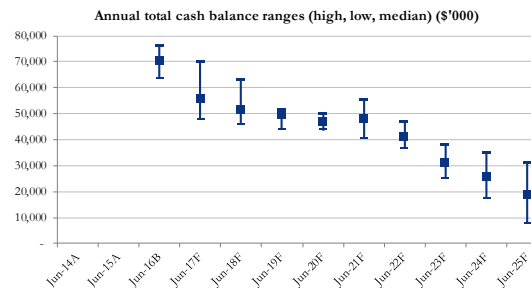
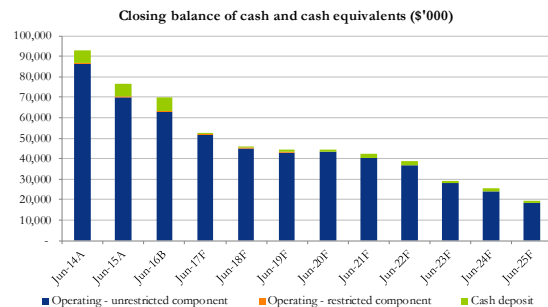
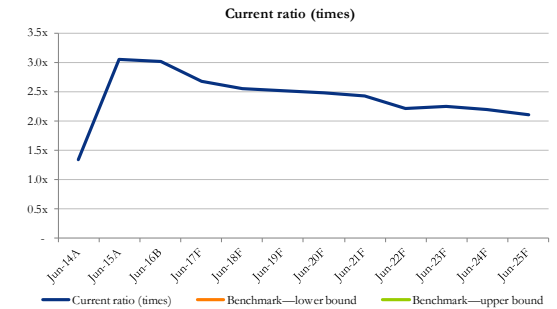
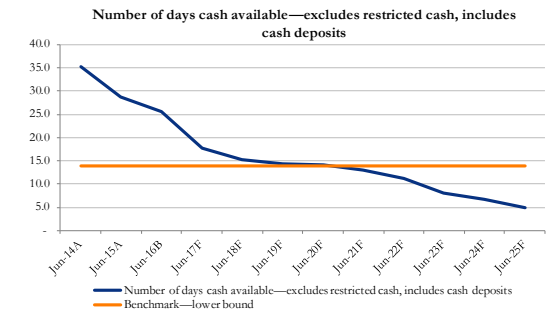
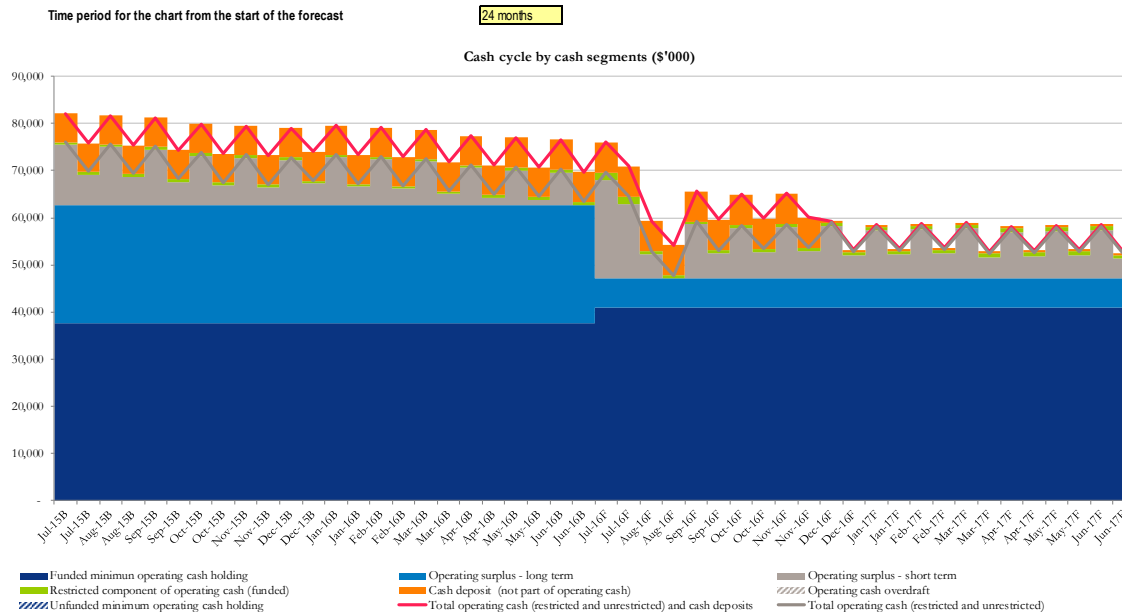


