

BCIS Audit Returns

Adult Interventional Procedures

2003



Peter F Ludman

BCIS National Audit Officer

On behalf of

British Cardiovascular Intervention Society

Audit Domains

- **Structure**
- **Appropriateness**
- **Process**
- **Outcome**

Audit Domains

- **Structure**
 - The Centres
 - Work patterns
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7 New Angiography Centres

New Angiography only centres 2003

- Worcester
- Harrogate
- Prince Philip, Llanelli
- Princess Alex Univ Hosp, Bromley
- Chelmsford
- Droitwich Spa
- Wycombe

- Raigmore, Inverness*
- Worthing*
- Goring Hall*

*new to database, but angiography for some yrs

9 New PCI Centres

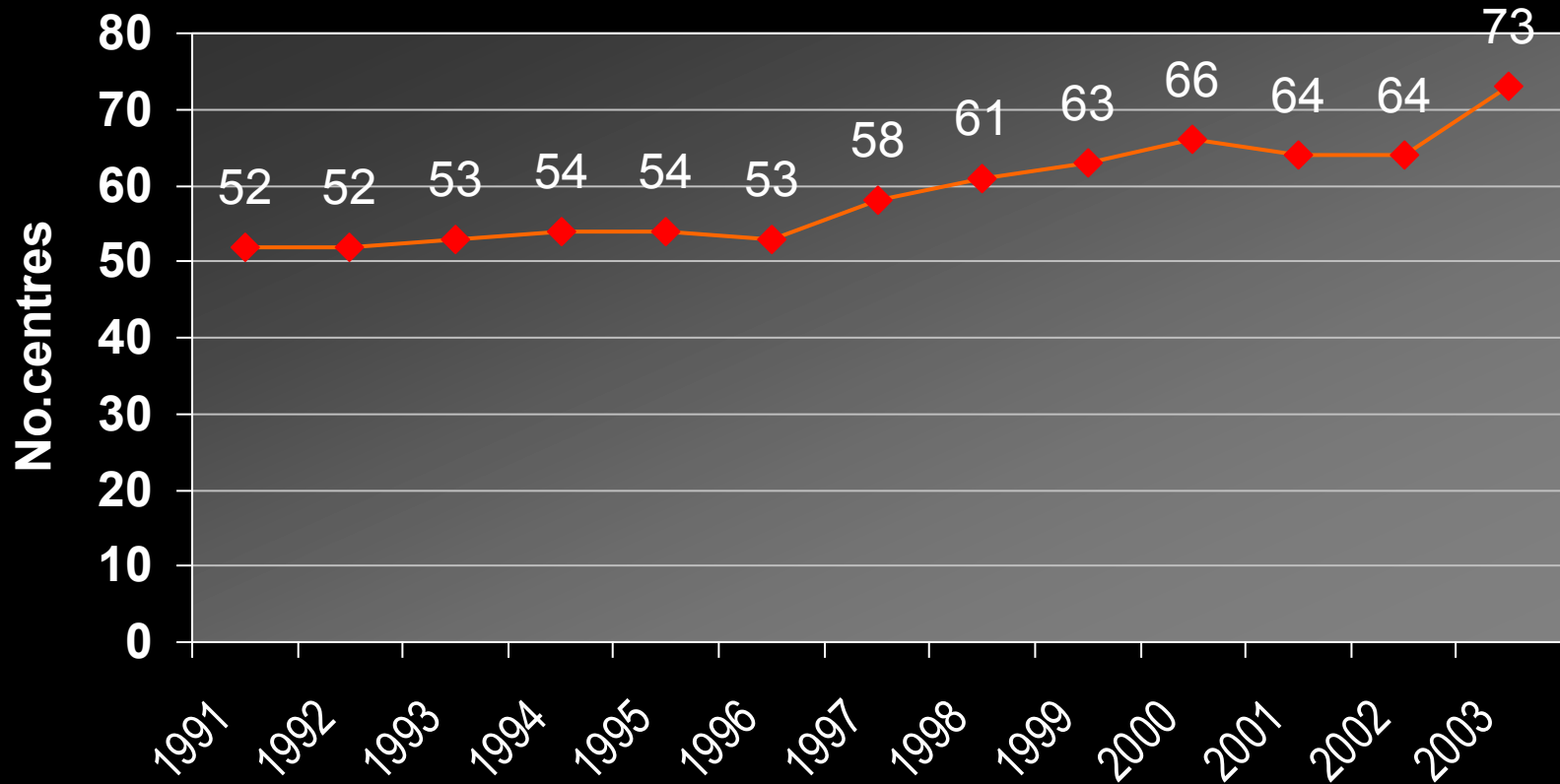
Angiography centres now performing PCI in 2003

- Battle, Reading
- Cheltenham
- New Cross
- Basingstoke
- Northwick Park
- Sandwell (restart)
- St Peters, Chertsey
- BUPA Southampton

New PCI centres in 2003

- Leeds Nuffield

UK Intervention Centres



2003



● PCI centres

73

● Angiography only Centres

68



2003 data: Ludman

Scotland

PCI Centres: Scotland NHS		
Aberdeen Royal	Aberdeen	AB25 2ZN
Edinburgh Royal	Edinburgh	EH3 9YW
Glasgow Royal	Glasgow	G31 2ER
Glasgow Western	Glasgow	G11 6NT
Golden Jubilee	Clydesbank	G81 4HX
Hairmyres Hospital	East Kilbride	G75 8RG
Western General	Edinburgh	EH4 2XU
PCI Centres: Scotland Private		
Ross Hall Hospital	Glasgow	G52 3NQ

Angiography only centres: Scotland NHS		
Ayr Hospital	Ayr	KA6 6DX
Dumfries & Galloway Royal Infirmary	Dumfries	DG1 4AP
Inverclyde Royal Hospital	Renfrewshire	PA16 0XN
Ninewells Hospital	Dundee	DD1 9SY
Raigmore Hospital	Inverness	IV2 3UJ
Angiography only centres: Scotland Private		
BUPA Murrayfield Hospital	Edinburgh	EH12 6UD

Wales

PCI Centres: Wales		
Morriston Hospital	Swansea	SA6 6NL
University Hospital of Wales	Cardiff	CF14 4XW

Angiography only centres: Wales		
Prince Philip Hospital	Wales	SA14 8QF
Princess of Wales Hospital	Wales	CF31 1RQ
Royal Gwent Hospital	South Wales	NP20 2UB
Nevill Hall Hospital	Gwent	NP7 7EG

N. Ireland

PCI Centres: N. Ireland		
Belfast City Hospital	Belfast	BT9 7AB
Royal Victoria Hospital	Belfast	BT12 6BA

Angiography only centres: N Ireland		
Altmagelium Hospital	Londonderry	BT47 6SB
Craigavon Hospital	Craigavon	BT63 5QQ

England - PCI

PCI Centres: England NHS		
Battle Hospital	Reading	RG30 1AG
Birmingham City Hospital	Birmingham	B18 7QH
Birmingham Heartlands Hospital	Birmingham	B9 5SS
Bristol Royal Infirmary	Bristol	BS2 8HW
Cheltenham General Hospital	Cheltenham	GL53 7AN
City General Hospital	Stoke on Trent	ST4 6QG
Derriford Hospital	Plymouth	PL6 8DH
Eastbourne Hospital	Eastbourne	BN21 2UD
Freeman Hospital	Newcastle upon	NE7 7DN
Glenfield Hospital	Leicester	LE3 9QP
Hammersmith Hospital	London	W12 OHS
Harefield Hospital	Uxbridge	UB9 6JH
Heart Hospital	London	WIM 7DG
Hull Royal Hospital (Hull and East	Cottingham	HU16 5JQ
John Radcliffe Hospital	Oxford	OX3 9DX
King Edward VII	West Sussex	GU29 OBL
Kings College Hospital	London	SE5 9RS
Liverpool Cardiothoracic Centre	Liverpool	L14 3LB
London Chest Hospital	London	E2 9JX
Manchester Royal Infirmary	Manchester	M13 9WL
New Cross Hospital	Wolverhampton	WV10 0QP
North Hampshire Hospital	Basingstoke	RG24 9NA
Northern General Hospital	Sheffield	S5 7AU
Northwick Park Hospital	Harrow	HA1 3UJ
Nottingham City Hospital	Nottingham	NG5 1PB
Papworth Hospital	Cambridge	CB3 8RE
Queen Elizabeth Hospital	Birmingham	B15 2TH
Royal Brompton Hospital	London	SW3 6NP
Royal Cornwall Hospital	Truro	TR1 3LJ
Royal Devon & Exeter Hospital	Exeter	EX2 5DW
Royal Free Hospital	London	NW3 2QG

Royal Sussex County Hospital	Brighton,	BN2 5BE
Sandwell District General Hospital	West Bromwich	B71 4HJ
Southampton General Hospital	Southampton	SO16 6YD
St Bartholomew's Hospital	West Smithfield	EC1A 7BE
St George's Hospital	London	SW17 0QT
St Mary's Hospital	London	W2 1NY
St Peter's Hospital	Chertsey	KT16 0PZ
St Thomas' Hospital	London	SE1 7EH
Taunton & Somerset	Taunton	TA1 5DA
The James Cook University Hospital	Middlesbrough	TS4 3BW
Victoria Hospital	Blackpool	FY3 8NR
Walsgrave Hospital	Walsgrave	CV2 2DX
Wythenshawe Hospital	Manchester	M23 9LT
Yorkshire Heart Centre (Cario	Leeds	LS1 3EX

PCI Centres: England Private

BMI Alexandra Hospital	Cheadle	SK8 2NT
BMI Park Hospital	Arnold	NG5 8RX
BMI Prioory Hospital	Edgbaston	B5 7UG
BUPA Cambridge Lea Hospital	Impington	CB4 9EL
BUPA Hospital Bristol	Bristol	BS6 6UT
BUPA Hospital Leeds	Roundhay	LS8 1NT
BUPA Hospital Leicester	Leicester	LE2 2FF
BUPA Hospital Southampton	Southampton	SO16 6UY
Cario Yorkshire Clinic	Bingley	BD16 1TW
Cromwell Hospital	London	SW5 0TU
Harley Street Clinic	London	W1N 4BJ
Leeds Nuffield Hospital	Leeds	LS1 3EB
London Bridge Hospital	London	SE1 2PR
London Independent Hospital	London	E1 4NL
St Anthony's Hospital	Surrey	SM3 9DW
Wellington Hospital	London	NW8 9JG

England

Angiography only centres: England NHS		
Airedale General Hospital	West Yorkshire	BD20 6TD
Arrowe Park Hospital	Merseyside	CH49 5PE
Bradford Royal Infirmary	West Yorks	BD9 6RJ
Broomfield Hospital	Essex	CM1 7ET
Calderdale Royal Hospital	West Yorkshire	HX1 2YP
Conquest Hospital	East Sussex	TN37 7RD
County Hospital	Hereford	HR1 2ER
Cumberland Infirmary	Carlisle	CA2 7HY
Derbyshire Royal Infirmary	Derby	DE1 2QY
Dewsbury and District Hospital	West Yorkshire	WF13 4HS
Diana Princess of Wales Hospital	Grimsby	DN33 2BA
Doncaster Royal Infirmary	South Yorkshire	DN2 5LT
Ealing Hospital	Middlesex	UB1 3HW
Good Hope District General Hospital	West Midlands	B75 7RR
Great Western Hospital	Swindon	SN3 6BB
Harrogate District Hospital	North Yorkshire	HG2 7SX
Huddersfield Royal Infirmary	West Yorkshire	HD3 3EA
Lister Hospital	Hertfordshire	SG1 4AB
Manor Hospital	West Midlands	WS2 9PS
Mayday University Hospital	Surrey	CR7 7YE
Norfolk & Norwich Hospital	Norwich	NR1 3SR
North Middlesex Hospital	London	N18 1QX
North Staffordshire Nuffield Hospital	Staffordshire	ST5 4DB
North Tyneside General Hospital	Tyne & Wear	NE29 8NH
Northampton General Hospital	Northampton	NN1 5BD
Pinderfields General Hospital	West Yorkshire	WF1 4EE
Princess Royal Hospital	Shropshire	TF6 6TF
Princess Royal University Hospital	Kent	BR6 8ND

Queen Elizabeth Hospital	London	SE18 4QH
Queen Elizabeth Hospital	Tyne & Wear	NE9 6SX
Queens Medical Centre	Nottingham	NG7 2UH
Rochdale Infirmary	Lancs	OL12 ONB
Rotherham Hospital	S Yorks	S60 2UD
Royal Bournemouth Hospital	Bournemouth	BH7 7DW
Royal Liverpool University Hospital	Merseyside	L7 8XP
Royal Shrewsbury Hospital	Shrewsbury	SY3 8XF
Royal Surrey County Hospital	Surrey	GU2 5XX
Royal United Hospital	Bath	BA1 3NG
Salisbury District Hospital	Wiltshire	SP2 8BJ
Southend Hospital	Essex	SSO ORY
St Albans City Hospital	Hertfordshire	AL3 5PN
St James' University Hospital	Leeds	LS9 7TF
St. Mary's Hospital	Portsmouth	PO3 6AD
Sunderland Royal Hospital	Tyne & Wear	SR4 7TP
University Hospital of North Durham	Durham	DH1 5TW
West Cumberland Hospital	Cumbria	CA28 8JG
Worcester Royal Infirmary	Worcestershire	WR5 1HN
Worthing Hospital	West Sussex	BN11 2DH
Wycombe Hospital	Bucks	HP11 2TT
York District General Hospital	York	YO31 8HE

Angiography only centres: England Private

BMI The Princess Margaret Hospital	Berkshire	SL4 3SJ
BMI Thornbury Hospital	Sheffield	S10 3BR
BUPA Hospital Hull & East Riding	Hull	HU10 7AZ
BUPA Hospital, Little Aston	Sutton Coldfield	B74 3UP
Droitwich Spa Hospital	Droitwich Spa	WR9 8DN
Goring Hall Hospital	West Sussex	BN12 5AT

Audit Domains

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UK Interventional and Diagnostic centres 2003

	No.	No cath data	No PCI data	Caths (% of total)	PCIs (% of total)
NHS Interventional	56	3	1		
Private Interventional	17	2	0		
Diagnostic only	68	2			
TOTAL	141				

