



The Prince Charles Hospital



Queensland
Government
Queensland Health

The Prince Charles Hospital Cardiac Catheterisation Laboratory Annual Report 1st July 2013 - 30th June 2014



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Cardiac Catheterisation Laboratory

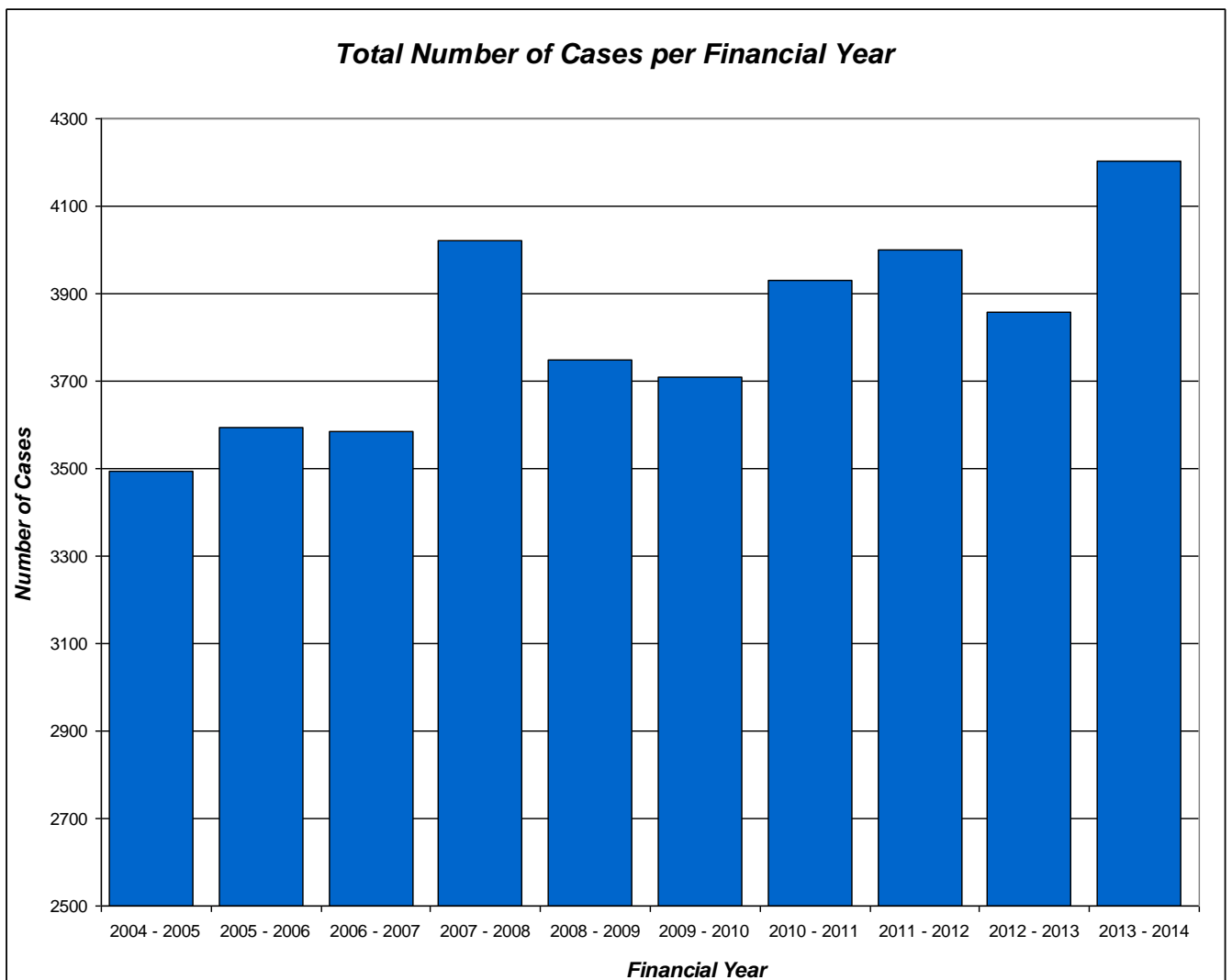
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Clinical Year Report 2013 – 2014

Total Number of Cases – Financial Year

Financial Year	Total Number of CCL Cases
2004 – 2005	3,495
2005 – 2006	3,595
2006 – 2007	3,585
2007 – 2008	4,020
2008 – 2009	3,747
2009 – 2010	3,708
2010 – 2011	3,931
2011 – 2012	4,000
2012 – 2013	3,857
2013 – 2014	4,204



Patient Demographics

Total = 4,204

Adults (≥15 y.o.)

Total = 4,204 (100.0%)

Patients Average Age: 65.7 ± 13.7 (mean ± standard deviation)