Asset sustainability indicators	Actual		Budget	Forecast										Annual average		
	Jun-14A	Jun-15A		Jun-16B	Jun-17F	Jun-18F	Jun-19F	Jun-20F	Jun-21F	Jun-22F	Jun-23F	Jun-24F	Jun-25F	Actual (FY11-15)	Forecast (FY16-20)	Forecast (FY16-25)
Key metrics																
Asset sustainability ratio (%)	-%	-%	-%	12.1%	-%	-%	-%	-%	-%	-%	-%	-%	-%	1.5%	2.4%	1.2%
Asset renewal funding ratio (%)	973.0%	1,089.6%	1,222.7%	1,435.0%	-%	-%	-%	-%	-%	-%	-%	-%	-%	1,399.1%	531.6%	265.8%
Depreciation as a % of closing WDV of PPE (excl. land & WIP) (%)	6.7%	6.6%	7.1%	7.6%	8.1%	8.8%	9.6%	10.7%	11.9%	13.5%	15.6%	18.4%	6.9%	8.2%	11.1%	
Capital expenditure ratio (times)	na	na	na	0.3x	0.2x	0.1x	na	na	na	na	na	na	0.1x	0.2x	0.2x	
Average useful life by asset class (years)																
Land improvements	17.6	20.0	19.0	18.0	17.0	16.0	15.0	14.0	13.0	12.0	11.0	10.0	16.4	17.0	14.5	
Buildings	16.0	15.4	14.4	13.4	12.6	11.9	10.9	9.9	8.9	7.9	7.0	6.0	15.7	12.6	10.3	
Plant & equipment	14.6	14.3	13.3	12.2	11.4	10.4	9.5	8.5	7.4	6.5	5.5	4.5	14.6	11.4	8.9	
Furniture & fittings	14.5	16.0	15.0	14.0	13.0	12.0	11.0	10.0	9.0	8.0	7.0	6.0	13.8	13.0	10.5	
Miscellaneous	10.7	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	9.9	9.0	6.5	
Average useful life of depreciable assets	14.9	15.1	14.1	13.1	12.3	11.4	10.4	9.4	8.4	7.4	6.4	5.4	14.5	12.3	9.8	

Dashboard examples

Liquidity Position

Page 1 of 2



Financial statements

Integrated financial statements for the entire forecast period plus five historical years with a one-click export tool to separate file

Line item	Annual result	Jun-11A	Jun-12A	Jun-13A	Jun-14A	Jun-15A	Jun-16B
-----------	---------------	---------	---------	---------	---------	---------	---------

Statement of Financial Position

Assets

Current assets						
Cash and cash equivalents						
Operating - restricted component	555	555	555	555	555	555
Operating - unrestricted component	133,380	117,535	101,690	86,045	70,000	38,359
Cash deposit	6,062	6,062	6,062	6,062	6,062	6,372
Total cash and cash equivalents	139,997	124,152	108,307	92,662	76,617	45,286
Receivables						
Trade receivables	11,737	11,737	11,737	11,737	70,884	61,394

Line item	Annual result	Jun-11A	Jun-12A	Jun-13A	Jun-14A	Jun-15A	Jun-16B
-----------	---------------	---------	---------	---------	---------	---------	---------

