# Value challenge pilot from the financial perspective

Duncan Orme Nottingham University Hospitals NHS Trust

(NUH PLICS Project Board - Anwar Zaman, Tasso Gazzis, Jason Niel-Dwyer & Scott Hodgson)

# The financial perspective

- What is PLICS?
  - How does it look and feel?
- Does PLICS deliver value?
  - Stages of data grief & 3 elements of recovery
  - Case studies which demonstrate savings
- Lessons from the value challenge and beyond
  - Carter & Costing Transformation Programme
  - Clinical variation & the "Geography is destiny"





## Presenting financial consequence of clinical decisions

- Variance from Budget
- Last month vs previous month(s)
- Better or worse

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	WTE			Current Month		Exp Head	Description	Annual		YTD	
Budget	Actual	Variance	Budget	Actuals	Variance			Budget	Budget	Actuals	Variance
			G	G	6			6		E.	
0.00	0.00	0.00	(100 662)	(165.017)	26.646	IAEEOO	AandE	(2 254 026)	(044.007)	(971.046)	60.061
0.00	0.00	0.00	(190,002)	(105.017)	25,645	IAE500	Aanoe	(2,251,030)	(941.007)	(871,040)	09,901
0.00	0.00	0.00	(222 12 1)	(230,000)	(230,000)	ICASOU	Central PCT Income Adjustments	0	0	(230,000)	(230,000)
0.00	0.00	0.00	(388,404)	(473,026)	(84,622)	IDC500	DayCase	(4,893,913)	(2,019,708)	(2,269,605)	(249,897)
0.00	0.00	0.00	(20,645)	(26,229)	(5,584)	IEL500	Elective	(260,119)	(107,352)	(138,503)	(31,151)
0.00	0.00	0.00	(1.035)	0	1,035	IEX500	ElectXBD	(12,214)	(5,106)	(5,235)	(129)
0.00	0.00	0.00	(105,644)	(79.396)	26,248	IFA500	OutPatFA	(1.333,534)	(550,157)	(552,218)	(2.061)
0.00	0.00	0.00	(239,283)	(109,782)	129,501	IFU500	OutPatFU	(3.017.912)	(1.245,255)	(1,121,436)	123,819
0.00	0.00	0.00	(40,595)	(52,919)	(12 324)	INE500	NonElect	(497.006)	(205,869)	(210.380)	(4.511)
0.00	0.00	0.00	(2 702)	(612)	2 101	INIXEOO	NonElecYPD	(44 726)	(19 703)	(22.697)	(14 094)
0.00	0.00	0.00	(400 467)	(112)	(04.065)	104500	Otherstet	(44,720)	(644,600)	(630,007)	(14,304)
0.00	0.00	0.00	(122,457)	(143,522)	(21,065)	IOASOO	OtherAct	(1,486,790)	(014,022)	(670,397)	(55,775)
0.00	0.00	0.00	(298,975)	(296,960)	2,015	10P500	OutPatOth	(3,767,101)	(1,554,676)	(1,663,004)	(108,328)
0.00	0.00	0.00	(1,411,493)	(1,577,463)	(165,970)	CCGs/LAs - S	SLAM	(17,564,351)	(7,262,455)	(7,765,511)	(503,056)