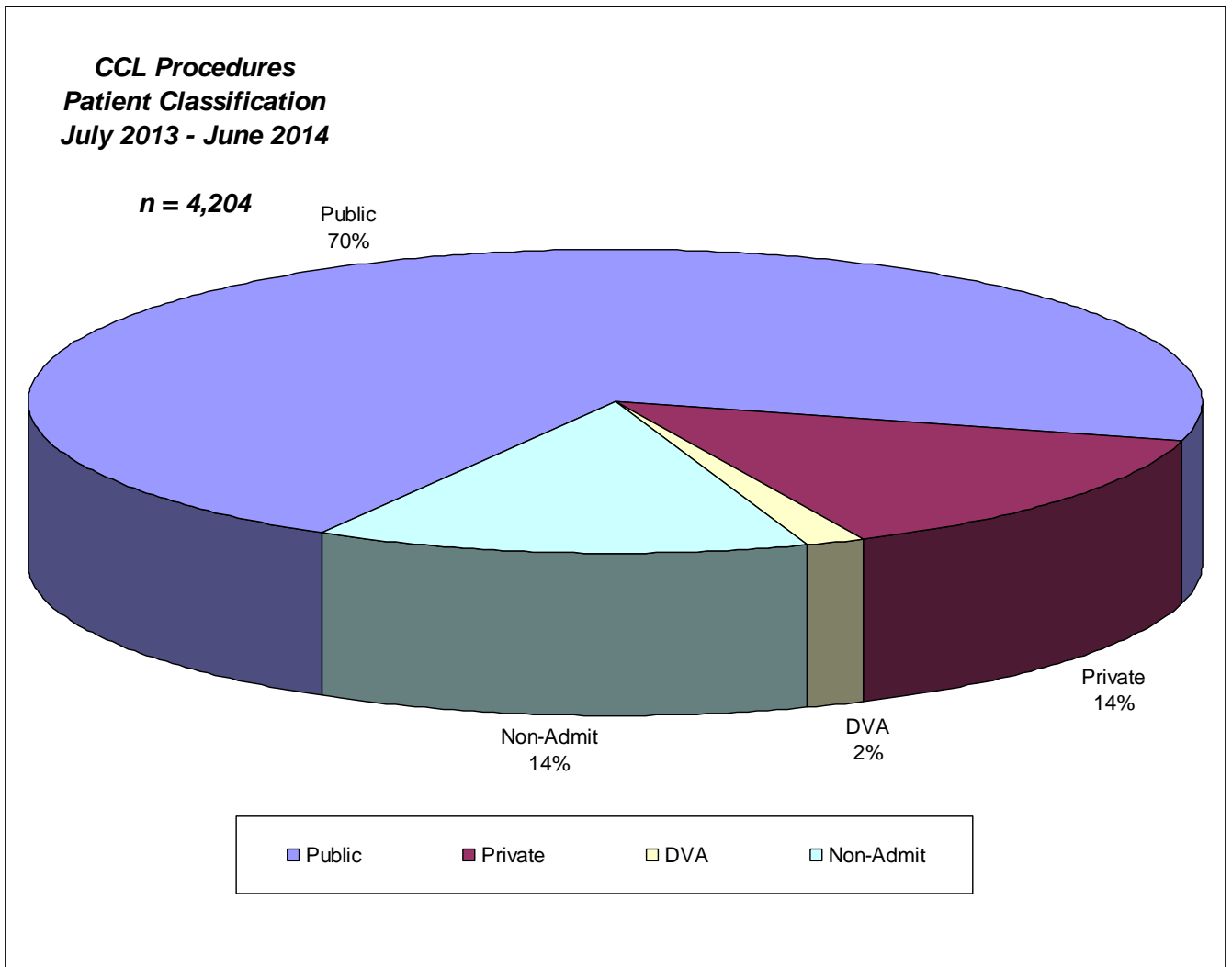
Female: **1,477 (35.1%)**

Average Age: **66.7 ± 14.2**

Male: **2,727 (64.9%)**

Average Age: **64.3 ± 13.3**

<i>Patient Classification</i>	Public	Private	DVA	Non-Admit	TOTAL
Patients Operated on in CCL	2,976	589	71	568	4,204