Statement of Cash Flows

Cash flows from operating activities

User charges and fees	919,178	919,178	919,178	919,178	919,178	760,215
Grants and contributions	23,512	23,512	23,512	23,512	23,512	22,307
Other operating cash inflows	11,667	11,667	11,667	11,667	11,667	2,251
Interest income	150	150	150	165	180	310
Employee expenses	(632,577)	(632,577)	(632,577)	(632,577)	(632,577)	(369,137)
Supplies and services	(302,471)	(302,471)	(302,471)	(302,471)	(302,471)	(442,134)
Grant and subsidies (expenses)	(1,123)	(1,123)	(1,123)	(1,123)	(1,123)	(1,150)
Borrowing costs	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(40)
Movement in of provision and miscellaneous items	-	-	-	-	-	(79)
Other operating cash outflows	(4,093)	(4,093)	(4,093)	(4,093)	(4,093)	(4,854)
Net cash inflow from operating activities	8,243	8,243	8,243	8,258	8,273	(32,312)

Line item	Annual result	Jun-11A	Jun-12A	Jun-13A	Jun-14A	Jun-15A	Jun-16B	Jun-17F
-----------	---------------	---------	---------	---------	---------	---------	---------	---------

Statement of Comprehensive Income

Income

Income							
User charges and fees							
ABF—public patient revenue	658,660	658,660	658,660	664,600	667,200	486,009	547,093
ABF—own source revenue	24,000	24,000	24,000	26,000	29,188	25,579	28,794
User charges and fees—ABF adjustments	(5,000)	(5,000)	(5,000)	(5,500)	(5,122)	(1,590)	(3,840)
Block funding revenue	35,000	35,000	35,000	36,000	36,290	33,383	33,383
User charges and fees—block funding adjustments	130,000	130,000	130,000	135,000	140,224	140,574	144,789
User charges and fees—sale of goods and services	4,500	4,500	4,500	5,000	5,126	5,280	5,438
User charges and fees—others	28,500	28,500	28,500	29,000	29,188	30,064	30,966
Output based funding revenue	19,000	19,000	19,000	20,000	21,506	22,485	23,508
Pharmaceutical benefit scheme	24,000	24,000	24,000	25,000	25,280	6,950	5,953
Non-cash depreciation funding	68,500	68,500	68,500	67,500	66,185	66,185	66,274
Total user charges and fees	987,160	987,160	987,160	1,002,600	1,015,064	814,918	882,357

Line item	Annual result	Jun-11A	Jun-12A	Jun-13A	Jun-14A	Jun-15A	Jun-16B	Jun-17F
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Statement of Changes in Equity

Asset revaluation surplus

Opening balance		700.00	30,705.00
Other comprehensive income - change in asset revaluation surplus		30,005.00	30,005.00
Closing balance	700.00	30,705.00	60,710.00

Contributed equity

Opening balance		1,958,900.00	1,894,715.00
Transaction with owners in their capacity as owners			
Equity injection		2,000.00	-
Equity withdrawal		(66,185.00)	(66,274.31)
Asset transfers		-	-
Grants, subsidies, contributions and donations—capital		-	1,000

Scenario manager

QTC HHS Forecasting Model—Example HHS Scenario Manager



All inputs are in dollars (\$'000) unless otherwise indicated

7 errors identified—Base case is active

Sensitivity details - 'Alternative Case' in the HHS Forecasting Toolbar must be selected to activate this worksheet

Apply? Link to input Description Change (%)

Activity Levels And Funding Revenue

Increase in funded activity

Increase/(decrease) in

Yes		ABF QWAUs in all periods	2.50%
Yes		Block funding NWAUs in all periods	10.00%

OBF parameters

Increase/(decrease) in

Yes		All unit prices across all programs	5.00%
Yes		All output growth rate across all programs	10.00%

Employee Expense

Compensation

Employee group

Yes		Compensation of Executives	5.00%
Yes		Compensation of Neurology	10.00%
Yes		Compensation of Cardiology	5.00%
No		Compensation of Dermatology	

Usability – input checklist

Checklist icon – click on this to go to the input checklist from anywhere in the Model.