Missing cath data estimated from 2002 figures



2003 data: Ludman

Centres not reporting diagnostic numbers

- **Interventional**

- Edinburgh RI
- Northwick Park Hospital
- New Cross Hospital

- BUPA Hospital Leeds
- BMI Park Hospital, Notts

- **Diagnostic only**

- Dumfries & Galloway RI
- Royal Surrey County Hosp

Centres not reporting PCI numbers

- Northwick Park Hospital

UK Interventional and Diagnostic centres 2003

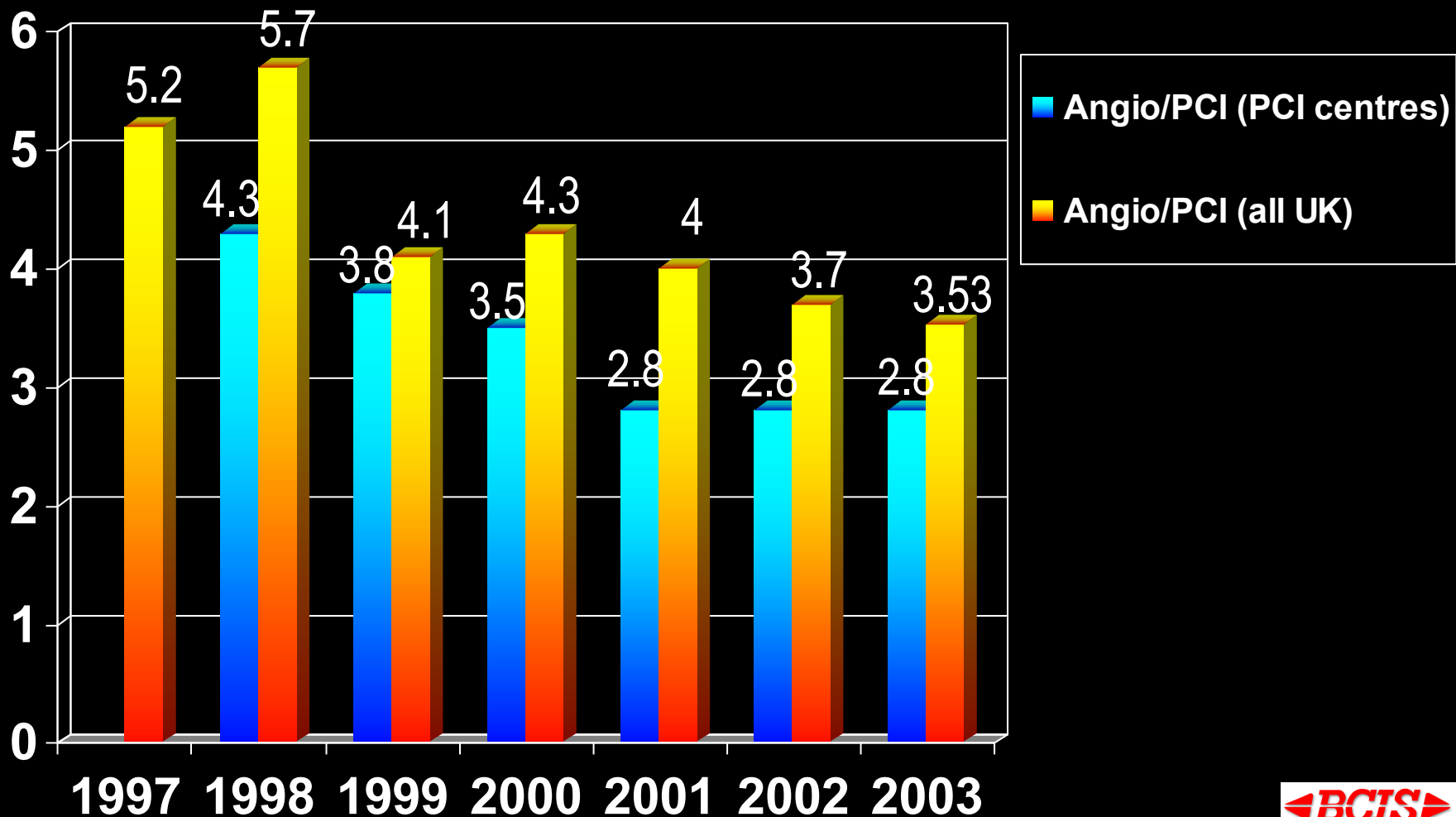
	No.	No cath data	No PCI data	Caths (% of total)	PCIs (% of total)
NHS Interventional	56	3	1	135,547 (72%)	49,542 (93%)
Private Interventional	17	2	0	11,115 (6%)	3,719 (6%)
Diagnostic only	68	2		40,457 (22%)	
TOTAL	141			187,119	53,261

Missing cath data estimated from 2002 figures



2003 data: Ludman

Angiograms per PCI

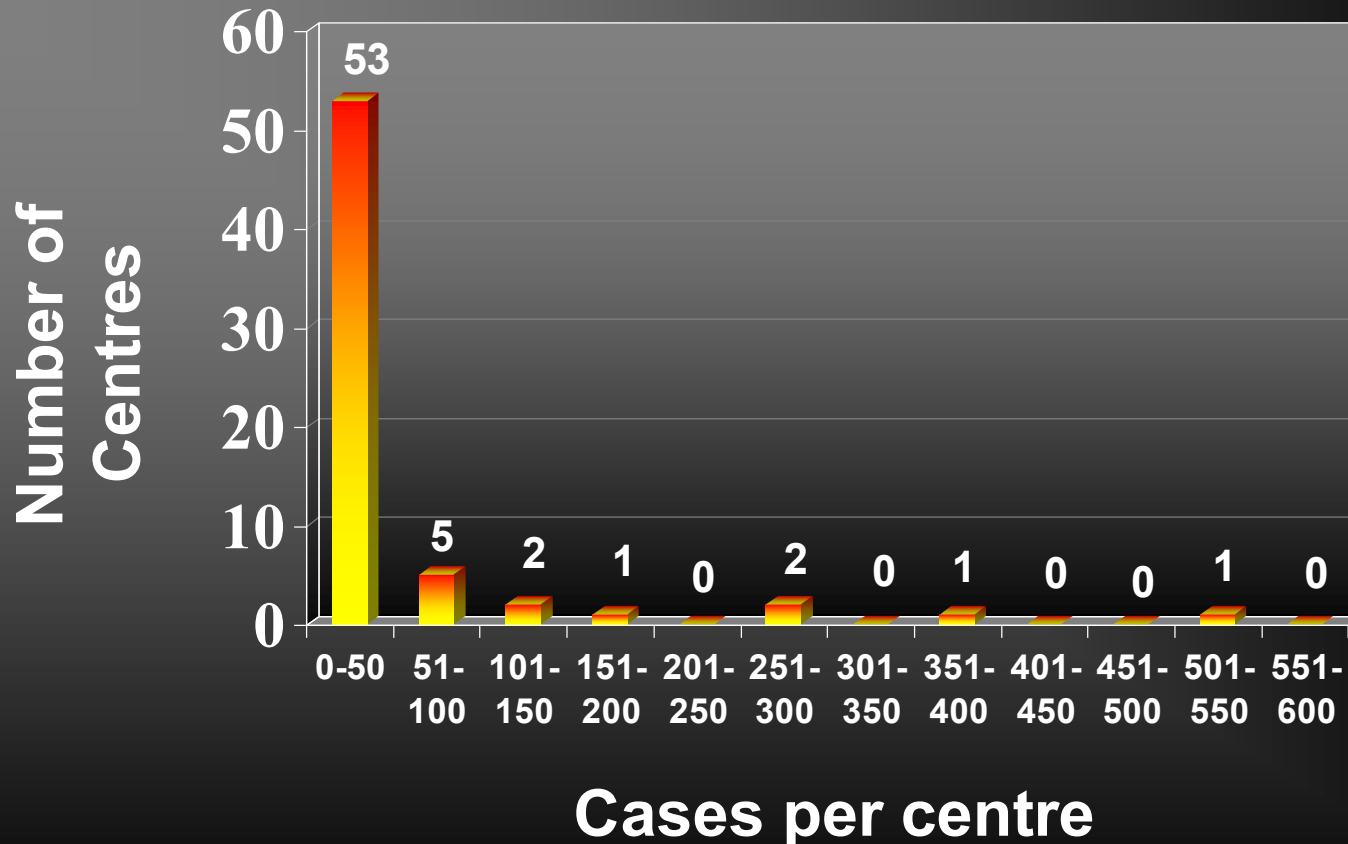


Annual Procedures per cath lab (NHS centres)

	Mean	Median	Range
Interventional labs			
Procedures (pa) per lab	1224	1126	489 to 2481
PCIs (pa) per lab	412	393	28 to 844
Diagnostic labs			
Caths (pa) per lab*	604	487	43 to 2800

Day Case Procedures

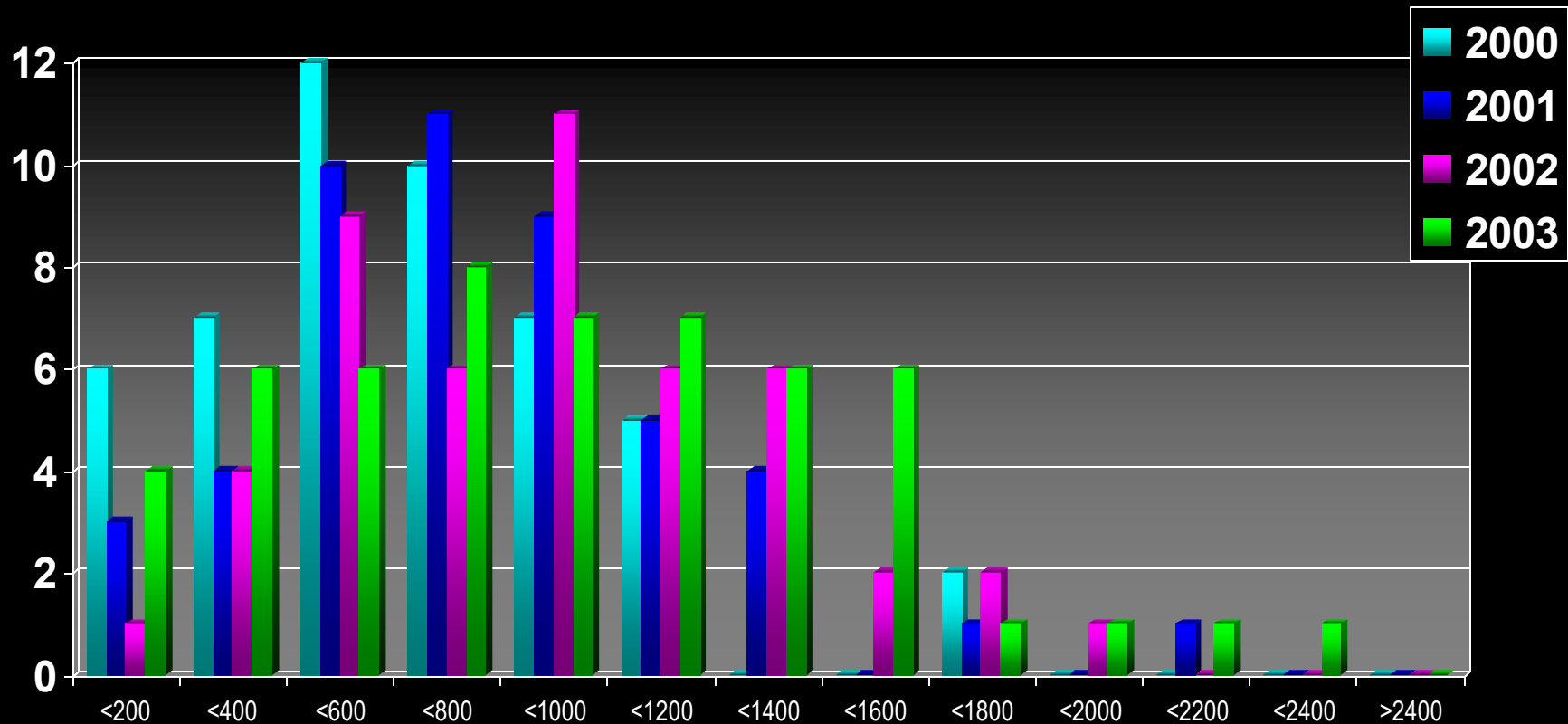
- 29 of 73 Units performing day case PCI
 - Total of 2492 procedures performed
 - 4.6% of all PCI procedures



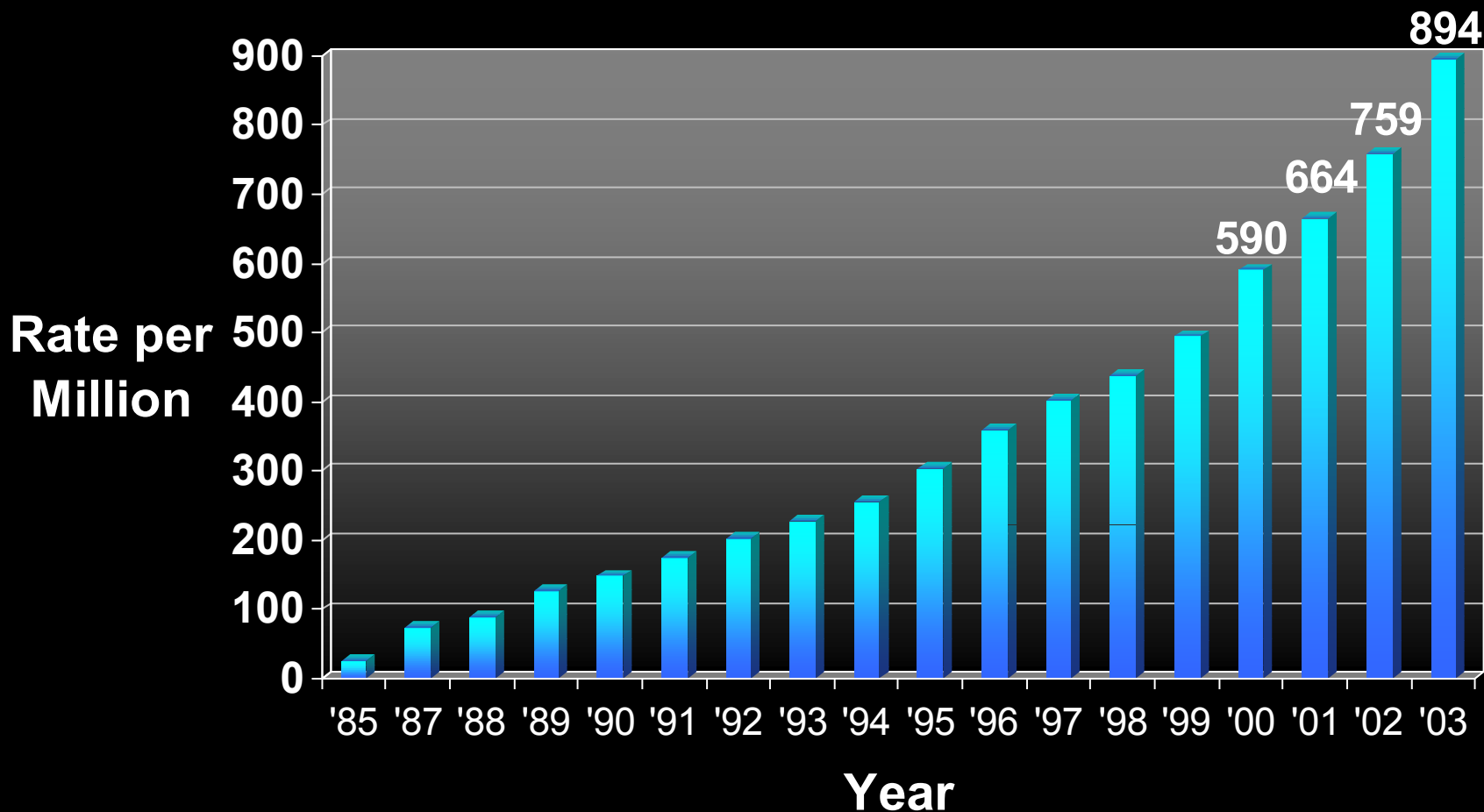
Interventional centres providing NO DATA