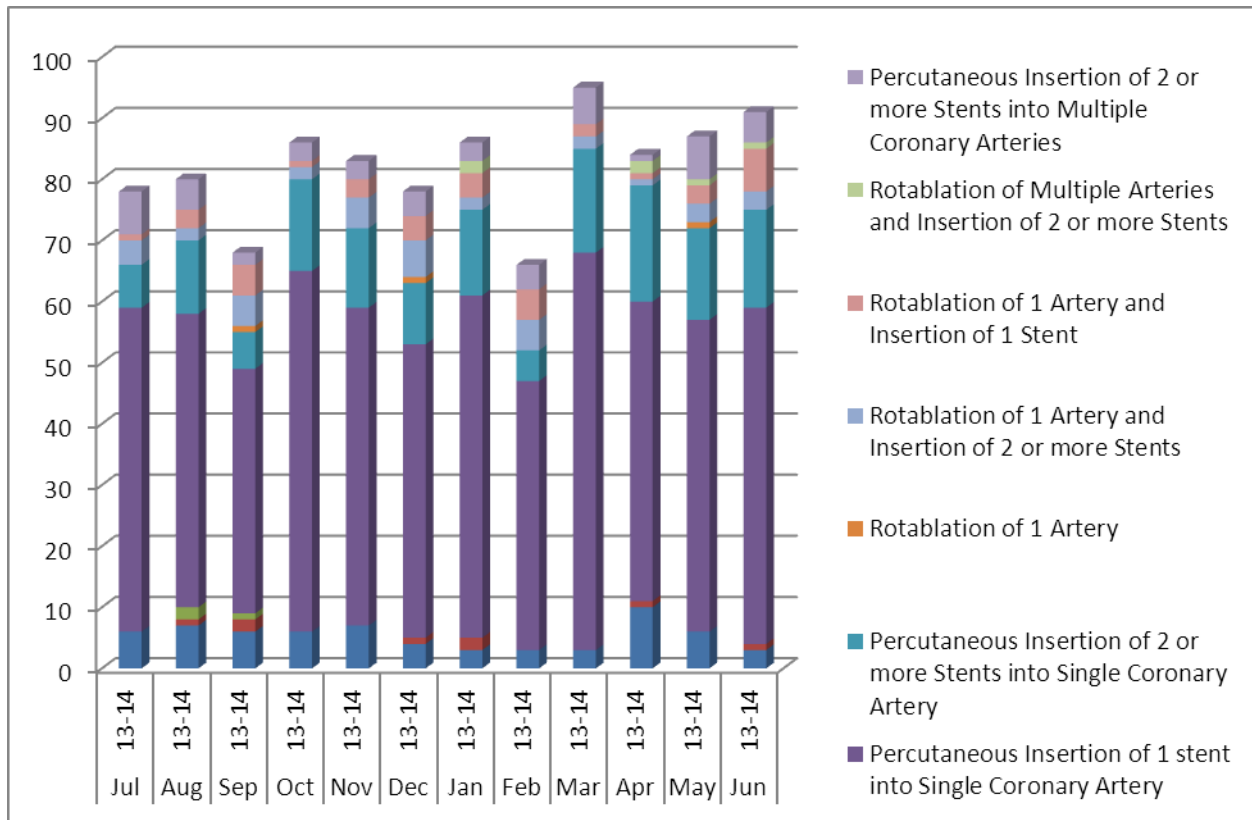


Total CCL Procedures Performed – Adults

PROCEDURES (ADULTS)		FINANCIAL YEAR (JULY 2013 - JUNE 2014)					FINANCIAL YEAR (JULY 2012 - JUNE 2013)				
		PUBLIC	PRIV.	DVA	NON-ADMIT	TOTAL	PUBLIC	PRIV.	DVA	NON-ADMIT	TOTAL
Coronary Angiography		2573	473	46	538	3,630	2,678	417	46	212	3,353
Device Closures	ASD	15	2			17	12				12
	LAA	7	3			10	3	2			5
	PDA	3				3	3				3
	PFO	8	2			10	3	3			6
	VSD						2	1			3
Paravalvular Leak Closure		5	2			7	2				2
Percutaneous Valve		39	23	8		70	48	23	12		83
Mitraclip		6	7			13					
Device Total		83	39	8		130	73	29	12		111
Dilatation / Stenting	Aorta						1				1
	Pulmonary	2	1			3	1				1
	Renal	2				2					
	Subclavian	1	1			2	2				2
	Vena Cava	1	1			2	1				1
Embolisation	Aorta						3				3
	Bronchial										
	Pulmonary		1			1					
	Subclavian										
Graft Study		300	43	6	37	386	292	28	7	15	342
IABP		43	3	1		47	66	3			69
ICE		20	6			26	19	4	1		24
IVC Filter		3	2			5					
IVUS		68	13		3	84	67	9	2	1	79
FFR		191	30	2	15	238	162	33	3	2	200
OCT		48	7	1	4	60	64	12			76
PCI +/- Stents	No Stents	62	11	1		74	41	2			43
	Single Vessel	644	116	10		770	688	102	12		802
	Multi Vessels	48	8			56	49	2			51
	Rotablation	73	12	3		88	75	11			86
Total Angioplasty		822	146	14		982	895	118	12		1,025
Pericardiocentesis		17	1			18	18	5			23
Renal Denervation		11	6			17	18	3			21
Right Heart Catheter		228	73	9	50	360	238	76	9	9	332
RV Biopsy		19	6	1	20	46	17	10		4	31
Septal Ablation (TASH)		5			1	6	3				3
Temporary Pacing		159	50	20	1	230	174	47	17		238
Transoesophageal Echo		56	31	7		94	49	18	8		75
Valve / Lead Screening		13		4		17	4				4
Valvuloplasty	Aortic	105	43	20		168	113	41	16		170
	Mitral	6	1			7	4	3			7
	Pulmonary	1				1	2				2
	Tricuspid						1				1

TOTAL PATIENTS	2,976	589	71	568	4,204	3,069	505	66	217	3,857
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Percutaneous Coronary Intervention



Angioplasty Nursing Service – Episodes of Care

ANGIOPLASTY NURSING SERVICE		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Occasions of Inpatient Care		78	80	68	86	83	78	86	66	95	84	87	91	982
Outpatient Follow Up – Episodes of Care	7 day	75	82	58	79	73	84	69	50	59	62	96	54	841
	1 month	29	88	6	69	72	9	24	89	98	72	80	68	704
	6 month													
	Unknown	1			1									2
	TOTAL CARE	105	170	64	149	145	93	93	139	157	134	176	122	1547

Primary PCI for STEMI

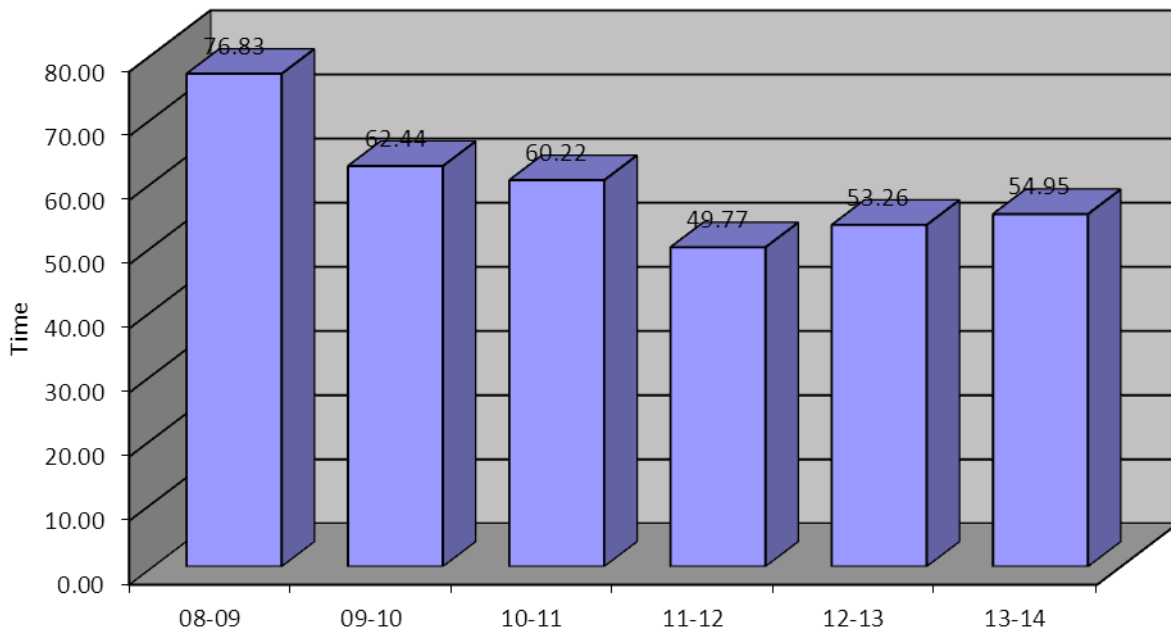
Total: 132

Patients Average Age: **64.0 ± 12.6** (mean ± standard deviation)

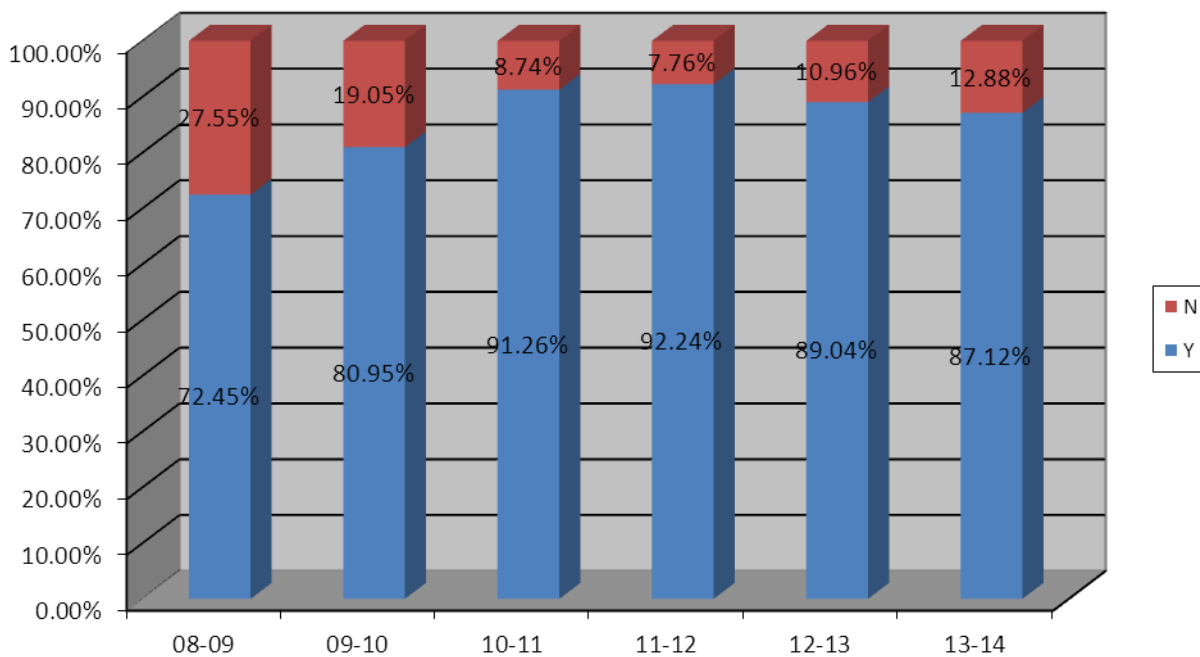
Female: **36 (27.3%)**
 Male: **96 (72.7%)**