QTC HHS Forecasting Model—Example HHS

Input Checklist

1 error identified—Base case is active

Details		Sign-off
Item	Description	Completed by
Step 1		
1a Opening information		
✓ Model setup	General information about the HHS, year, ABF and/or block funded	✓ Completed on 07 Sep 15 by Anson Toh
✓ Activity forecasting sequence	Define forecasting sequence for ABF and/or block funded facility	✓ Completed on 07 Sep 15 by Anson Toh
✓ Activity based category	Define activity based categories for ABF and/or block funded facility	✓ Completed on 07 Sep 15 by Anson Toh
✓ Employee overtime expense tool	Define whether to use employee overtime forecasting tool	✓ Completed on 07 Sep 15 by Anson Toh
✓ Major cashflow frequency	Define cashflow frequency and days receivable/payable for major revenues and expenses	✓ Completed on 07 Sep 15 by Anson Toh
✓ Default inventory days	Define default inventory days for drugs and clinical supplies	✓ Completed on 07 Sep 15 by Anson Toh
1b General input		
✓ General parameters	Assumptions on CPI, NEP, NEC, non-public QWAUs and other general assumptions	✓ Completed on 07 Sep 15 by Anson Toh
✓ Custom growth rates	Define custom growth rates	✓ Completed on 07 Sep 15 by Anson Toh
➔ Custom growth drivers	Define custom growth drivers	<input type="checkbox"/> Incomplete
Step 2—if not applicable, go to Step 3		
ABF revenue		
ABF parameters	Define ABF parameters under service agreement	<input type="checkbox"/> Incomplete
ABF sub-populations	Define ABF sub-populations' numbers and growth rates	<input type="checkbox"/> Incomplete
ABF activity category and driver	Define ABF activity category names, activity drivers and number of line items	<input type="checkbox"/> Incomplete
ABF activity line items	Define name of each ABF activity line item	<input type="checkbox"/> Incomplete
ABF activity calculation inputs	Forecast activities by each activity line item	<input type="checkbox"/> Incomplete

Numbered input sequence. Click on the individual step here to go directly to the relevant input sheet



Once completed, tick the relevant box and the Model will record the name and date.



Proceed to the next step once the prior step is completed.



Usability – error notification report

QTC HHS Forecasting Model—Example HHS Notifications

All inputs are in dollars (\$'000) unless otherwise indicated

1 error identified—Base case is active

Notification details

Issue type	Item type	Item name	Description of issue	Hyperlink
------------	-----------	-----------	----------------------	-----------

Notification Summary

Error	1 error identified
Warning	1 warning identified
Sensitivity	No sensitivities
Note	262 notes identified

Print

Active Notifications

Error	Borrowings	Incorrect borrowings	The borrowings entered do not reconcile with the debt funding specified for the capital expenditure	Link to issue
Warning	Capital expenditure	New imaging machine (add.)	The disposal date entered takes place after the asset is fully depreciated.	Link to issue
Note	General information	Final historical year	The most recent historical year ends on 30 June 2015.	Link to issue
Note	General information	Units	All inputs, calculations and outputs are in dollars (\$'000)	Link to issue
Note	ABF calculation	Whole-of-HHS Population	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Whole-of-HHS Population	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Whole-of-HHS Population	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Whole-of-HHS Population	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Whole-of-HHS Population	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Age 0-14	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Age 15-24	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Age 25-44	The model assumes a zero value for this item in the years highlighted	Link to issue
Note	ABF calculation	Age 45-64	The model assumes a zero value for this item in the years highlighted	Link to issue

Click on the red error notification toolbar from anywhere in the Model to go to the notification list

Notification summary and print icon

Detailed notification list, divided into 'error', 'warning' and 'note' Click the 'Link to issue' to go directly to the error source

