

Costing information flow

Hospital Financial Records

- Cost elements

- **Types** of expenditure or what things has money been spend on (eg)
 - Medical, Nursing, Admin salaries
 - Drugs and medicines
 - Prosthesis
 - Lab equipment and supplies
 - Office expenses

- Cost centres

- **Locations** in the hospital where money has been spent (eg)
 - Wards
 - Theatres
 - Diagnostics (Radiology/Pathology)
 - Endoscope unit
 - Salaries department (overheads)
 - Medical specialty

Typical Hospital Financial Ledger

Cost centre ---->	Specialty	ED	Ward	ICU	Labs	Radiology	Theatre	Physio	Procedure room	Overheads	Total
Cost element	€000	€000	€000	€000	€000	€000	€000	€000	€000	€000	€000
Medical pay	300	500		300	450	400					1,950
Nursing pay		2,000	2,500	4,000			2,250		300		11,050
Paramedical pay					1,000	900		750	150		2,800
Admin pay		150	35	75	100	100	75	50		1,000	1,585
TOTAL PAY	300	2,650	2,535	4,375	1,550	1,400	2,325	800	450	1,000	17,385
Drugs		100	250	600					50		1,000
M&SS		50	75	150	25	75		150	50		575
Lab supplies					1,500						1,500
Radiology supplies						1,500					1,500
Heat power light										2,000	2,000
Office expenses		25	15	20	100	150		25		1,500	1,835
TOTAL NON PAY	0	175	340	770	1,625	1,725	0	175	100	3,500	8,410
TOTAL GROSS COST	300	2,825	2,875	5,145	3,175	3,125	2,325	975	550	4,500	25,795

- ▶ What has been spent and where in this hospital

Every hospital has a lot of data in various forms

- Encounter files – types of patients we treat
 - HIPE Data: admitted (coded) patients
 - Outpatient attendance
 - ED system
- Activity system data – the resource they consume
 - Radiology system
 - Lab system
 - Theatre system/logs
 - Paramedical services
- Other systems
 - HR data – where our staff work
 - Floor area – how maintenance costs are consumed
 - Financial GL system – how much we spend and where
 - Materials management systems – high cost item consumption by patient
 - Asset logs
- Local knowledge

Systems record resource consumption

Example scenarios	ED	OPD	Ward	ICU	Labs	Radiology	Theatre	Physio	Scope unit	Overheads
Car crash multiple trauma	Yes		Yes	Yes	Yes	Yes	Yes	Yes		Yes
Stroke without complications	Yes		Yes		Yes	Yes		Yes		Yes
Heart transplant			Yes	Yes	Yes	Yes	Yes	Yes		Yes
Hip replacement			Yes			Yes	Yes	Yes		Yes
Colonoscopy									Yes	Yes
GP referral					Yes					Yes
Leg fracture	Yes					Yes				Yes
Fracture OPD Clinic		Yes				Yes				Yes

- Different patients use different resources – hospital systems record this consumption

Systems record resource consumption

	ED	OPD	Ward	ICU	Labs	Radiology	Theatre	Physio	Scope unit	Overheads
Example scenarios										
Car crash multiple trauma	Green		Green	Green	Green	Green	Green	Green		Green
Stroke without complications	Green		Green		Green	Green		Green		Green
Heart transplant			Green	Green	Green	Green	Green	Green		Green
Hip replacement			Green			Green	Green	Green		Green
Colonoscopy									Green	Green
GP referral					Green					Green
Leg fracture	Green					Green				Green
Fracture OPD Clinic		Green				Green				Green

- Different patients use different resources – hospital systems record this consumption

How do costs attach to patients?

For example....