Average Age: **69.6 ± 12.81**
 Average Age: **61.9 ± 12.93**

Average Door to Balloon Times



% Cases within 90mins



Interhospital Transfers

Total = 1521 (39.4%)

Interhospital Transfers

From 01/07/2013 to 30/06/2014

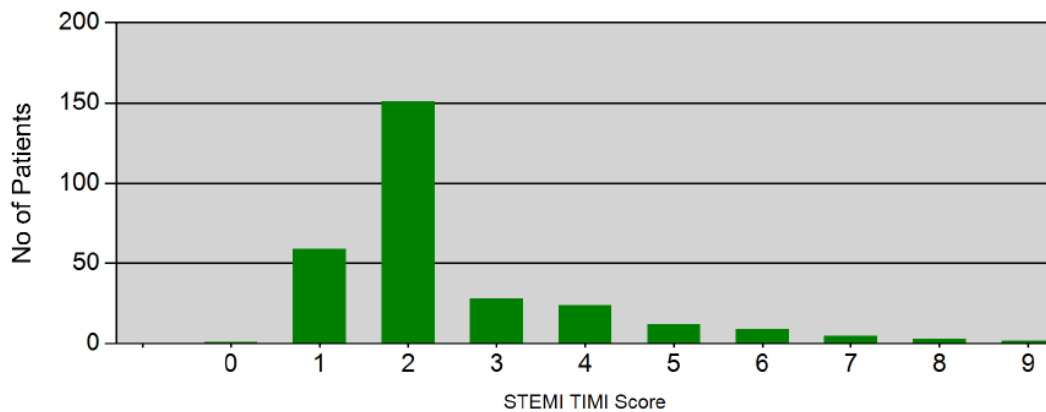
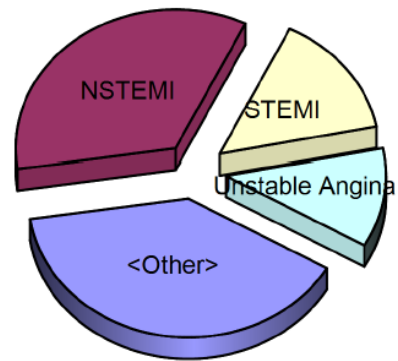
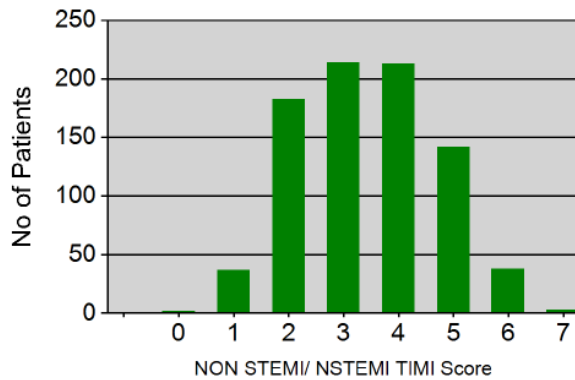
Total Identified :	2496
Procedure performed (excl.Cancelled after)	2441
inc. NOT Transferred	920
inc. Transferred	1521
<hr/>	
Status: ED Admission	332
Status: TPCH Inpatient	460
Status: InterHospital Transfer	1403
Status: QAS Primary PCI STEMI	50
Status: Emergency to CCL	63
Status: Outpatient	77
Status: ER- Primary PCI STEMI	37
Status: Drip & Ship Post Lysis	8
Status: Drip & Ship Primary PCI	6
Status: Drip & Ship Failed Lysis	1
Status: <Unknown>	4
Transferred (excl.Cancelled after)	1521
inc. Procedure performed	1521
<hr/>	
Status: InterHospital Transfer	1368
Status: Emergency to CCL	29
Status: ED Admission	56
Status: TPCH Inpatient	20
Status: Outpatient	17
Status: Drip & Ship Post Lysis	8
Status: Drip & Ship Primary PCI	6
Status: QAS Primary PCI STEMI	10
Status: ER- Primary PCI STEMI	6
Status: Drip & Ship Failed Lysis	1
Discharged (excl.Cancelled after)	0
<hr/>	
Removed from the list (Cancelled)	55
inc. Procedure performed	20
inc. Procedure NOT performed	35
<hr/>	
Status: InterHospital Transfer	48
Status: TPCH Inpatient	2
Status: Drip & Ship Post Lysis	2
Status: Outpatient	2
Status: ED Admission	1
<hr/>	
inc. NOT Discharged	55

Interhospital Transfers continued

Genda / Age of Referrals:	#	%	AVG years	StDeviation
All	2496	100%	63.9	+/- 15.1
Male	1665	66.7%	63.0	+/- 14.9
Female	830	33.3%	65.6	+/- 15.3
Unknown	1	0%		

Waiting:	#	%	AVG days	StDeviation
...for Transfer	1561	63%	1.0	+/- 1.6
...for Procedure	2461	99%	2.2	+/- 2.9

ACS Types Identified:	2496	100%
Unstable Angina	286	11.5%
STEMI	366	14.7%
NSTEMI	862	34.5%
<Other>	982	39.3%