- Northwick Park Hospital

Number of PCIs performed in NHS Centres (total per annum)



PCI Rates per million population (UK)

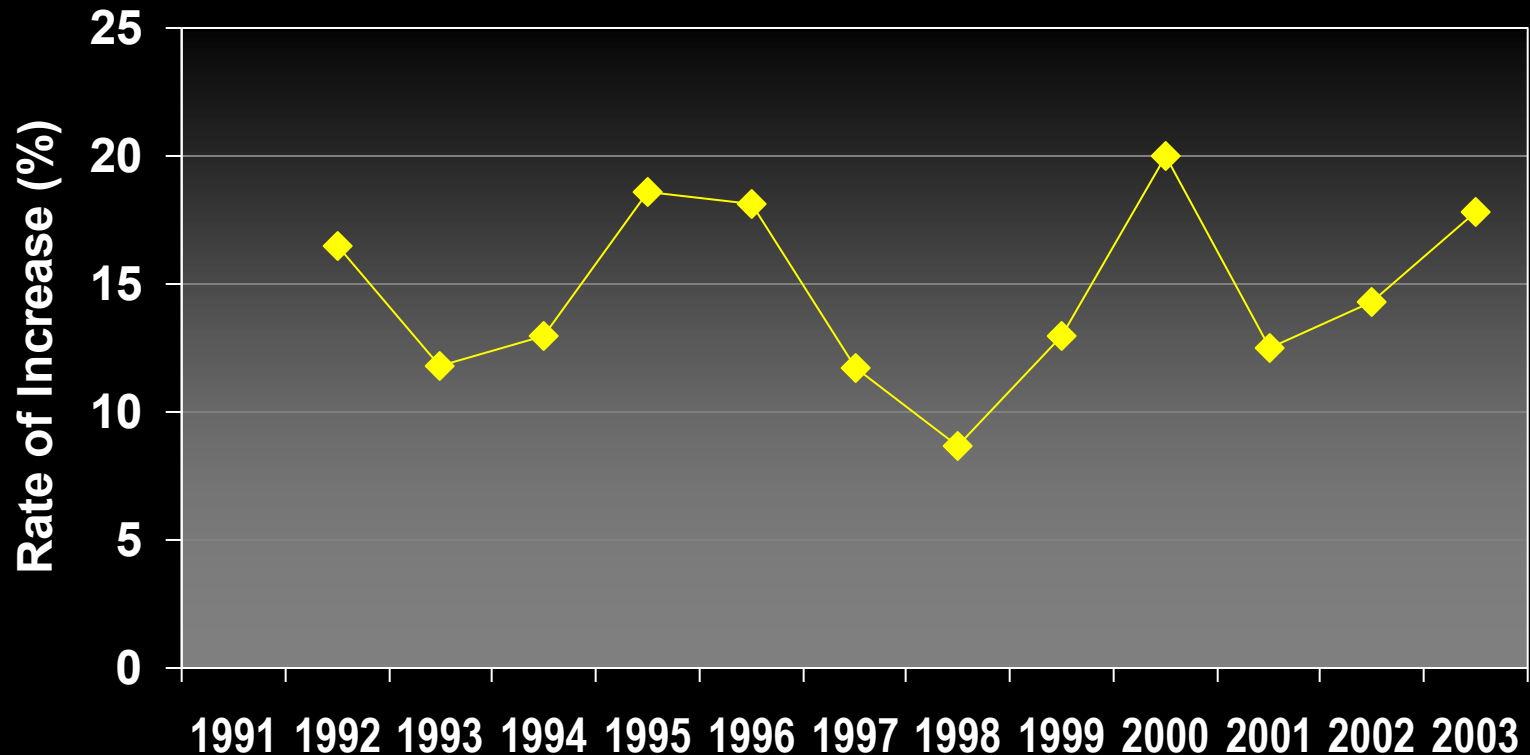


Assumes UK population of:
58.8 m mid 2001, 59.2m mid 2002, 59.6 mid 2003



2003 data: Ludman

Rate of increase in Procedure numbers per million



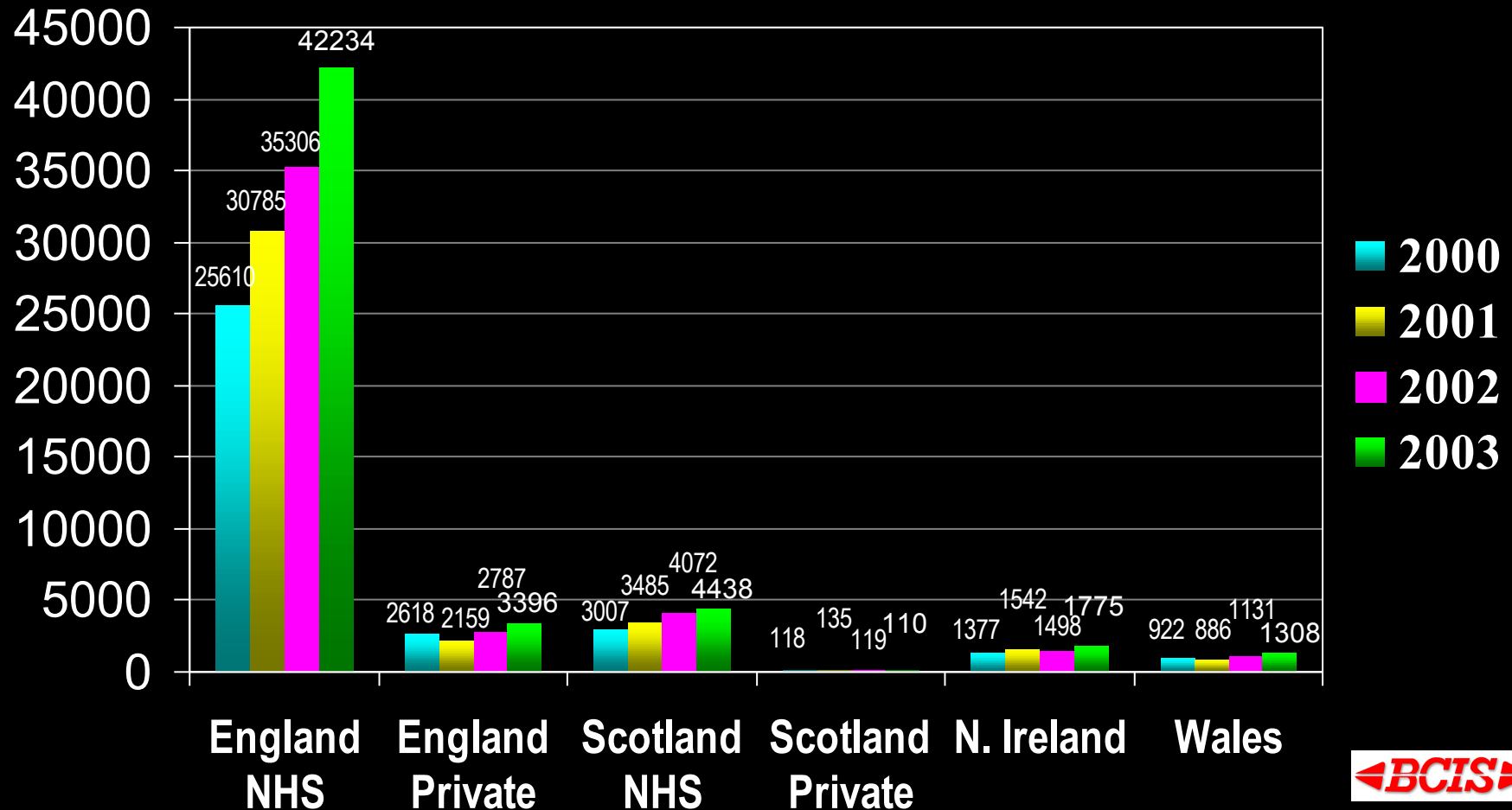
Total UK PCI Procedures

Year	Centres	Total Procedures	Rate per million	Increase (%)
1991	52	9,933	174	
1992	52	11,575	203	16.5
1993	53	12,937	227	11.8
1994	54	14,624	256	13.0
1995	54	17,344	304	18.6
1996	53	20,511	359	18.1
1997	58	22,902	402	11.7
1998	61	24,899	437	8.7
1999	63	28,133	494	13
2000	66	33,652	590	20
2001	64	38,992	664	12.5
2002	64	44,913	759	14.3
2003	73	53,261	894	17.8

Total PCIs in the UK Countries

(2000 to 2003)