0.00	0.00	0.00	(16,666)	0	16,666	IAPER1	Income FEP Rephasing	(799,992)	(233,330)	0	233,330
0.00	0.00	0.00	(16,666)	0	16,666	CCGs/LAs-C	Oth IFA	(799,992)	(233,330)	0	233,330
0.00	0.00	0.00	(5.598)	(12.059)	(6.461)	1AQ000	Private Patient Income	(67,170)	(27,988)	(57,126)	(29,138)
0.00	0.00	0.00	0	0	0	140018	Overseas Visitors	0	0	(2377)	(2377)
0.00	0.00	0.00	16 6091	(42.060)	16 464	Drivato 8 Our	Crease Dationts	167 4703	(27.099)	(60 602)	124 6461
0.00	0.00	0.00	(5,596)	(12,059)	(0,401)	Private & Ove	A DEVENUE	(07,170)	(27,900)	(59,505)	(31,315)
0.00	0.00	0.00	(1,433,757)	(1,589,522)	(155,765)	TOTAL CLINIC	AL REVENUE	(18,431,513)	(1,523,773)	(7,825,014)	(301,241)
0.00	0.00	0.00	(882)	(6,563)	(5,681)	IOE001	Education & Training	(10,584)	(4,410)	(6,563)	(2,153)
0.00	0.00	0.00	0	(765)	(765)	10E004	Madel Income	0	0	(1,810)	(1,810)
0.00	0.00	0.00	(361)	0	361	IOE025	Learning Beyond Registration	(4,331)	(1,805)	0	1,805
0.00	0.00	0.00	(11,962)	(11,963)	(1)	100002	DOH Distinction Awards (M&D) C	(143,551)	(59,812)	(59,815)	(3)
0.00	0.00	0.00	(13,205)	(19,290)	(6.085)	Education & T	Training Income	(158,466)	(66.027)	(68,187)	(2.160)
0.00	0.00	0.00	(440)	0	440	101038	Staff Appliances C	(5 280)	(2 200)	0	2 200
0.00	0.00	0.00	(440)	0	440	101030	Staff Euro Tooto	(0,200)	(2,200)	0	2,200
0.00	0.00	0.00	(3)	0	3	101040	Stall Eye rests C	(44)	(18)	0	10
0.00	0.00	0.00	23	0	(23)	10N436	General Courses/Training C	284	118	0	(118)
0.00	0.00	0.00	(420)	0	420	Non PCare Se	erv to Oth B NHS	(5,040)	(2,100)	0	2,100
0.00	0.00	0.00	(1,101)	(399)	702	101020	Public Appliances C	(13,204)	(5,502)	(5,555)	(53)
0.00	0.00	0.00	(15,285)	(5,833)	9,452	100000	Miscellaneous Income	(183,411)	(76,421)	(29,167)	47,254
0.00	0.00	0.00	(16,386)	(6,233)	10,153	Other Income		(196,615)	(81,923)	(34,721)	47,202
0.00	0.00	0.00	(41)	0	41	IOR200	Commercial Trials Income	(500)	(208)	0	208
0.00	0.00	0.00	(41)	0	41	Research & F	Development	(500)	(208)	0	208
0.00	0.00	0.00	(2.002)	0	2 002	INC1RO	Consultat Robras Out Staff Inc	(24.025)	(10.015)	0	10.015
0.00	0.00	0.00	(2,003)		2,003	Inderine Chart	Consult rearge out Stan me	(24,035)	(10,015)		10.015
0.00	0.00	0.00	(2,003)	0	2,003	Medical Staff	Income	(24,035)	(10,015)		10,015