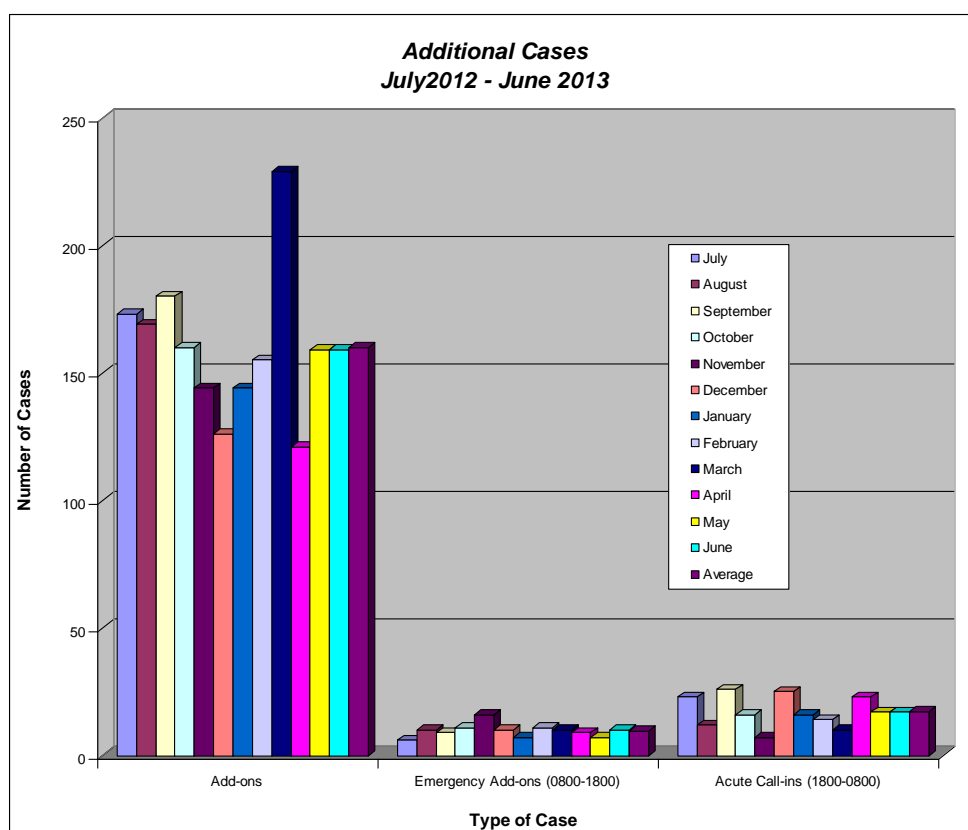
Diagnosis Identified:	2496	100%
NSTEMI	864	34.6%
STEMI	357	14.3%
Unstable Angina	297	11.9%
Valvular Heart Disease	263	10.5%
Arrythmia	142	5.7%
IHD-Other	101	4%
Heart Failure	88	3.5%
Cardiomyopathy	65	2.6%
Stable Angina	46	1.8%
Infected Cardiac Device	36	1.4%
Pericardial Effusion/tamponade	35	1.4%
Endocarditis	33	1.3%
CHB	32	1.3%
Congenital Heart Disease	27	1.1%
Out of Hospital Arrest	21	0.8%
ICD/PPM Failure	18	0.7%
Cardiac Arrest	12	0.5%
Myocarditis	12	0.5%
STEMI Failed Lysis	11	0.4%
<Unknown>	7	0.3%
Suspected Rejection	5	0.2%
LMD IABP	5	0.2%
Thrombus	4	0.2%
Pericarditis	4	0.2%
Malignant Hypertension	2	0.1%
Atrial Myxoma	2	0.1%
Aortic Dissection	2	0.1%
NSVT	2	0.1%
Aortitis	1	0%
Pleural Effusion	1	0%
Pulmonary Embolus/DVT	1	0%

Reason of Removal from the list (Cancellation):	55	100%
Transfer to private health facility	11	20%
No longer indicated	8	14.5%
Transfer to other Q Health Facility	7	12.7%
Patient deceased	6	10.9%
Discharged home. For OPD angio appt	4	7.3%
BEING TREATED AS OUTPT	4	7.3%
Pt discharged. For OPD angio	3	5.5%
Medically unfit for procedure	3	5.5%
Accepted for transfer to RBWH	2	3.6%
PT SELF DISCHARGED	2	3.6%
Patient declined procedure	2	3.6%
OPD angio	2	3.6%
<Unknown reason>	1	1.8%

Additional Cases

Total = 2,072 (49.3%)

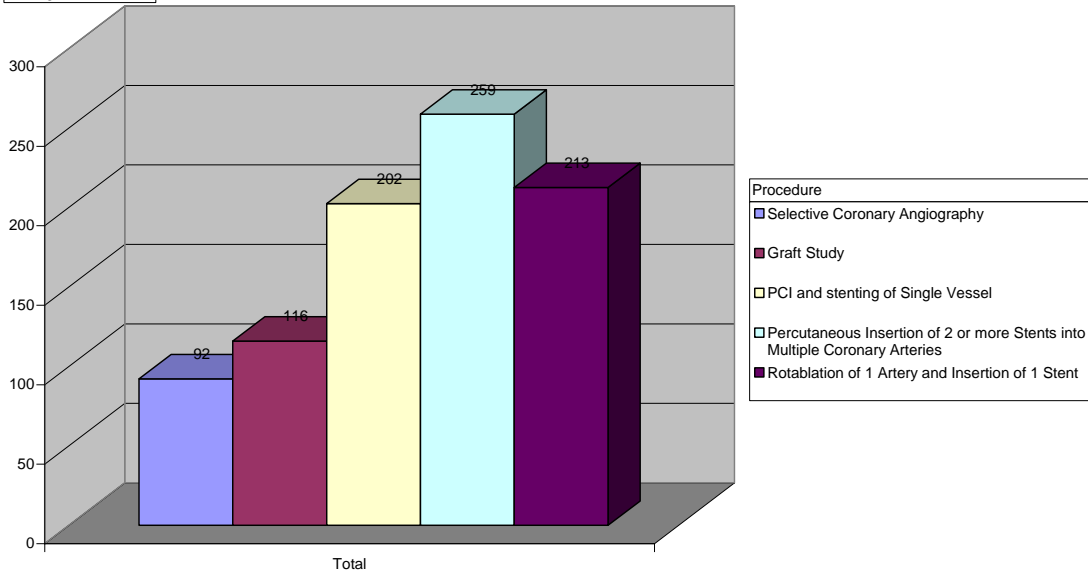
Additional Cases	Financial Year (2013 - 2014)	Financial Year (2012 - 2013)
Add-ons	1,661	1,919
Emergency Add-ons (0800-1800)	195	116
Acute Call-ins (1800-0800)	216	206