Total No.s of PCI



Population estimates

Mid 2003



Total UK: 59.6 m

Scotland 5.06 m

Northern Ireland 1.70 m

England 49.86 m

Welsh Rx in England 0.696 m

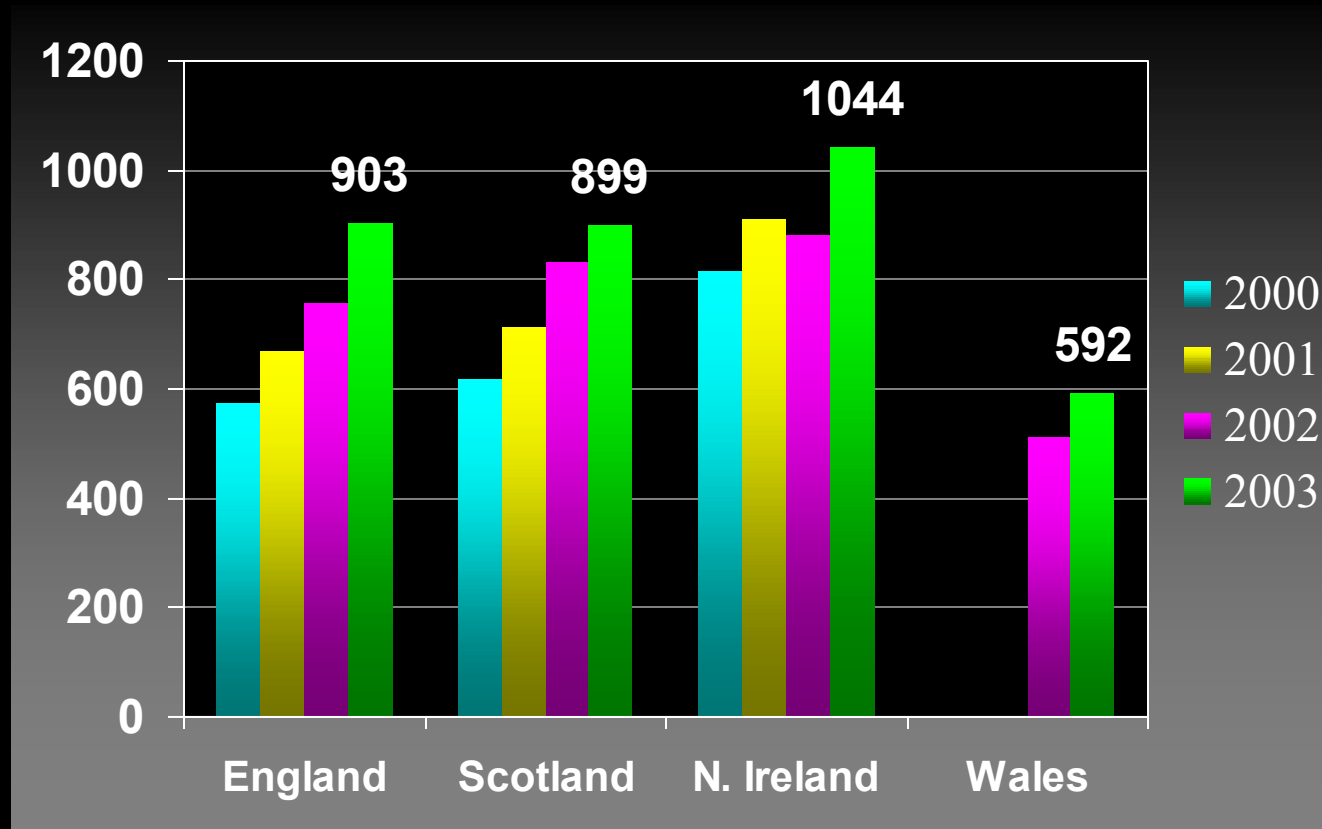
Total Rx in England 50.55 m

Wales 2.94 m

Rx in Wales: 2.21 m

PCIs/million UK Countries

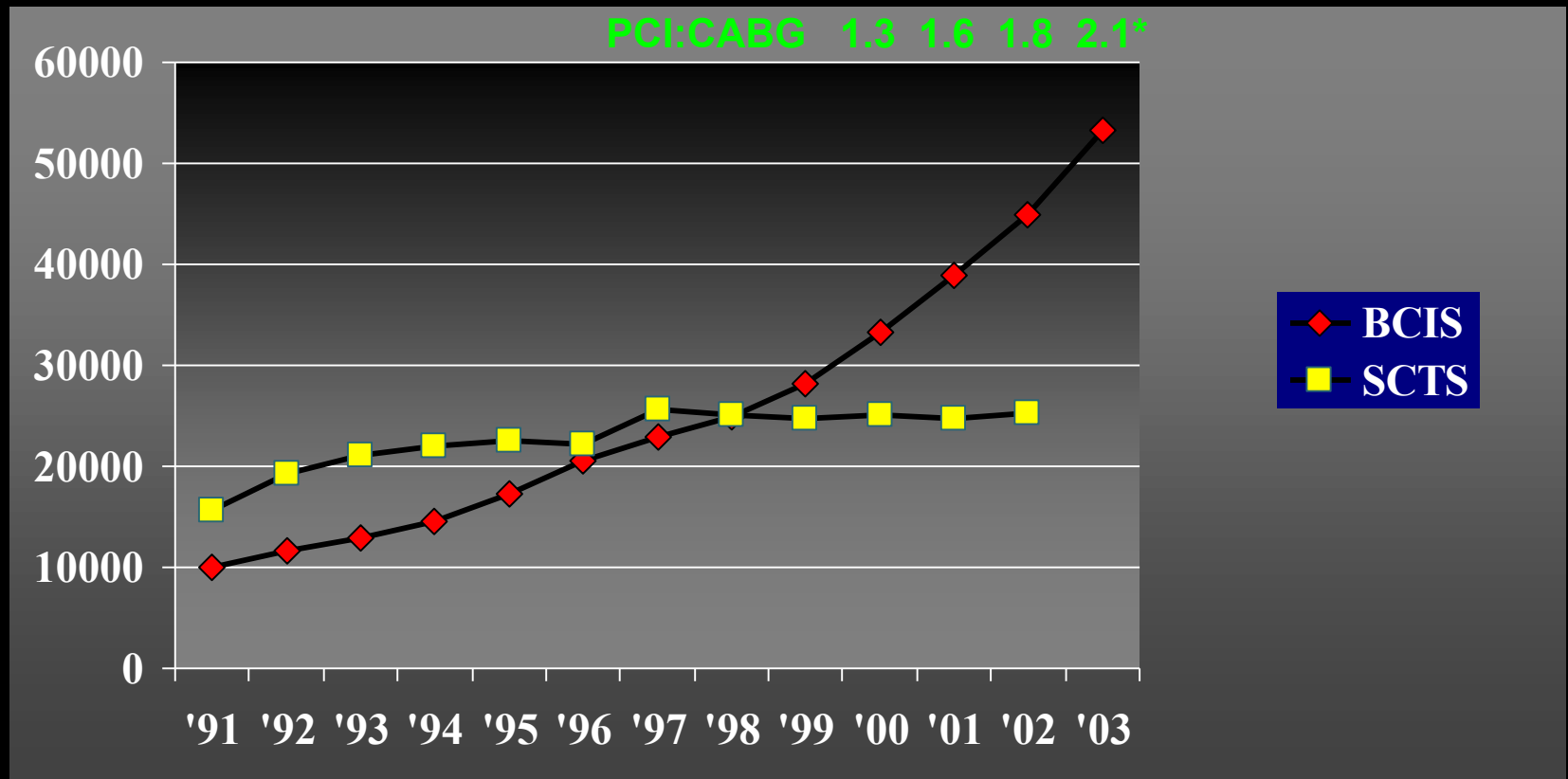
(2000 to 2004)



NB Assume 2.21 m population Rx in Wales

PCI vs Isolated CABG Numbers (UK)

Data from BCIS and SCTS Registry



*assumes no increase in CABG

Note: CABG data for financial yr
all PCI v NHS CABG



2003 data: Ludman

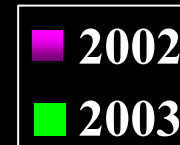
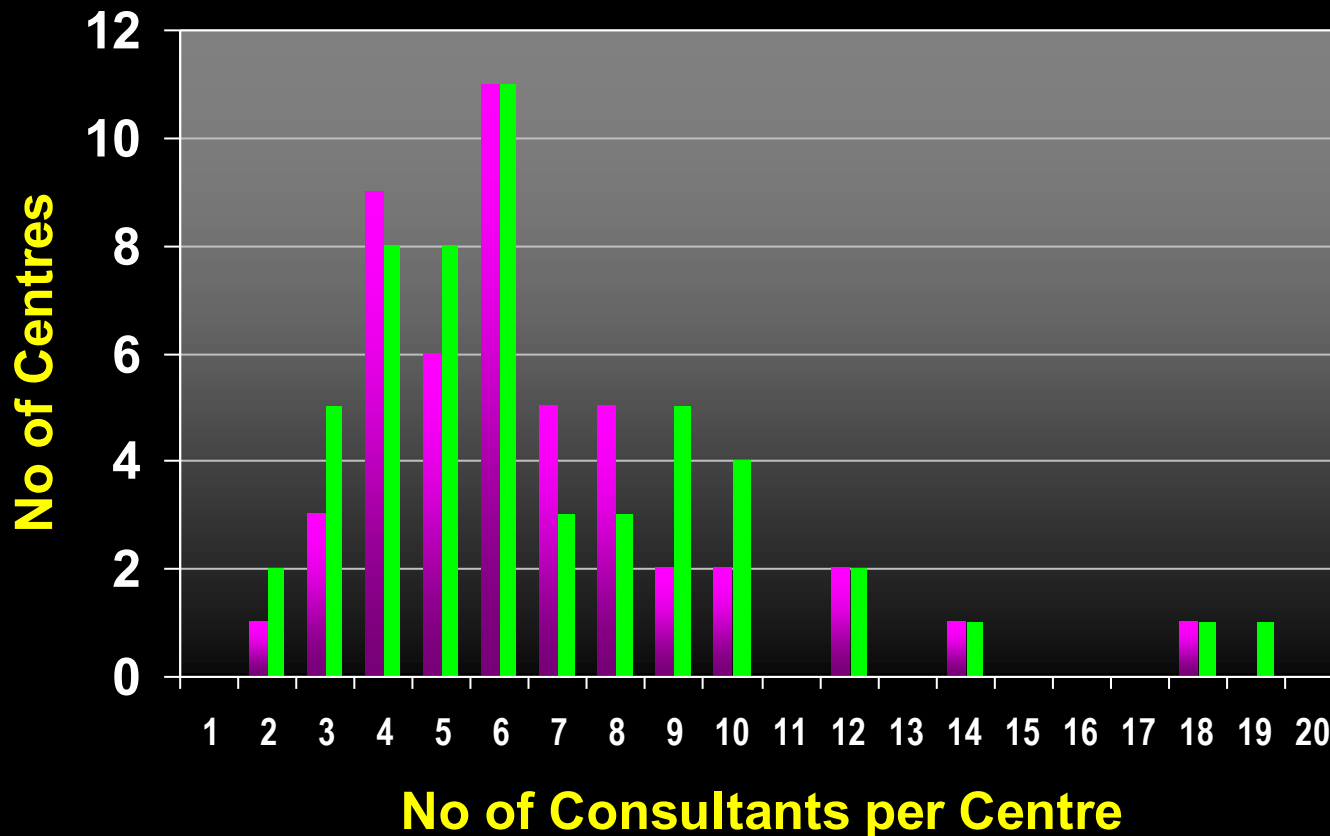
No. of Interventional Consultants

(NHS centres) data from 54 of 56 centres

Total = 362 (↑16%)

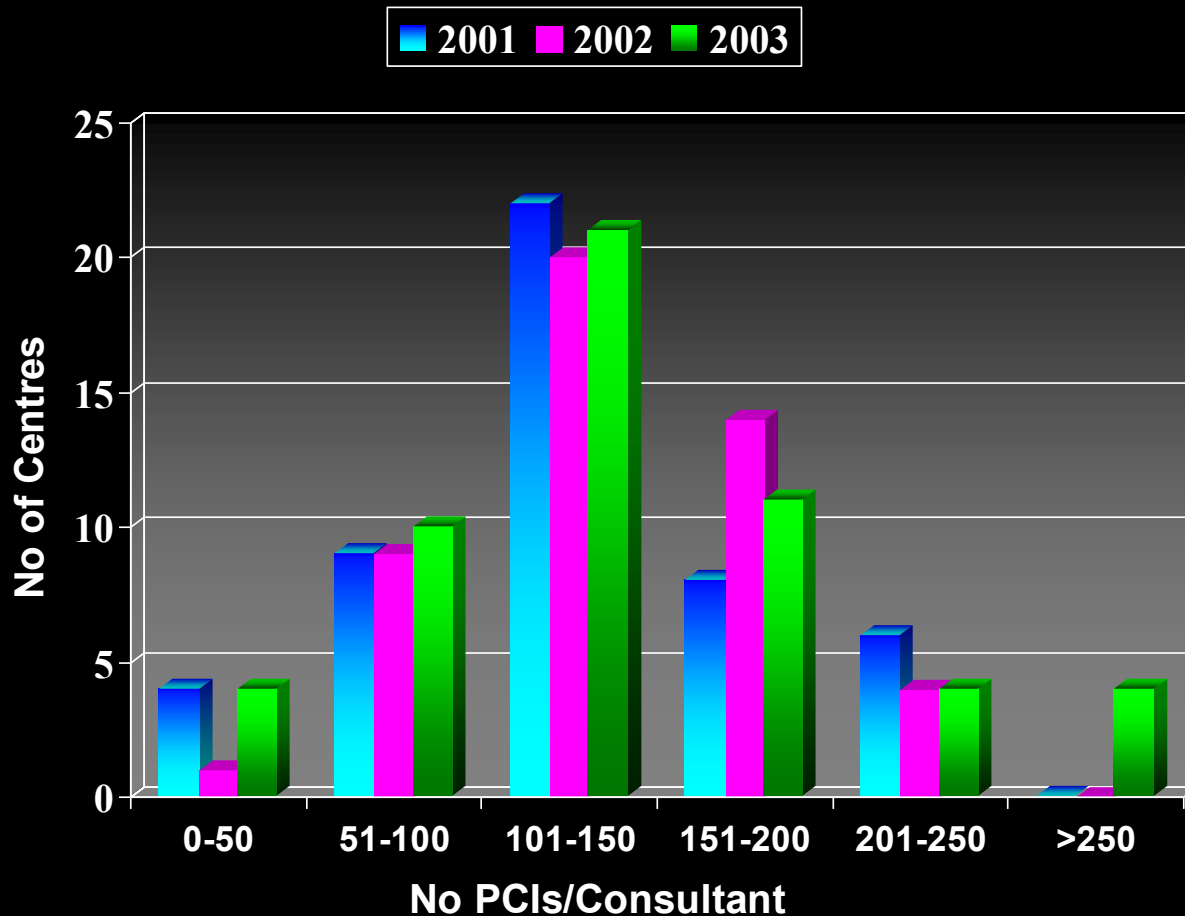
Includes local and visitors, cardiologists and radiologists

Mean	
2000	5.5
2001	6.1
2002	6.5
2003	6.7



No. of PCIs per Consultant

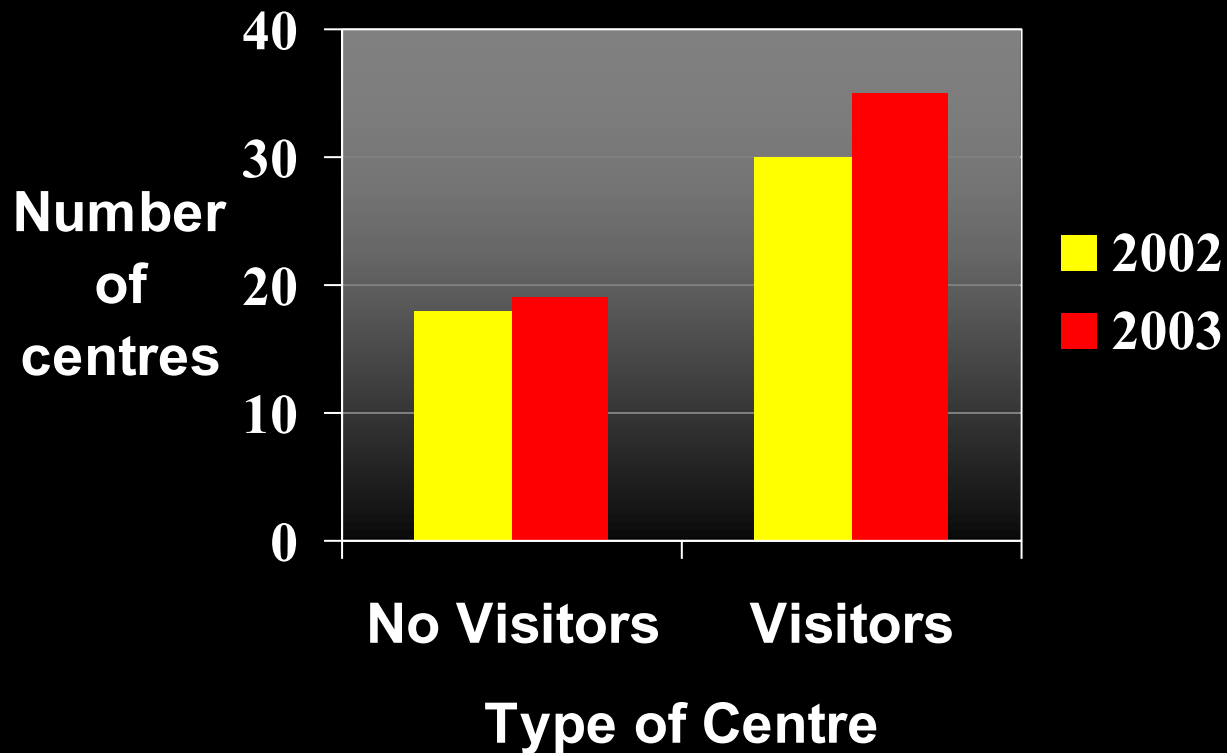
(NHS Centres) 2003 data from 54 of 56 centres