0.00	0.00	0.00	(32,055)	(25,523)	6,532	TOTAL OTHER	RINCOME	(384,656)	(160,273)	(102,909)	57,364
26.65	20.67	(5.98)	41,652	32,267	(9,385)	PCC200	Admin & Clerical - Band 2	499,827	208,261	156,658	(51,603)
1.40	1.44	0.04	2,173	2,556	383	PCC210	Receptionist - Band 2	26,078	10,866	11,344	478
0.00	0.19	0.19	0	312	312	PCC260	Admin & Clerical - Band 2	0	0	2,060	2,060
15.95	13.65	(2.30)	28,706	15,564	(13,142)	PCC300	Admin & Clerical - Band 3	335,562	143,534	119,983	(23,551)
2.00	1.57	(0.43)	3.616	2,836	(780)	PCC330	Medical Secretary - Band 3	43,395	18.081	17.694	(387)
14.86	12.97	(1.89)	31,750	34,920	3 170	PCC400	Admin & Clerical - Band 4	381.010	158 754	133 132	(25 622)
80.96	50 40	(10 37)	107 907	00 466	(10 442)	Administratio	P. Estator	4 205 972	630 406	440 974	(09 625)
0.00	0.00	(10.57)	100,000	00,400	(19,442)	RCC20A	Ed2 A&C Agence	1,205,072	555,490	27.500	(30,025)
0.00	0.00	0.00	0	8,870	8,870	PCC20A	Bd2 A&C Agency	0	0	27,509	27,509
0.00	0.00	0.00	0	635	635	PCC30A	A&C Agency Band 3	0	0	1,861	1,861
0.00	0.00	0.00	0	9,505	9,505	Agency		0	0	29,370	29,370
2.00	2.94	0.94	4,167	5,574	1,407	PSP410	Optometrist Pre-Reg - Band 4	36,595	20,837	20,538	(299)
0.00	0.00	0.00	0	0	0	PSP510	Optometrist - Band 5	0	0	59	59
1.00	1.00	0.00	2,236	2.234	(2)	PSP560	Orthoptist - Band 5	26.827	11,178	11,177	(1)
1.90	0.00	(1.90)	5,196	(604)	(5.800)	PSP610	Optometrist - Band 6	62.341	25,976	1.044	(24,932)
0.00	0.00	0.00	0,100	2 300	2 300	PSP61X	Optometrist Bd 6 Non-NHS B/C	0	20,010	2 300	2 300
6.00	4.30	(2.5.1)	20.620	12,300	(7.292)	PSP660	Othentiet - Band 6	247 674	102 106	54 500	(49,606)
0.90	4.39	(2.51)	20,039	13,350	(7,283)	000740	Ontropust - Band 0	247,071	103,190	124,590	(48,000)
8.80	7.84	(0.96)	33,848	30,089	(3,759)	PSP/10	Optometrist - Band /	406,162	169,235	134,051	(34,584)
3.63	3.23	(0.40)	14,602	13,046	(1,556)	PSP760	Orthoptist - Band 7	175,223	73,010	64,804	(8,206)
1.00	0.00	(1.00)	4,184	0	(4,184)	PSPA10	Optometrist - Band 8A	50,211	20,921	0	(20,921)
0.88	0.88	0.00	4,279	4,277	(2)	PSPA60	Orthoptist - Band 8a	51,349	21,395	21,387	(8)
0.87	0.87	0.00	5,112	5,090	(22)	PSPB60	Orthoptist - Band 8B	61,339	25,558	25,448	(110)
26.98	21.15	(5.83)	94,263	75,362	(18,901)	Allied Health	Professionals	1.117.718	471,306	335,999	(135,307)