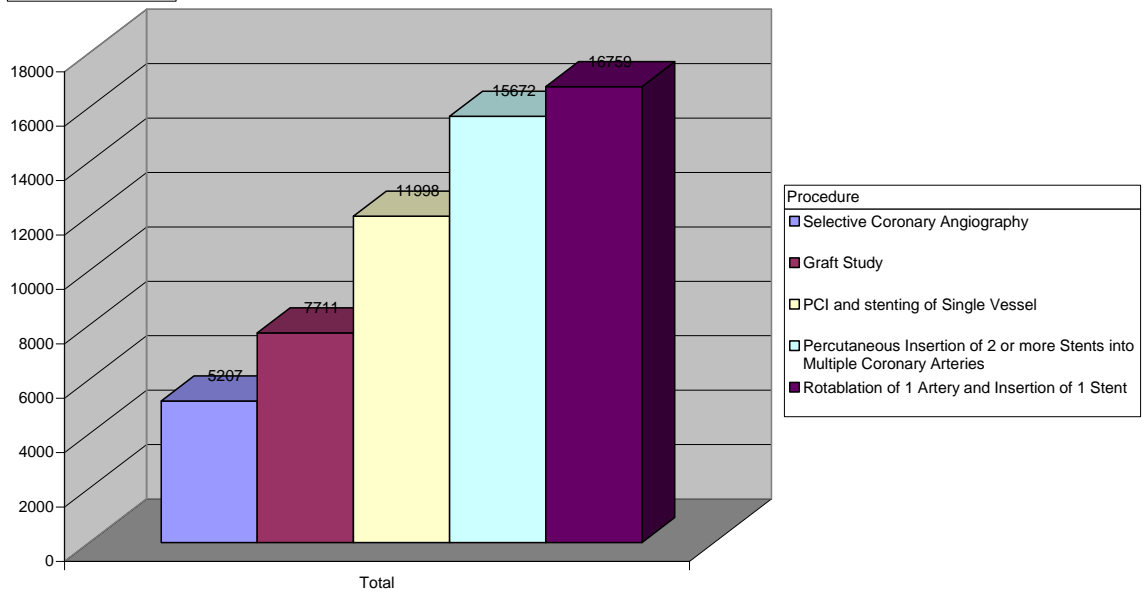
Radiation Dosages per Case

Procedure	Contrast (mL)	Dose Area Product (uGym ²)	Entrance Dose (mGy)	Fluoroscopy Time (mins)
Selective Coronary Angiography	92	5207	814	6.7
Graft Study	116	7711	1132	11.7
PCI and stenting of Single Vessel	202	11998	2357	17.1
Percutaneous Insertion of 2 or more Stents into Multiple Coronary Arteries	259	15672	3068	20.9
Rotablation of 1 Artery and Insertion of 1 Stent	213	16759	3003	31.1

Average of Isovue370

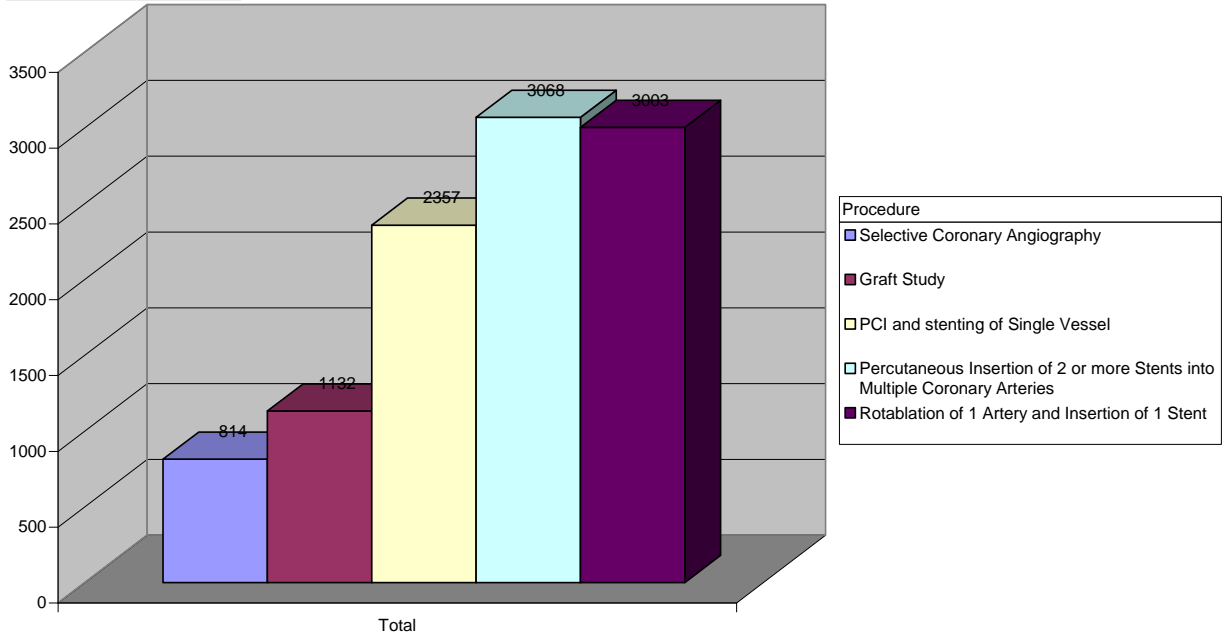


Average of DAPuGym2

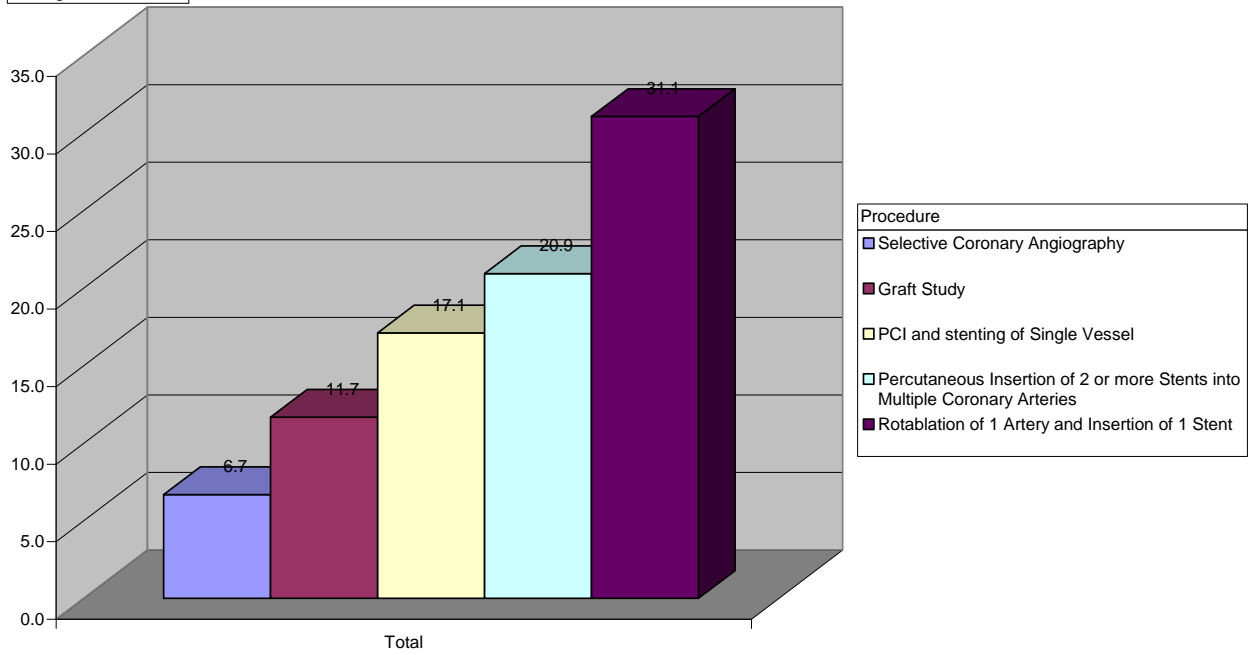


Radiation Continued

Average of EntranceDosemGy



Average of FluoroTime



Complications

Total = 138 (3.28%)