Surgical ward			
Annual Ward expenditure		Ward activity for year	
Nursing pay	€1,000,000	Total bed days	2,000
Ward clerk	€50,000	<i>Sean Murphy</i> bed days	10
Medical and surgical supplies	€150,000	<i>Sean Murphy</i> %	0.5%
	€1,200,000	<i>Sean Murphy</i> cost to this ward	€6,000

Same process for every patient care area

- Radiology/pathology – tests by patient
- Allied health – treatments by patient
- Theatre – time by patient
- Wards – bed days by patient
 - Time would be better
 - Add in Nursing intensity – even better

Overheads

- Costs not directly attributable to patient care
 - Heat, power and light
 - Maintenance costs
 - Catering
 - Medical records
 - General Administration
 - CEO, Salaries, HR

How do we cost overheads?

- Assign a usage statistic that best describes how usage of these items are driven

Area	Allocation statistic
Heat power and light	Floor area
Maintenance	Floor area
Catering	Bed days
Medical records	Chart movements
HR/Salaries	Staff numbers

- Allocates these costs to a patient care area where they can be allocated to specialty/patient

Costing a patient

	ED	OPD	Ward	ICU	Labs	Radiology	Theatre	Physio	Scope unit	Overheads
Car crash multiple trauma										
Department cost	€10m	€25m	€3m	€5m	€10m	€10m	€15m	€1m		€20m
Patient's share	€200		€2,500	€6,000	€500	€750	€4,000	€600		€1,000

- Our financial ledger tells us how much each department has spent
- Our activity systems tell us who has used resources in each department
- Each patient takes a share of each department they have used and accumulates a total cost

2 levels of Costing used by HPO

- **Specialty Costing**
 - assigns costs down to specialty level
- **Patient Level Costing**
 - Assigns costs down to patient level

Specialty Costing overview

- Covers all ABF hospitals – 42 in 2017
- Takes full Annual Financial Statements
- Gross expenditure only – no income
- Allocate patient related areas by usage statistic
- Allocate overheads areas by best allocation statistic
- Arrive at costs for
 - ABF : admitted inpatients and day cases
 - Block : OPD, ED, Non coded patients, External patients
 - Externs= Medical pay where paying full salary but sessions elsewhere, GP and tests for other hospitals patients
- All done in Excel

Patient level costing - PLC

- Installed in 19 acute hospitals
- Used by HPO to set relativities between DRGs
- Included hospitals must include full breadth of acute activity in Ireland
 - All tertiary referral
 - All national specialist centres
 - Paediatric hospitals – both
 - Single specialty hospitals
 - Maternity : Rotunda
 - Orthopaedic : Cappagh
- Uses PPM2 software from Power Health Solutions

Costing data quality

Specialty costing

- Specialty costing manual
- Excel files submitted to HPO for review
 - Hospital year on year review
 - Comparisons across hospitals
- Detailed review with queries raised by HPO and responded to by hospitals
- Increased transparency and sharing of data
- On site audits

Patient level costing

- Patient costing manual
- HPO access to all PLC servers
- Patient costing users group meets quarterly
 - Issues raised
 - Solutions shared
- Data quality tool
- Benchmarking across hospitals

Use of Costing Data

- HPO
 - To split costs out between different patient care areas
 - Inpatient
 - Day case
 - Outpatient
 - Emergency attendances
 - Non acute patients
 - External patients – Diagnostics done for GPs and other hospitals
 - To set accurate prices for admitted patient activity
 - Enables better informed comparisons between hospitals
- Hospitals
 - Establishes link between costs and patients
 - Understand why money is being spent as well as how much and where
 - Enables comparisons within hospitals
 - Patients
 - Specialties
 - Clinicians
 - Wards
 - DRGs (groups of patients)

Costing data allows comparison....

- One example – all patients in a DRG
- They are clinically similar so why
 - Is LOS different with impact on ward costs?
 - Are there differing clinical practices across consultants?
 - Are diagnostic costs different? More tests? More expensive tests? Pathology department more expensive than another hospital?
 - High cost consumables? Why allocated to one patient and not in another?

Costing connects data