# **Clinicians perspective**

- Incomprehensible
- Questionable value
- 'Good for managers'

# Step out of the Silo

- PLICS
- 670 consultants
- Do not directly manage
- Change the paradigm



1,300,000 patient contacts 100 costed data items per contact I&E a/c for each patient

### Drucker

Drucker is considered the single most important thought leader in the world of management, and several ideas run through most of his writings:

The concept of "knowledge worker" in his 1959 book The Landmarks of Tomorrow.

### **Drucker & PLICS**

Our vision is that:

healthcare will be the benchmark industry for the Drucker's "Knowledge worker age"

with clinicians driving value, using their insight and knowledge of patient care and a single version of the financial and clinical performance derived from PLICS

	Overview			
Apr	May	Jun	Jul	Aug













			OVE	RVIEW	ł	IRG A	nalysis					
		Apr	M	ау		Ju	in		Jul			Aug
HR	G Cost Ana	lysis										XL
Р 0	Consultant	Consultant Name	HRG 🔵	HRG Description		Activi ty	Unit Cost	Unit Income	Unit Profit/loss	Total Cost	Total Income	Total Profit/loss
						117	-£2,581	£2,609	£28	-£302,035	£305,308	£3,274
NEL	C4305383	DR. N	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	27	-£3,239	£2,688	-£551	-£87,458	£72,575	-£14,883
NEL	C1517220	DR W	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	19	-£3,173	£2,895	-£278	-£60,285	£55,004	-£5,282
NEL	C4198084	DR J C'	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	13	-£4,071	£3,939	-£132	-£52,923	£51,208	-£1,715
NEL	C3544361	DR. A.C.	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	12	-£1,106	£1,580	£474	-£13,271	£18,961	£5,690
NEL	06042155	DR R.*	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	12	-£1,836	£2,639	£803	-£22,037	£31,671	£9,634
NEL	C4660554	DR. K. (	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	11	-£1,014	£2,192	£1,177	-£11,159	£24,111	£12,952
NEL	C2562465	DR. P.	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	8	-£1,306	£1,991	£685	-£10,452	£15,929	£5,477
NEL	C2594932	DR. S	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	8	-£3,601	£2,655	-£946	-£28,809	£21,238	-£7,570
NEL	06073664	DR KA	DZ11A	LOBAR, ATYPICAL (	OR VIRAL	7	-£2,234	£2,087	-£147	-£15,641	£14,612	-£1,029

			OVER	VIEW	HRG ANALYSIS	EPISODE ANALYSIS	PAT	TIEN
MRN: KC A	Age: 93	Sex: F	Episode Lo	s:7	pecialty: DIABETIC MEDICINE		1	Point o
Prim Diag: J181 L	LOBAR PN	EUMONI	A, UNSPECIFIED				1	No. Dia
Proc 1: zzNS	NOT SPECI	FIED					1	No. Pro
HRG: DZ11A: LOBAR,	, ATYPICAL	OR VIR/	L PNEUMONIA WI	TH MAJOR CC				
Consultant: C3544361:	: DR. A					Episode Start: 28/07/2014	Episode En	d: 04 <b>/</b> 08
E RESOU	JRCES		DIAGNOSIS A	ND PROCEDURE	MARGIN PROFILE	A DAILY COST PROFILE	DAILY RE	SOURC
RESOURCES								
Resource Group		Cos	t Clin_Income O	th_Income				
Total		£2,5	33 £1,838	£279				
Allied_Health_Profes	sionals	± f	71 £0	£8				
Consultant		± £2	58 £0	£17				
Income_HRG		÷	£0 £1,672	£0				
Overheads_Acute_M	ledicine	±	£0 £0	£1				
Overheads_inpatien	nt_speci	± £1	31 £0	£10				
Overheads_inpatien	nt_sped	±	£0 £0	£0				
Overheads_length_d	of_stay	±	£3 £158	£1				
Overheads_other		± f	10 -£0	£2				
Overheads_source		±	£4 £0	fl				
Overheads_specialty		± f	73 £8	£27				
Pathology		± f	65 £0	£21				
		+ f	46 f0	£5				
Radiology			10 20	23				



# The five stages of data grief



# Moving through the 5 stages of data grief



#### **CLINICAL LEADERS**

### **Three accelerators – NUH experience**

PLICS			
Timoly	Leadership Skills		
Monthly 8 weeks	Execution	Clinical Leaders	
Accurate Directly attributed	(Charan R, Bossidy L. Execution McChesney C, Covey S – 4 Disciplines) <b>Trust</b>	Clinical Directors	
Relevant	(Covey SMR – Speed of Trust) Talent	Heads of Service Consultants	
	Ericsson A - Peak Win — win S Covey – 7 Habits	Ward & Theatre Managers	
		Diagnostics	

# Leadership, PLICS, Clinicians





# Create a shared mental model of work in plastic surgery



Losses in the sample set by Subspecialism

Shared starting point: Deficit on departmental budget £3 million



# Making Complex Breast Reconstruction Cost Effective

Operation Time: 7.5 hours mean (Comparable to UK peers) International Gold Standard: 4 hours

#### **Working Group**

- Multidisciplinary Theatre team visited expert UK unit
- Attended British Association Plastic and Reconstructive Surgery Scientific Meeting
- Current process mapped and new process mapped,
- Additional consultant on each case
- Two scrub nurses