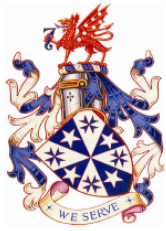
MACE = 10 (0.24%)

COMPLICATIONS	REPORTABLE ADVERSE EVENTS (Financial Year 2013 - 2014)							
	1 st QTR	2 nd QTR	3 rd QTR	4 th QTR	TOTAL	% of Comp.	% of Cases	Financial Year (2012 - 13)
Anaphylactic/Allergic Reaction		2		1	3	2.2%	0.07%	7
Asystole	1	2			3	2.2%	0.07%	3
Atrial Fibrillation	1	1	1	2	5	3.6%	0.12%	3
Cardiogenic Shock		1	1		2	1.4%	0.05%	1
Death		2	1		3	2.2%	0.07%	1
Dissection Coronary Artery	3	3		6	12	8.7%	0.29%	11
Haematoma >5cm x 5cm	5	10	6	8	29	21.0%	0.69%	9
Heart Block	3	2	3	5	13	9.4%	0.31%	15
Hives		1	1	1	3	2.2%	0.07%	4
Hypotension	2	1		1	4	2.9%	0.10%	8
Other	2				2	1.4%	0.05%	
Perforation of Artery or Vessel	1		2	1	4	1.4%	0.05%	5
Pulmonary Oedema	1				1	0.7%	0.02%	4
Radiation Reportable Dose	4	2	3	4	13	9.4%	0.31%	13
Stroke		1		1	2	1.4%	0.05%	2
Sustained Bradycardia	1				1	0.7%	0.02%	4
Tamponade				1	1	0.7%	0.02%	1
Transient Ischaemic Attack								1
Vascular Injury	1	2	1	2	6	5.8%	0.19%	10
Vaso-Vagal	3	4	3	1	11	8.0%	0.26%	16
Ventricular Fibrillation	4		4	3	11	8.0%	0.26%	12
Ventricular Tachycardia	2	2	2	3	9	6.5%	0.21%	9
Vomiting								4
TOTAL	34	36	29	40	138	100%	3.28%	155

MACE = Major Adverse Cardiac Event (Death, MI, Stroke, Urgent Revascularisation)	10	-	0.24%	6
Total Mortality in the Laboratory	2	-	0.05%	1
Complication Associated Mortality	1	-	0.02%	2
30 Day All Cause Mortality	33	-	0.78%	49

Dr Darren Walters
Clinical Director
Cardiac Catheterisation Laboratory
Date:

Michael Savage
Consultant Cardiac Scientist
Cardiac Catheterisation Laboratory
Date:



THE PRINCE CHARLES HOSPITAL CARDIAC CATHETER LABORATORY



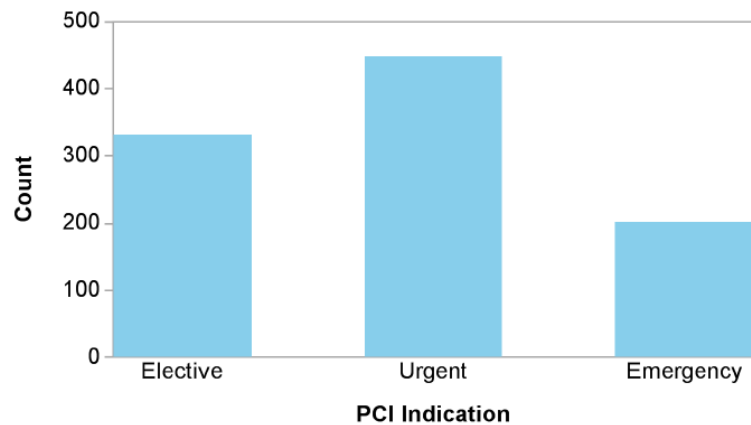
PCI Procedure Report

1/07/2013 - 30/06/2014

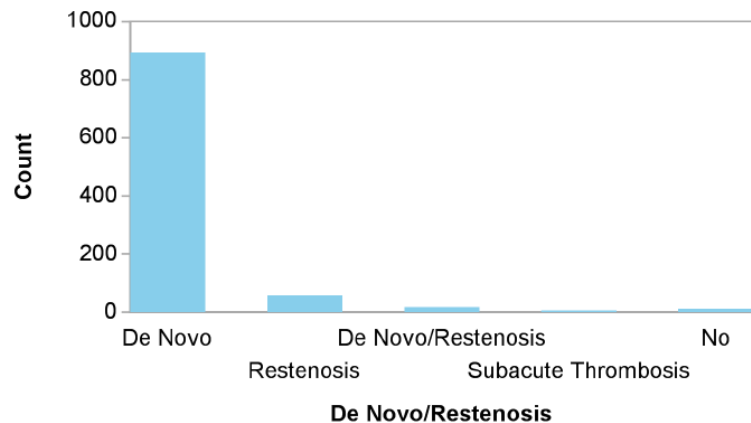
Patient Age			
Male	727	74.03 %	Av 63 +/- 12
Female	255	25.97 %	Av 68 +/- 12
	982	100%	Av 64 +/- 12

PCI Status	Number of Cases	%
Elective	332	33.81 %
Emergency	202	20.57 %
Urgent	448	45.62 %
	982	100%

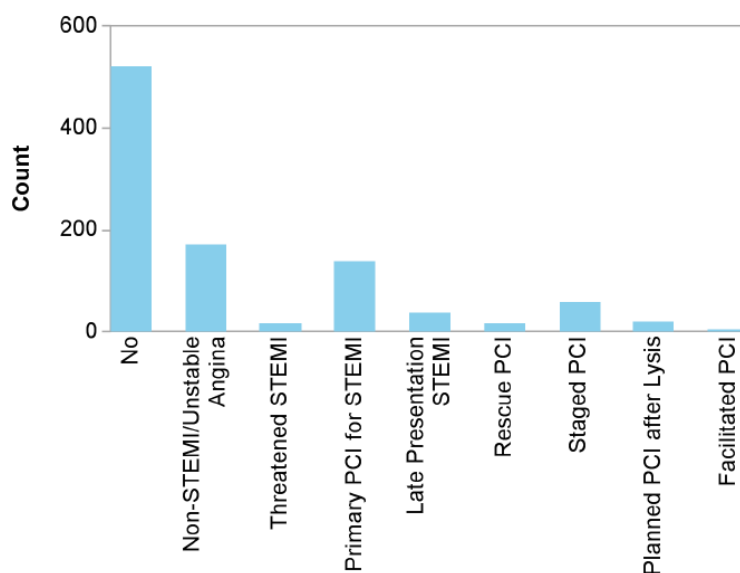
Indications



De Novo/Restenosis	Number of Cases	%
De Novo	891	90.73 %
De Novo/Restenosis	16	1.63 %
No	11	1.12 %
Restenosis	60	6.11 %
Subacute Thrombosis	4	0.41 %
	982	100%