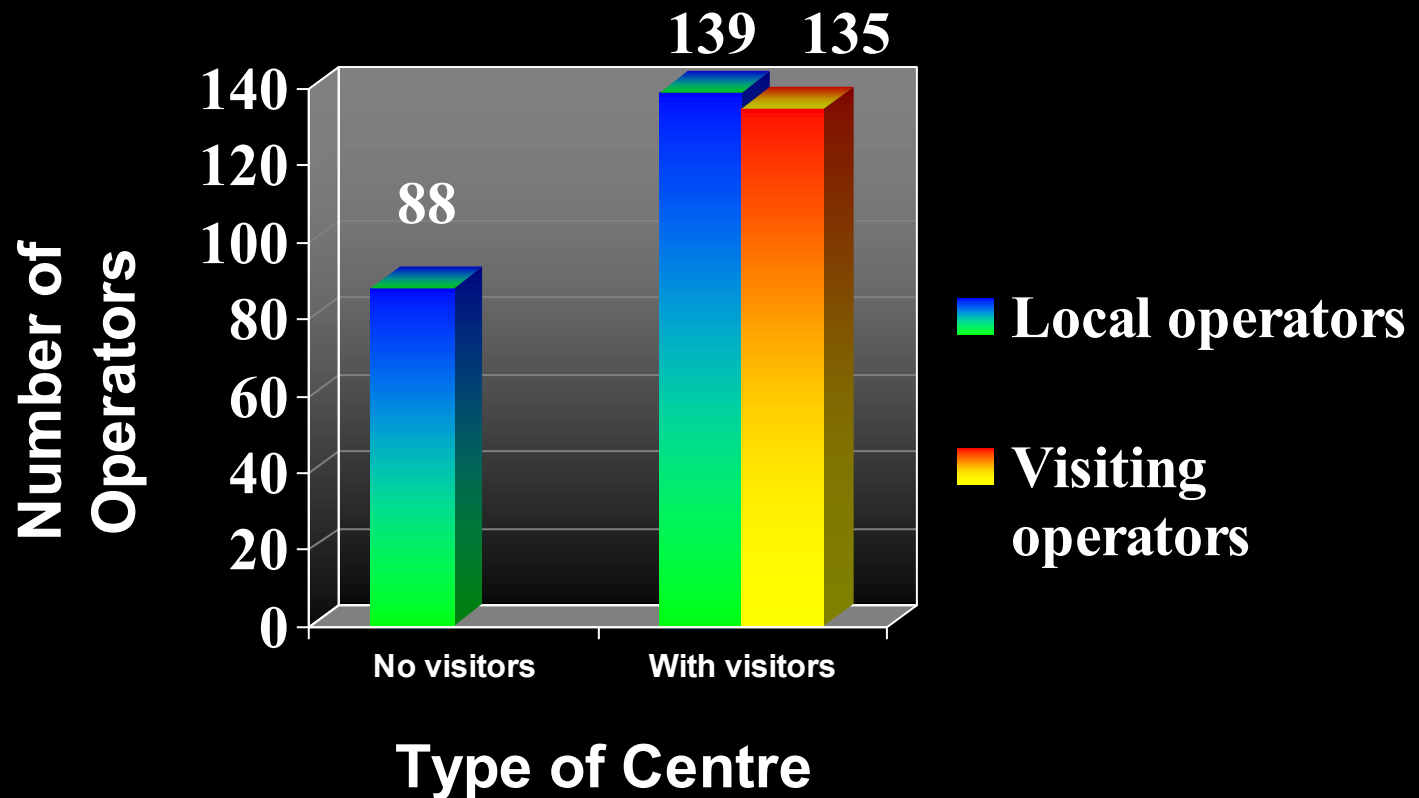
Mean PCI/consultant:	
2000	125
2001	126
2002	138
2003	139

Note: data from institutional volume divided by No operators per institution

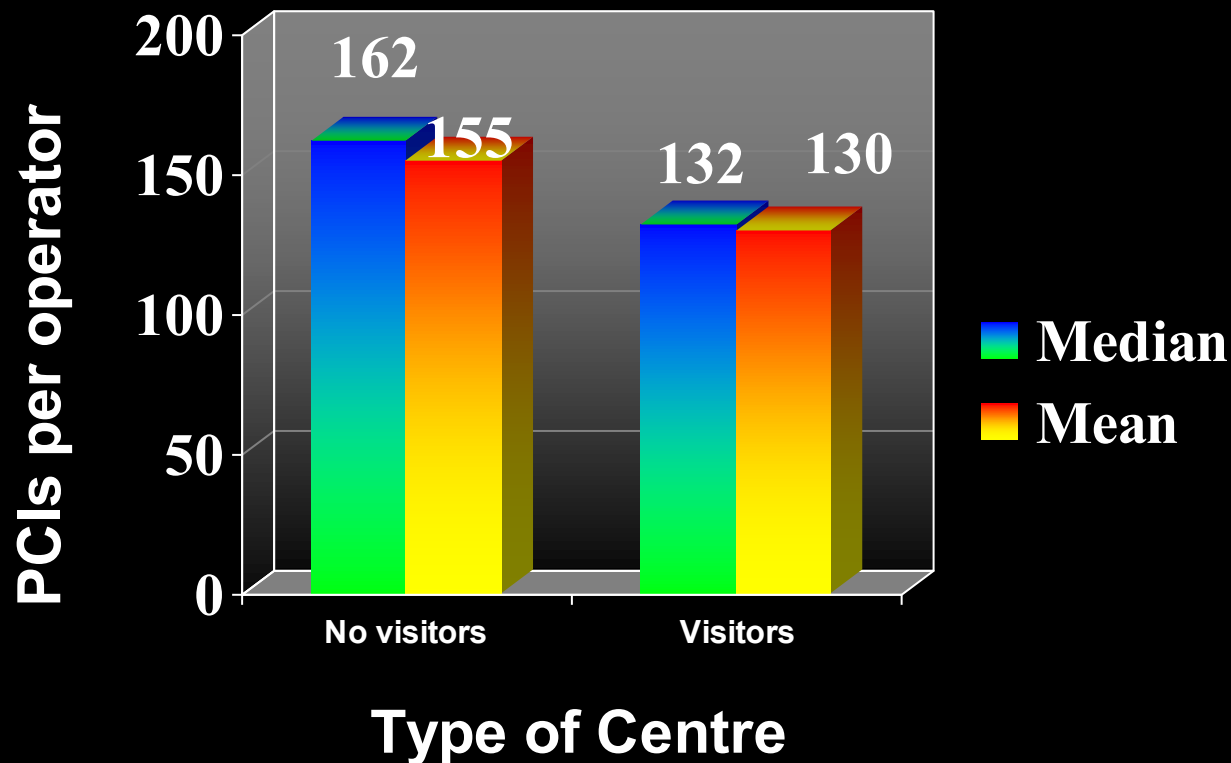
Visiting Interventionists (NHS Centres) 2003 data from 54 of 56 centres



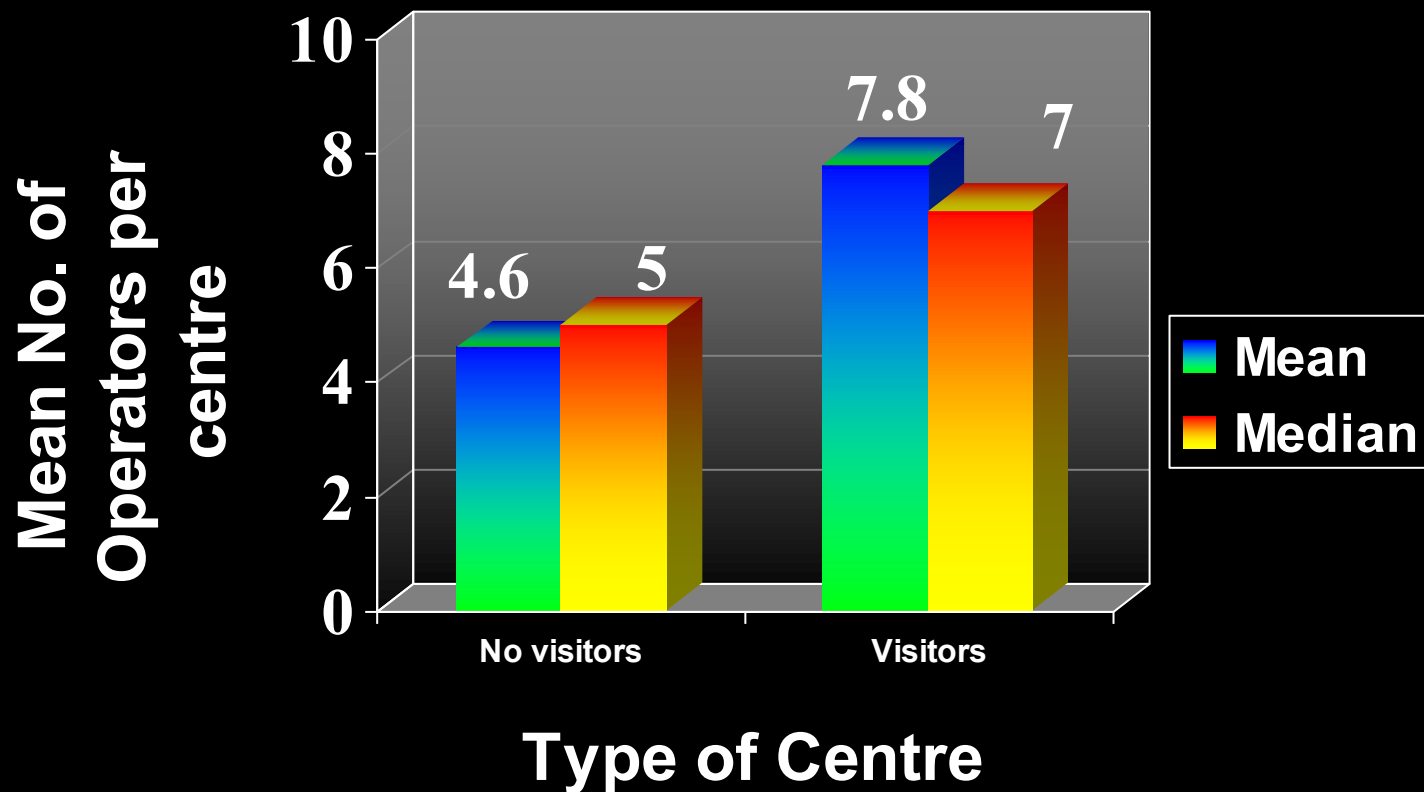
Visiting Interventionists (NHS Centres) 2003 data from 54 of 56 centres



Visiting Interventionists (NHS Centres) 2003 data from 54 of 56 centres



Visiting Interventionists (NHS Centres) 2003 data from 54 of 56 centres

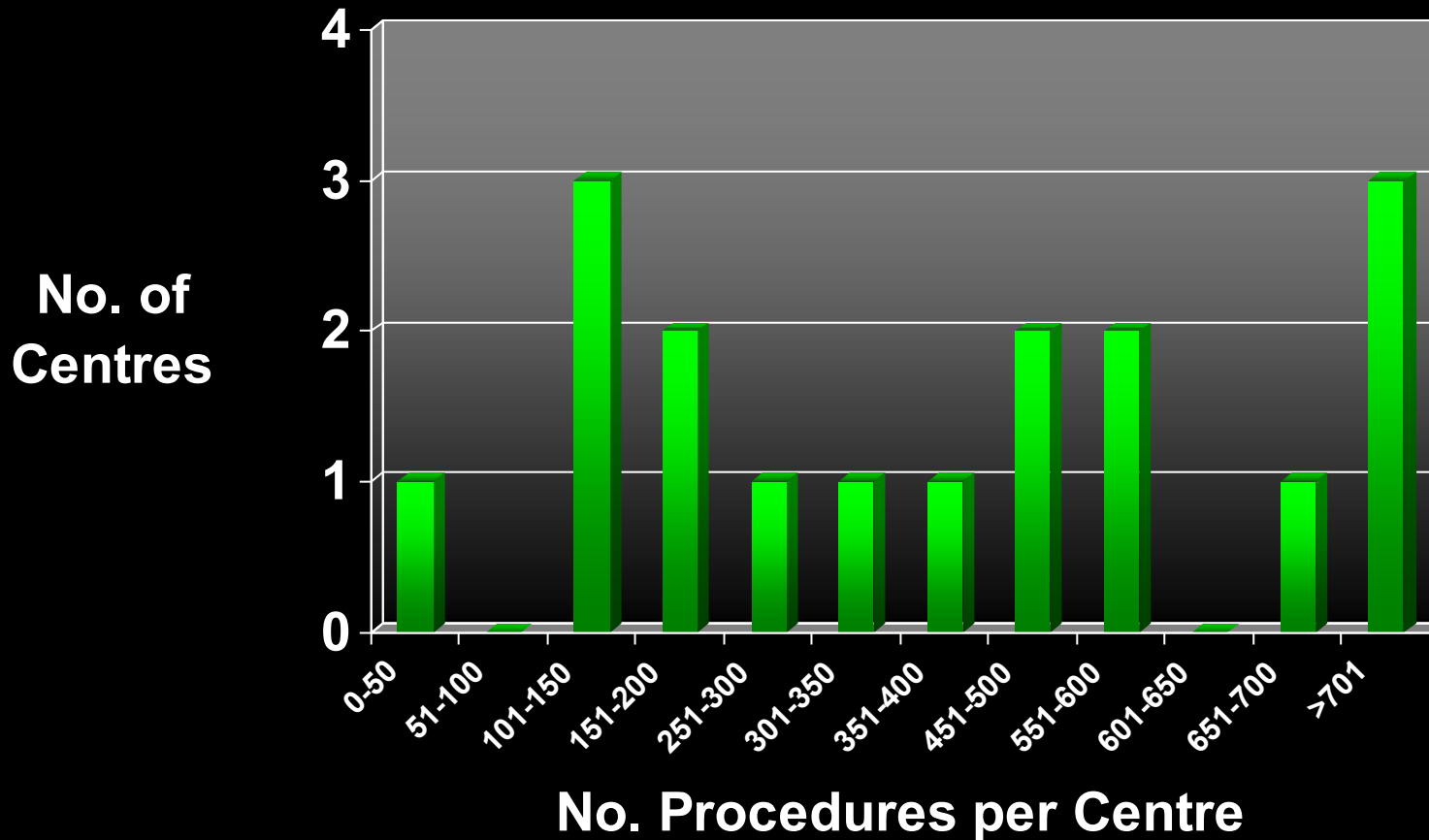


Surgical cover

	On site	Off site
No of centres	55 (76%)	17 (24%)
No. of PCI (% of total)	46083 (87%)	6928 (13%)
Mean No. procedures per centre	853	407
Operator volume: PCIs per interventionist *	157	90