#### Outcome

- 2 cases in 0830-1800 extended day list 9.5 hours
- 37% reduction in theatre costs
- Very team dependent







**Theatres:** The General manager and Head of service led an initiative to ensure theatre lists started on time as part of a theatres performance improvement programme. A step change in productivity was achieved which was observed as specialties improved session utilisation rates and undertook more than 1,000 additional cases without increasing theatre capacity. This resulted in a £2.4m improvement in margin. <sup>24</sup>

#### ROI: 518% Saving £2,149,000

FRANKLINCOVEY





**Critical Care:** The service implemented an initiative to improve the arrangements for access to critical care beds for elective surgery. The team examined how trust could be built such that up to 2 hours could be saved per day in determining the availability of beds. The resulting improvement in productivity improved financial performance by £1.2m.

#### ROI: 548% Saving £1,200,000

FRANKLINCOVEY CHANNEL PARTNER

# Carter & Costing Transformation Programme

#### SUMMARY (Costing Assessment Tool)



#### AN ACUTE TRUST - XXX

#### Score by activity group:



# The "Geography is destiny"

Chen et al set out to look at the relationship between Medicare spending patterns in the region of a primary care physician's residency training and their subsequent Medicare resource allocation patterns in practice. Essentially, they asked:

#### "If you train in a place that spends more, will you spend more in practice?"

Chen C, PettersonS, Phillips R, Bazemore A, Mullan F. Spending patterns in region of residency training and subsequent expenditures for care provided by practicing physicians for Medicare beneficiaries. JAMA 2014, 312 (22): 2285-93

David Asch and colleagues set out to test the implications of the "Geography is destiny" hypothesis by looking for the associations between training experiences and various patient outcomes and practice patterns for US Obstetrics. The authors **concluded that residency training is associated with a major and pervasive impact on practice performance** 

Asch DA, Nicholson s, Srinivas SK, Herrin j, Epstein AJ. How do you deliver a good obstretrician? Outcomes based evaluation of medical education.

## Meeting the value challenge – Three accelerators of improved performance



# ...in the words of one of our surgeons...

- We are a team
- We routinely sit and share spreadsheets together face-to-face
- Mangers and clinicians happily discuss HRG and clinical pathways interchangeably using PLICS



We have realized that time is the currency that links us all

# Value challenge pilot from the clinical perspective

Dr Jean MacLeod

North Tees and Hartlepool NHSFT

Improving value in healthcare requires finance and clinical collaboration

Take one or two acute care conditions, take on a<br/>chronic care condition....Kaplan 2015

## It started with the Finance teams...

3 Trusts with same software

# ....then we found clinical teams

- Friendly clinicians willing to talk £
- 3 Trusts 6 busy teams
- Surgical speciality accessible outcome data
- Medical speciality chronicity
- In hospital discussions
- Project team meetings

## **Refining the scope**

- Surgical vs Medical approach
- Surgical quickly became Orthopaedic
- Fractured neck of femur
  - Activity in each Trust
  - Clear pathway
  - Data collection in NHFD
  - Simple coding

## **Refining the scope**

- Medical slowly became Diabetes
  - Cardiology, Frail elderly, Respiratory considered
- Diabetes is a huge clinical area
  - Activity in each Trust
  - But which pathway? Data collection?
  - No simple outcome or coding
  - In patients stratified by biochemical data

# **Identifying and sharing clinical data**

- Clinical distrust of coding accuracy
- Assumptions regarding behaviours around Best Practice Tariff and NHFD completion
- Confidentiality and reputational concerns using NHFD
- Clinical audit data national, Trust
- Access to and volume of biochemical data
- Diabetes outcomes rely on biochemical parameters

## Where we got to



Clinically relevant data Improved capture of patient data Wider definitions of outcome Identified other data sources