Acute	Number of Cases	%
Facilitated PCI	3	0.31 %
Late Presentation STEMI	36	3.67 %
No	520	52.95 %
Non-STEMI/Unstable Angina	172	17.52 %
Planned PCI after Lysis	21	2.14 %
Primary PCI for STEMI	138	14.05 %
Rescue PCI	18	1.83 %
Staged PCI	56	5.70 %
Threatened STEMI	18	1.83 %
	982	100%



Acute

Cardiac Indications	Number of Indications	% of total cases
Angina.	86	8.76 %
Cardiogenic Shock.	3	0.31 %
Chest pain.	477	48.57 %
Exertional dyspnoea.	92	9.37 %
Known coronary artery disease.	236	24.03 %
NSTEMI.	242	24.64 %
Out of hospital arrest.	19	1.93 %
Positive CT Coronary Angiogram.	50	5.09 %
Positive EST.	33	3.36 %
Positive stress echo.	20	2.04 %
Previous MI	64	6.52 %
STEMI.	182	18.53 %
Thrombolysed STEMI.	38	3.87 %
Unstable angina.	18	1.83 %
	1560	

Risk Factors	Number of Factors	% of total cases
Anxiety	123	12.53 %
Cerebrovascular Disease	77	7.84 %
CHF	38	3.87 %
Chronic Lung Disease	120	12.22 %
Current smoker	227	23.12 %
Depression	95	9.67 %
Diabetes	263	26.78 %
Dyslipidemia	618	62.93 %
Family History	324	32.99 %
Hypertension	618	62.93 %
Obesity	433	44.09 %
Renal Failure	49	4.99 %
	2985	

Lesions Risk	Number	% of total cases
Type A Lesion	100	10.18 %
Type B1 Lesion	282	28.72 %
Type B2 Lesion	174	17.72 %
Type C Lesion	597	60.79 %
	1153	

Approach	Number	% of total cases
Brachial	2	0.20 %
Femoral	607	61.81 %
Other	1	0.10 %
Radial	372	37.88 %
	982	100%

Complications	Number	% of total cases
Cardiogenic Shock	1	0.10 %
Death	1	0.10 %
Heart Block	7	0.71 %
Perforation of Artery or Vessel	2	0.20 %
Ventricular Fibrillation	10	1.02 %
	21	

Previous Procedures

Previous Procedures	Number	%
Previous CABG	147	14.97 %
Previous PCI	266	27.09 %
Previous valvular surgery	14	1.43 %
	427	

Technical Data and Lesion Characteristics

Stent Type	Number	%
Bare Metal Stent	370	29.18 %
Drug Eluting Stent	877	69.16 %
Covered Stent	3	0.24 %
Research Stent	18	1.42 %
	1268	100%

Technical Data and Lesion Characteristics

Guide Size	Number	%	Balloon Size	Number	%
1.0	3	0.23 %	Null	1	0.03 %
5	10	0.76 %	1.00	4	0.13 %
6	1018	77.77 %	1.20	1	0.03 %
6.5	6	0.46 %	1.25	28	0.92 %
7	233	17.80 %	1.50	75	2.48 %
7.5	17	1.30 %	2.00	388	12.81 %
8	22	1.68 %	2.25	13	0.43 %
	1309	100%	2.50	869	28.68 %
			2.75	142	4.69 %
			3.00	510	16.83 %
			3.25	140	4.62 %
			3.50	427	14.09 %
			3.75	83	2.74 %
			4.00	220	7.26 %
			4.50	96	3.17 %
			5.00	32	1.06 %
			6.00	1	0.03 %
				3030	100%

Technical Data and Lesion Characteristics

Stent Width	Number	%	Stent Length	Number	%
2.00	1	0.08 %	8	23	1.81 %
2.25	55	4.34 %	9	4	0.32 %
2.50	265	20.90 %	11	2	0.16 %
2.75	130	10.25 %	12	89	7.02 %
3.00	371	29.26 %	13	3	0.24 %
3.50	280	22.08 %	14	5	0.39 %
4.00	151	11.91 %	15	150	11.83 %
4.50	12	0.95 %	16	74	5.84 %
5.00	1	0.08 %	18	175	13.80 %
6.00	2	0.16 %	19	3	0.24 %
	1268	100%	20	93	7.33 %
			22	18	1.42 %
			23	116	9.15 %
			24	86	6.78 %
			25	3	0.24 %
			26	22	1.74 %
			28	161	12.70 %
			30	23	1.81 %
			32	29	2.29 %
			33	66	5.21 %
			34	3	0.24 %
			38	118	9.31 %
			50	2	0.16 %
				1268	100%

30 Day Outcomes

Quality of Life	Number	%
Better	619	91.84 %
No Improvement	43	6.38 %
Worse	12	1.78 %
	674	100%

Access Site	Number	%
Active Bleeding	1	2.38 %
Bruising	27	64.29 %
Haematoma	12	28.57 %
Persistent Pain	2	4.76 %
	42	100%

Cardiac Rehab Attended	Number	%
Attended	294	43.17 %
Not Attended	387	56.83 %
	681	100%

Smoking	Number	%
Recommenced Smoking at One Month Post Procedure	24	88.89 %
Referred to Quit Programme	3	11.11 %
	27	100%

Exercise Compliance	Number	%
No	128	18.21 %
Yes	575	81.79 %
	703	100%

Medication Compliance	Number	%
No	2	0.28 %
Yes	712	99.72 %
	714	100%

Angina	Number	%
Class I (Strenuous Activity)	76	10.48 %
Class II (Ordinary Activity)	36	4.97 %
Class III (Marked Limitations)	47	6.48 %
Class IV (At Rest)	91	12.55 %
No Pain	469	64.69 %
Unknown	6	0.83 %
	725	100%

Adverse Events	Number	%
CVA	7	35.00 %
Death	1	5.00 %
Emergency PCI	2	10.00 %
MI	10	50.00 %
	20	100%