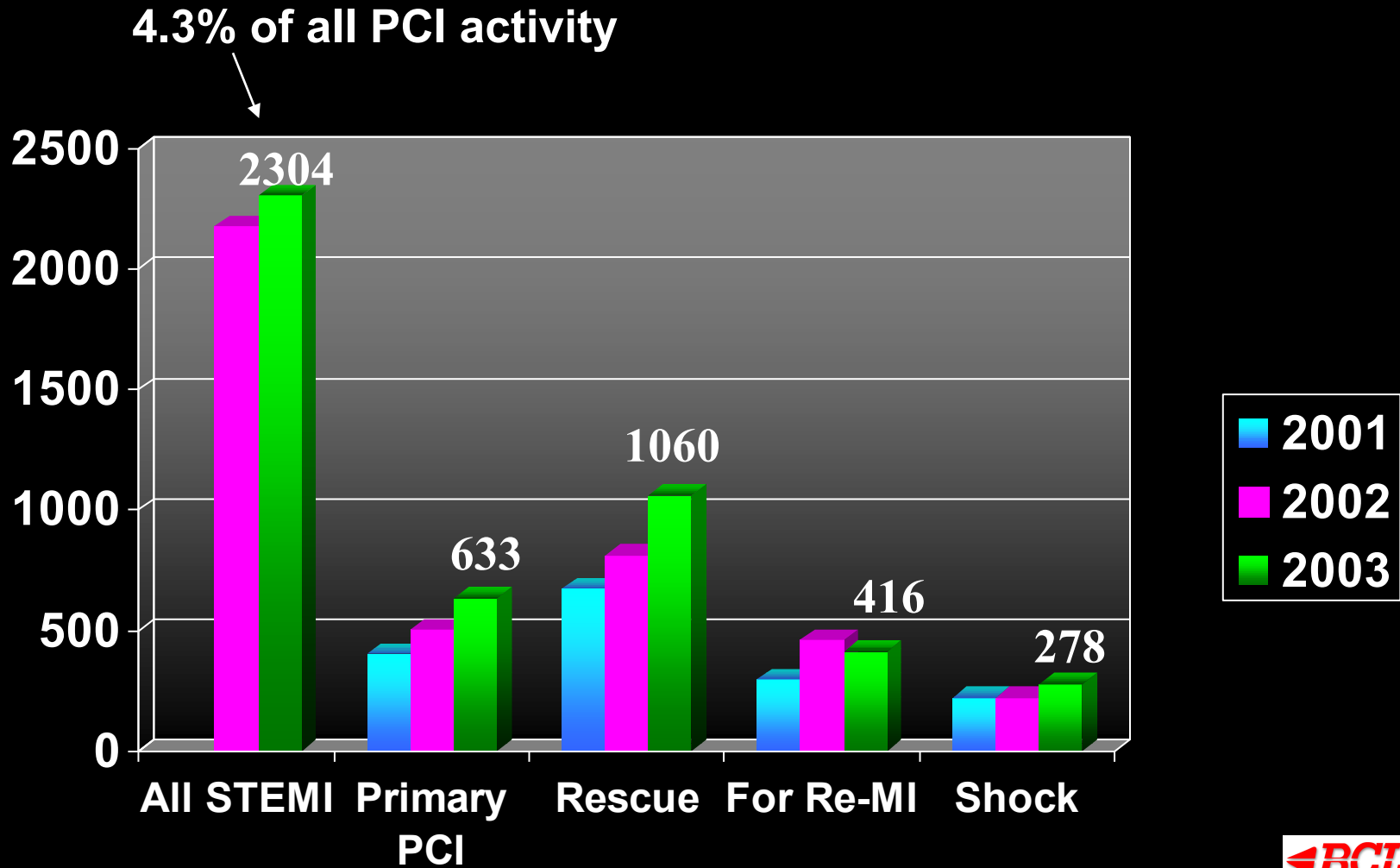
* NHS Centres only

Off Site Surgical cover



PCI for STEMI

(2003 data from 50 of 73 units)



Data from units reporting cath or hosp outcome

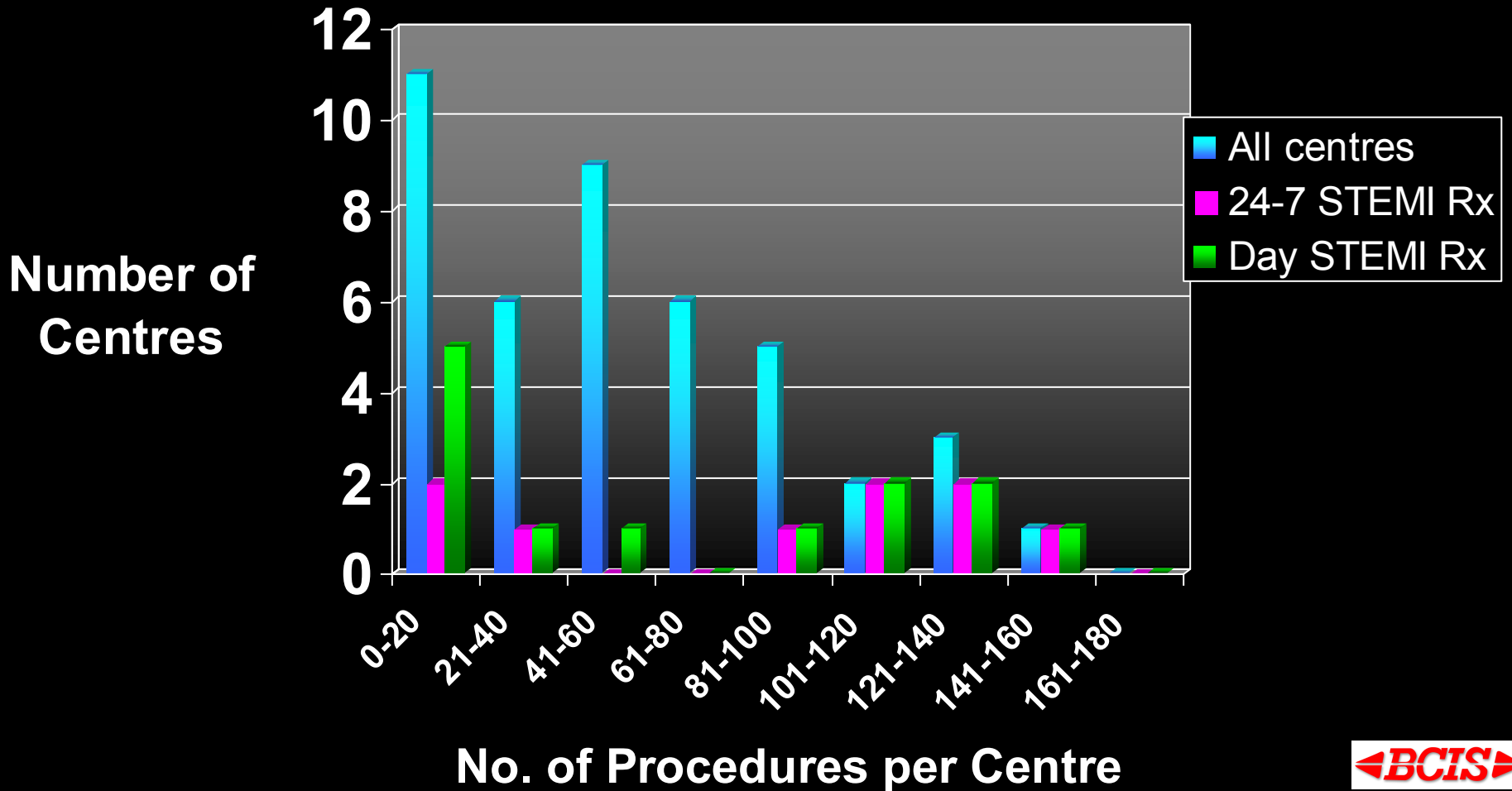


2003 data: Ludman

PCI for All STEMI

2003 data from 43 centres

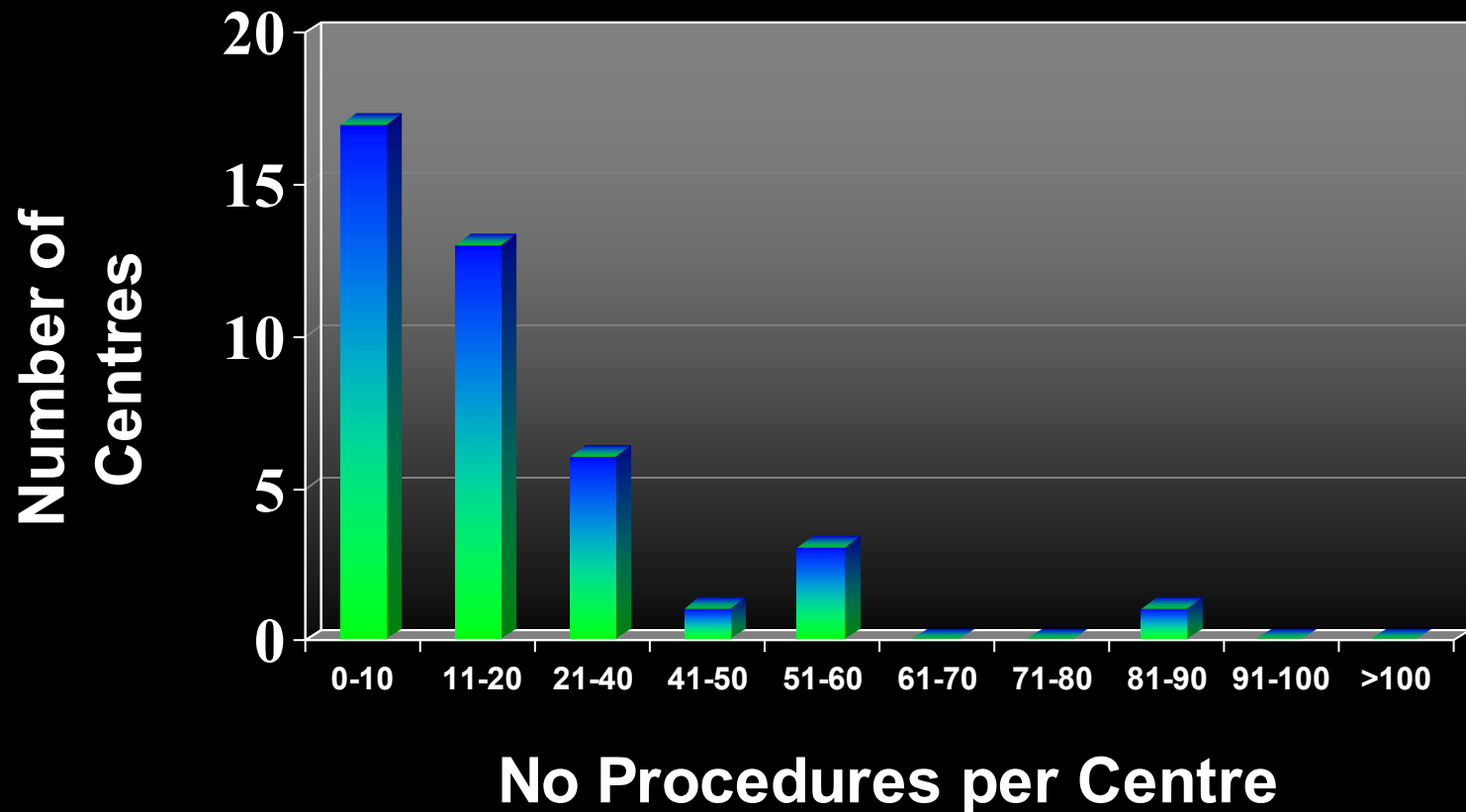
Total 2304 procedures



Primary PCI for STEMI

2003 data from 43 centres

Total 633 procedures



Audit Domains

- Structure
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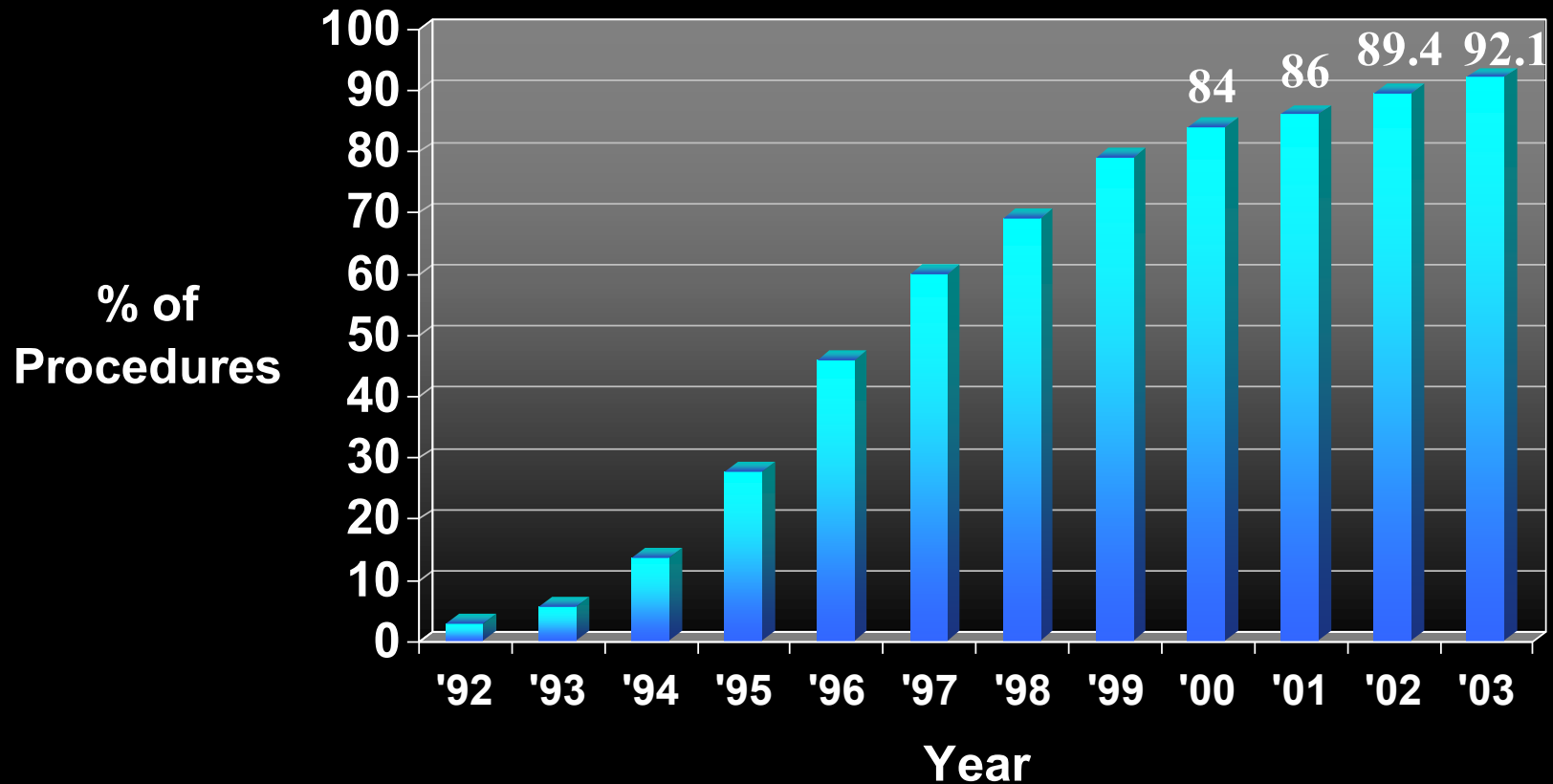
Minimum Data (Q10 to 15)