Interrogation of variance in costing and in outcomes Clinical reframing of costing data Shared language + frustrations

## **Frustrations**

- Timescale of project
- Caldicott as a barrier
- Discovering stakeholders as project progressed
- Identifying data sources as project progressed
- NHFD vs PLICS
- Diabetes outcome data
- Sourcing primary care data
- Remembering Proof of concept ≠ Research

Costing *is* a useful tool for clinicians, informing service review or redesign and assessing change



# North Tees and Hartlepool





#### Costing for Value COPD H@H analysis

J MacLeod C Monaghan N Waters

#### We're Passionate About

Putting patients first Quality, safety and patient experience Transforming services to meet the health needs of future generations





#### Costing for Value : COPD H@H Analysis

#### Aim:

Understand full impact of change in service delivery for patients with COPD

Source data:

Patient feedback, PLICs, TrakCare, SystemOne, NEAS, Bed bureau, weather station...

Methods:

Comparative analysis –activity, KPIs, income vs expenditure





### Hospital @ Home

Old Model for patients with exacerbations of COPD:

- Frequent admission to hospital 15 miles from home
- Average length of hospital stay 6.2 days
- Get a chest X ray (again!)
- Have (more!) blood tests
- Get some expensive inhalers to take home





### Hospital @ Home

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- Get some expensive inhalers to take home

New Model for patients is Hospital @ Home:

- Cared for in their own home
- No travelling to hospital for them or their relatives
- Guaranteed specialist input
- Unlikely to have any blood tests or chest X rays
- No new expensive inhalers but advice on using their own





#### **North Tees and Hartlepool**

**NHS Foundation Trust** 

#### Introduction of H@H service





#### North Tees and Hartlepool NHS Foundation Trust

### Hospital @ Home: Patient perspectives

#### HEALTH

#### Nice to know they're there

I have suffered with chronic obstructive pulmonary disease (COPD) for a number of years.

Just recently I have been involved in a new initiative called Hospital at Home, run by the NHS.

This seeks to treat COPD sufferers in their home environment, instead of going to hospital.

The body of people who treated me were first class, and very thorough in the support they gave me while suffering from recurring chest infections.

I am now back on my feet and feeling like myself again.

I thought I would like to thank everyone involved in my treatment for the help and support I received from them all.

It's also nice to know that they will be there for me whenever this happens again. Thank you all. A patient said to me yesterday in clinic ' I want to kiss the person who thought of this service' ...and then they did./

> Consultant feedback

Letter to the Hartlepool Mail





#### **KPI:** Reduction in COPD admissions







#### **KPI:** Reduction in COPD admissions







#### KPI: Reduction in LOS, bed occupancy







### **KPI:** Admission avoidance

- Bed bureau GPs
- NEAS
- Rapid response
- Community matrons
- Patients

	Jan	Feb	Mar	Apr	May	Jun	TOTAL
Estimated prevented admissions	55	96	71	56	72	67	417
Bedday reduction	275	513	397	308	273	277	2,040
Released beds	8.9	18.3	12.8	10.3	8.8	9.2	68.0





#### Financial analysis

Estimated Annual Financial Impact of Admission Prevention								
(Based on Jan 17 - Jun 17)								
	Min	Avg	Max					
Average income per spell (based on 16/17)	£445	£1,042	£1,451					
Estimated prevented admissions	834	834	834					
Estimated income prevented	£371,510	£869,075	£1,210,112					
	Min	Avg	Max					
Average variable costs per spell (based on 16/17)	£55	£217	£376					
Estimated prevented admissions	834	834	834					
Estimated variable cost avoided	£45,753	£180,835	£313,824					
Estimated net impact on Acute	£325,757	£688,239	£896,288					





### Future service changes

- Tool for projection, mapping and monitoring
- Clinical and financial impact analysis
- Managing frailty closer to home
  - Potential financial impact for acute
  - Overlap in activity with social care workforce
- Moving clinics for chronic disease
  - Loss of elective activity against contracted time