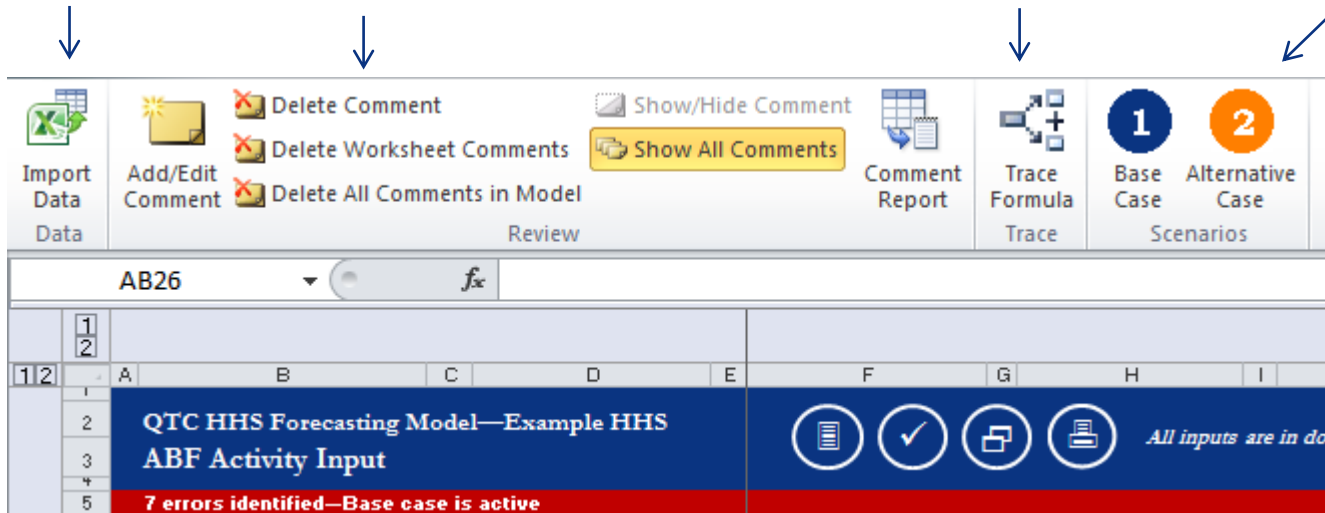
HHS forecasting ribbon – overview

Import input data
in other files into
this file

Ability to show, add and
delete and print
comments on the
worksheet

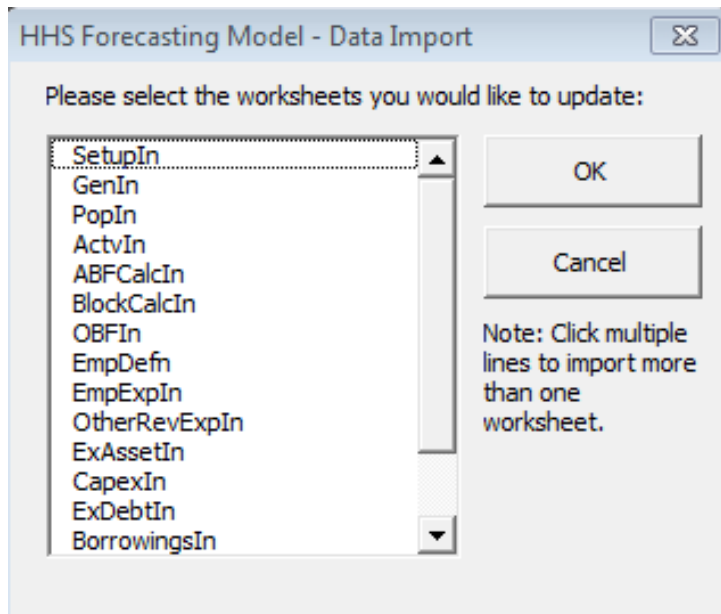
Inbuilt formula
tracing tool to check
cell precedents and
dependents

Toggle between base
case and alternative
case scenario in the
Scenario Manager



HHS forecasting ribbon – import data

- Multiple files can be maintained within the forecasting team, with each team member working on different sections of the Model
- One user holds the master file and uses the 'import data' tool to import select data from other files into the master file



Challenges



- Communication between HHS departments (Finance, Activity, Infrastructure, HR etc.)



- Introducing financial sustainability to HHS and the meaningfulness of forecasting when the Department of Health controls a lot of levers

Challenges

- Resource constraints
- Working with old source data systems (eg, Necto, Famis) when extracting information for the model
- HHS data collection in DSS
- Compatibility between systems (eg, EFA vs DSS activity data)

An abstract graphic on the left side of the slide, composed of several overlapping blue triangles and parallelograms in various shades of blue, creating a dynamic, geometric pattern.

Next steps



Questions

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