Minimal or No data from:

- **Northwick Park Hospital**
- **BUPA Hospital Leeds**

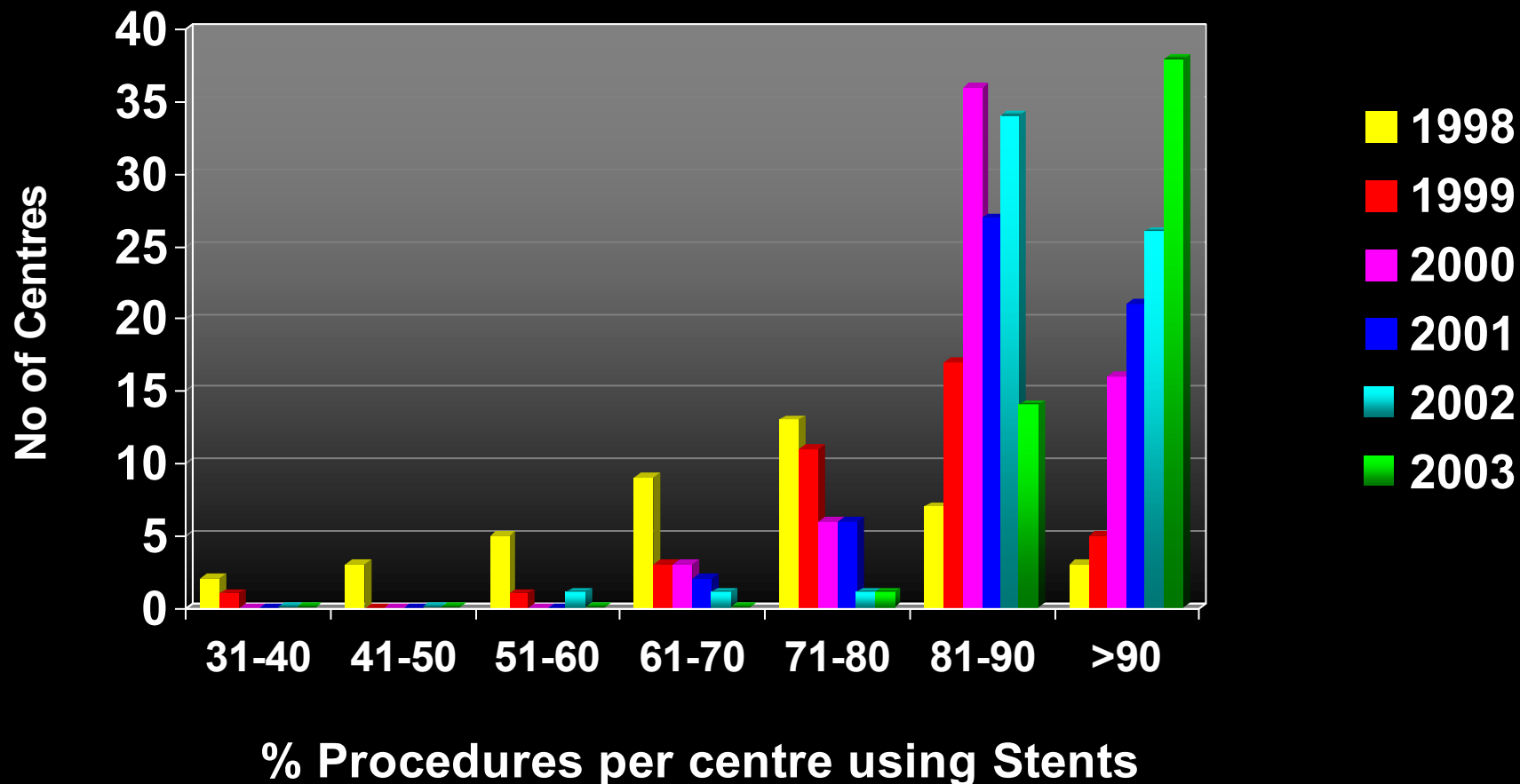
Stent procedures

2003 data from 53 of 73 centres



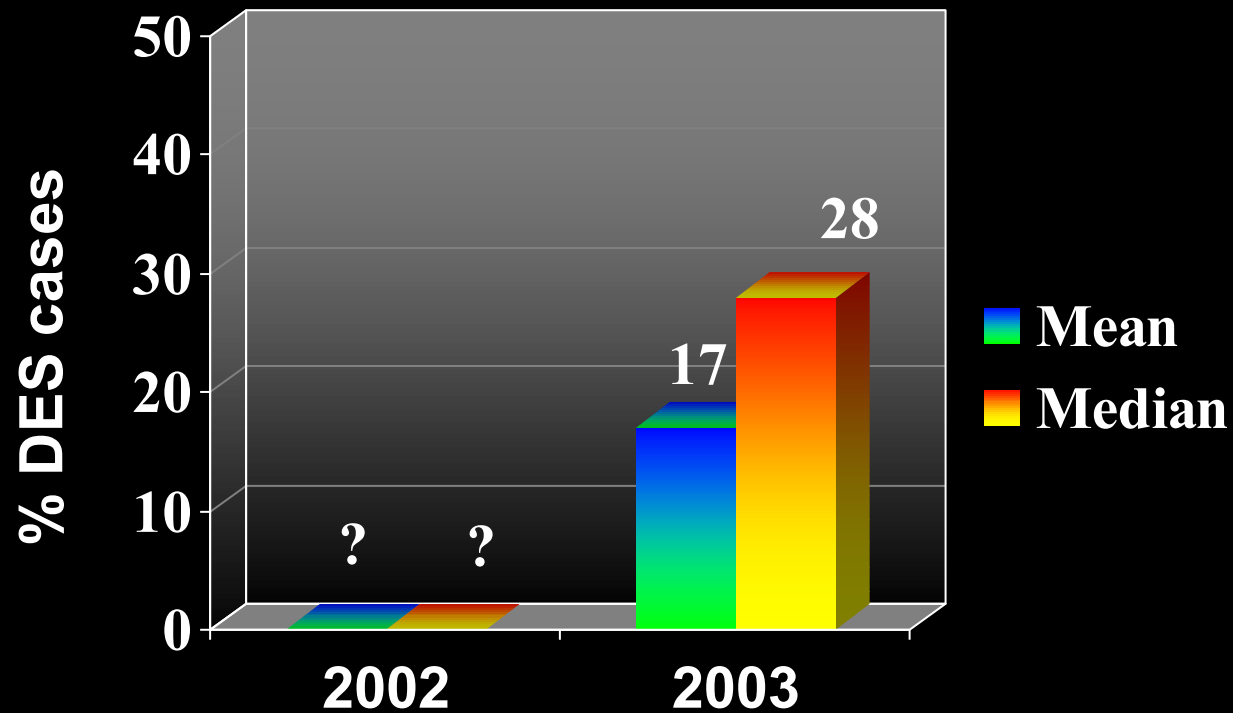
Stenting in different centres

2003 data from 53 of 73 centres



Drug Eluting Stent cases

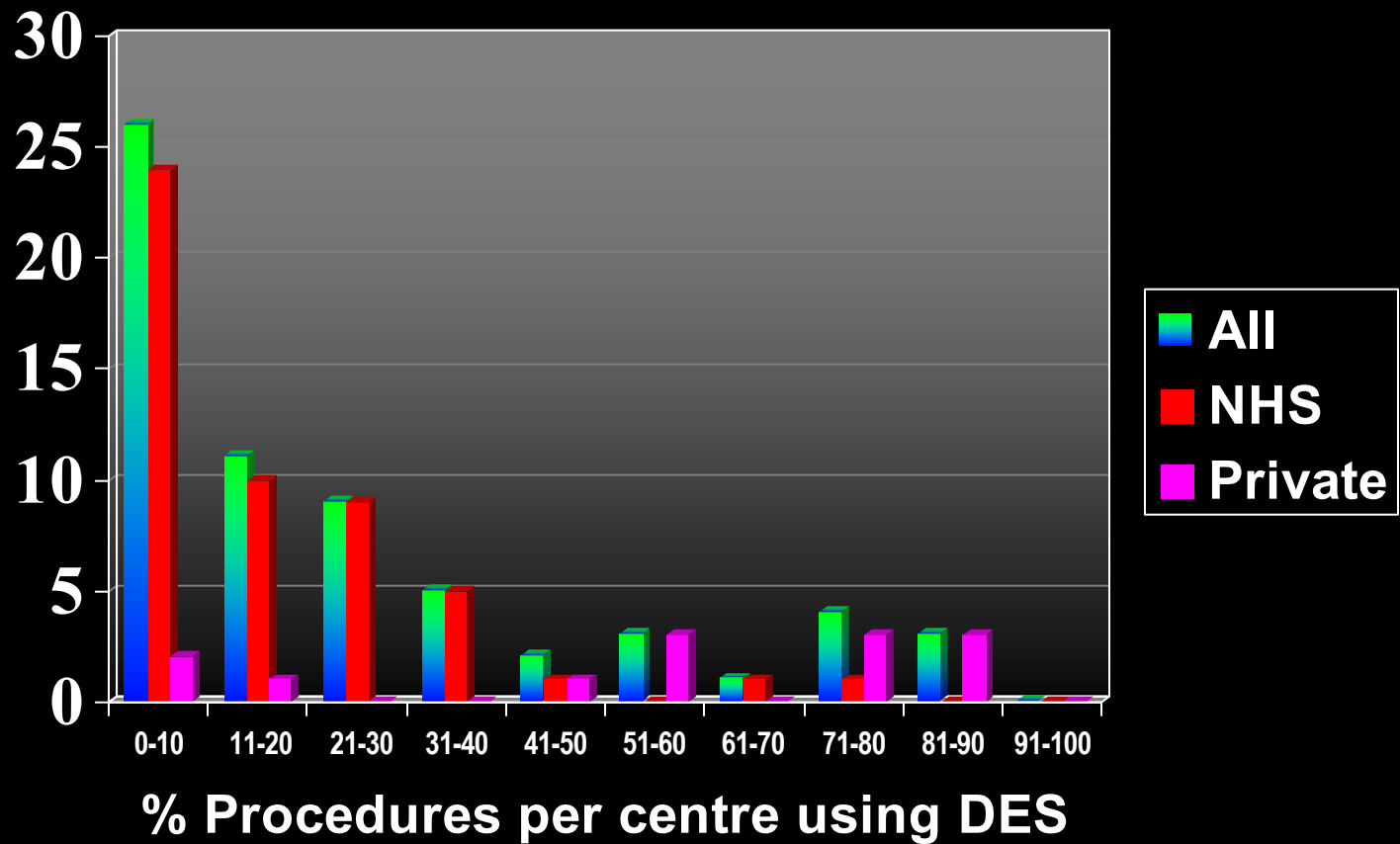
2003 data from 64 of 73 centres



Drug Eluting Stent cases

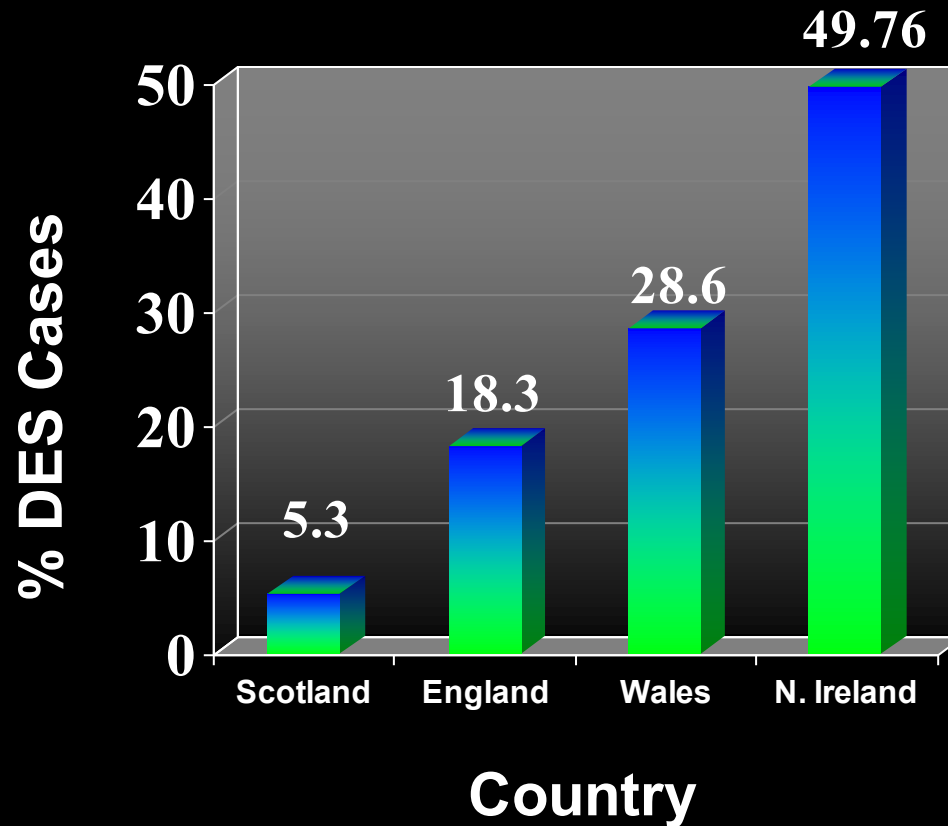
2003 data from 64 of 73 centres

Number of
Centres



Drug Eluting Stent cases

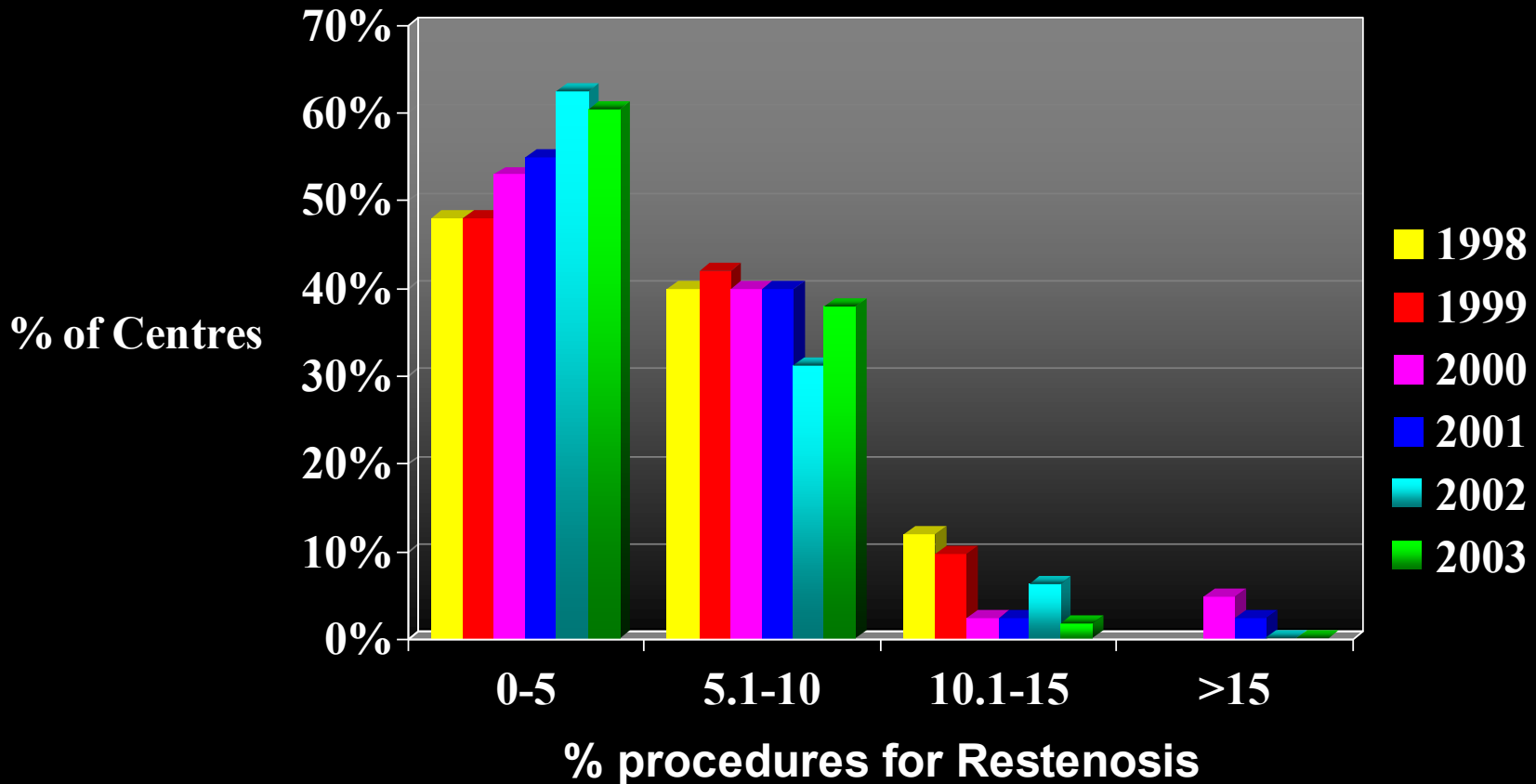
2003 data from 64 of 73 centres



PCI for Restenosis

(2003 data from 58 of 73 centres)

Mean 2003: 4.3%



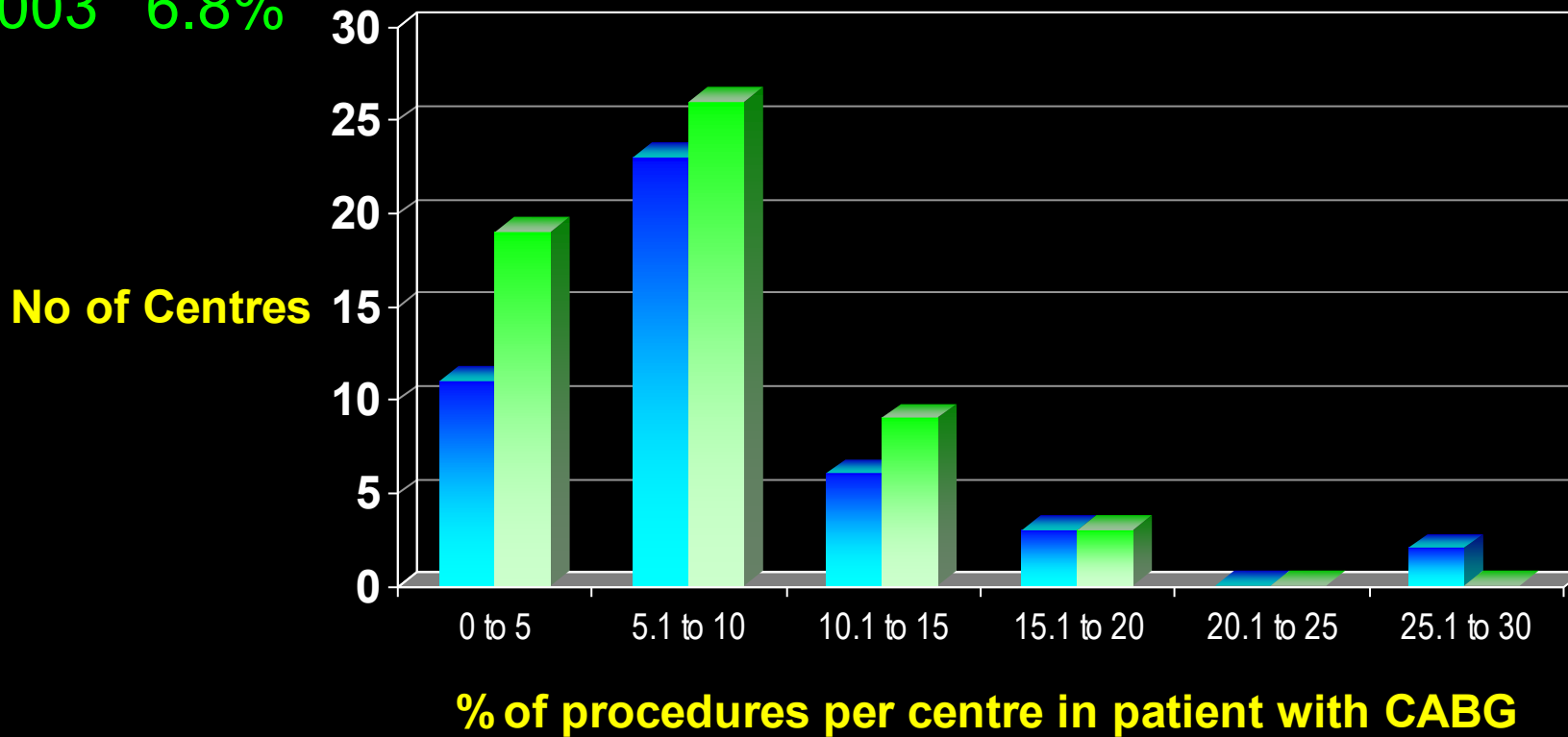
PCI in patients with past CABG

(Data from 57 of 73 centres)

Mean

2002 8.4%

2003 6.8%

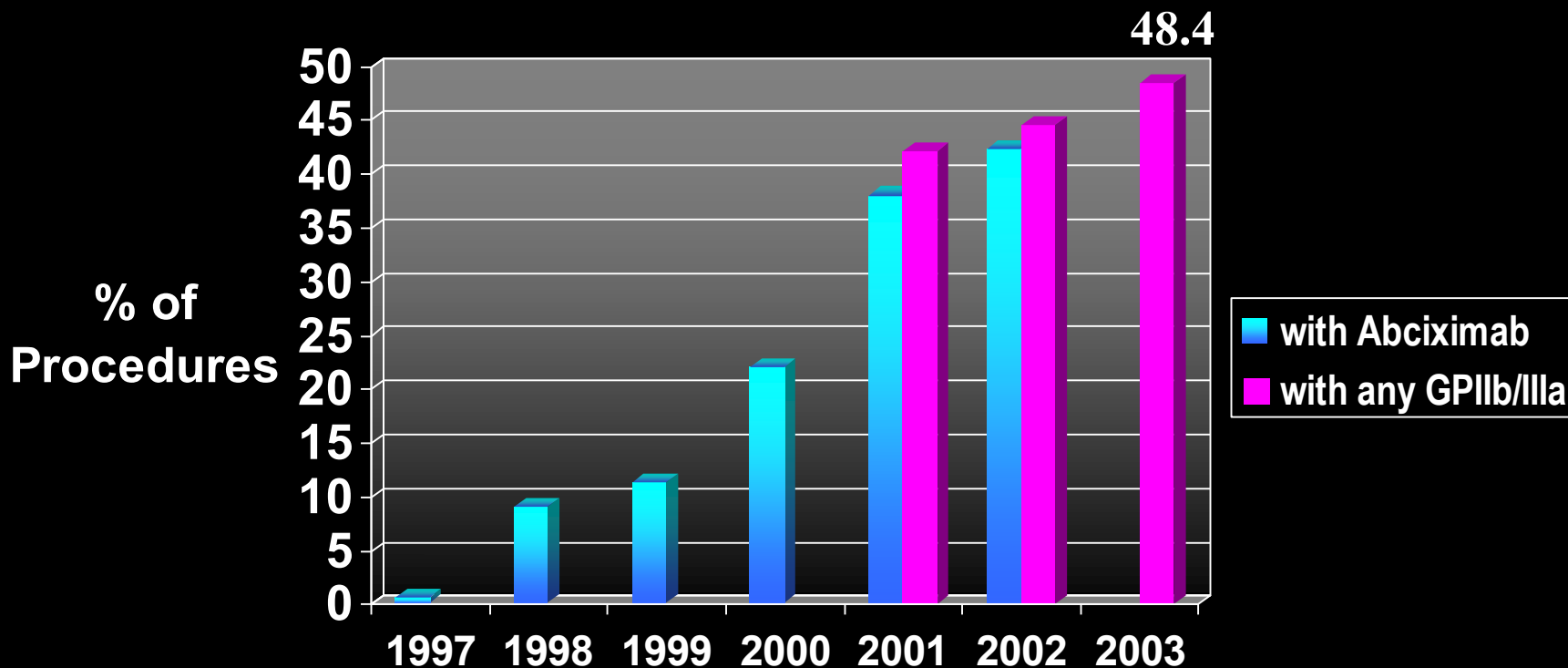


Note: Includes procedures on native vessels and grafts

Use of GP IIb/IIIa blockers

2003 data from 66 of 73 centres

Overall mean % use

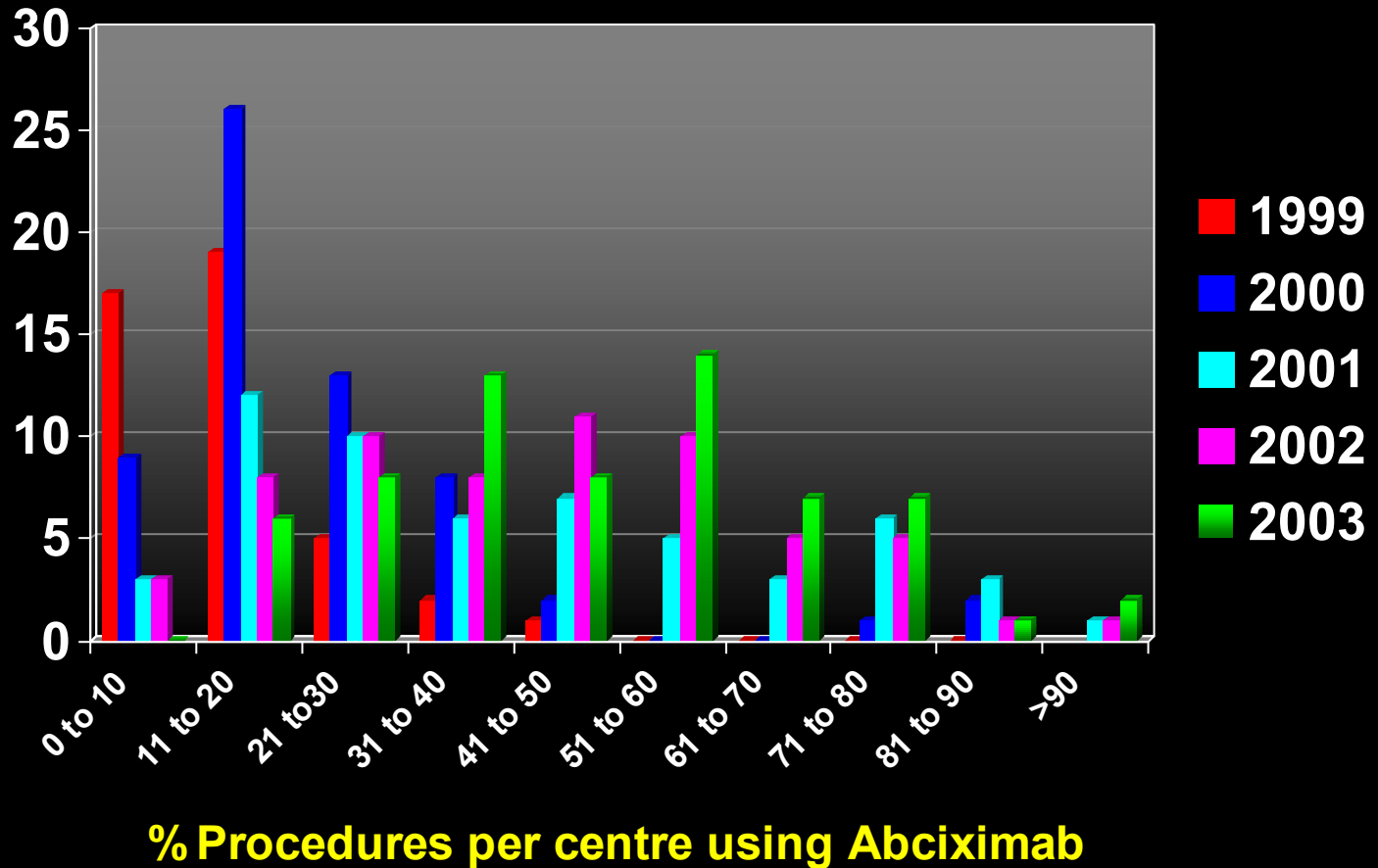


Abciximab in different centres

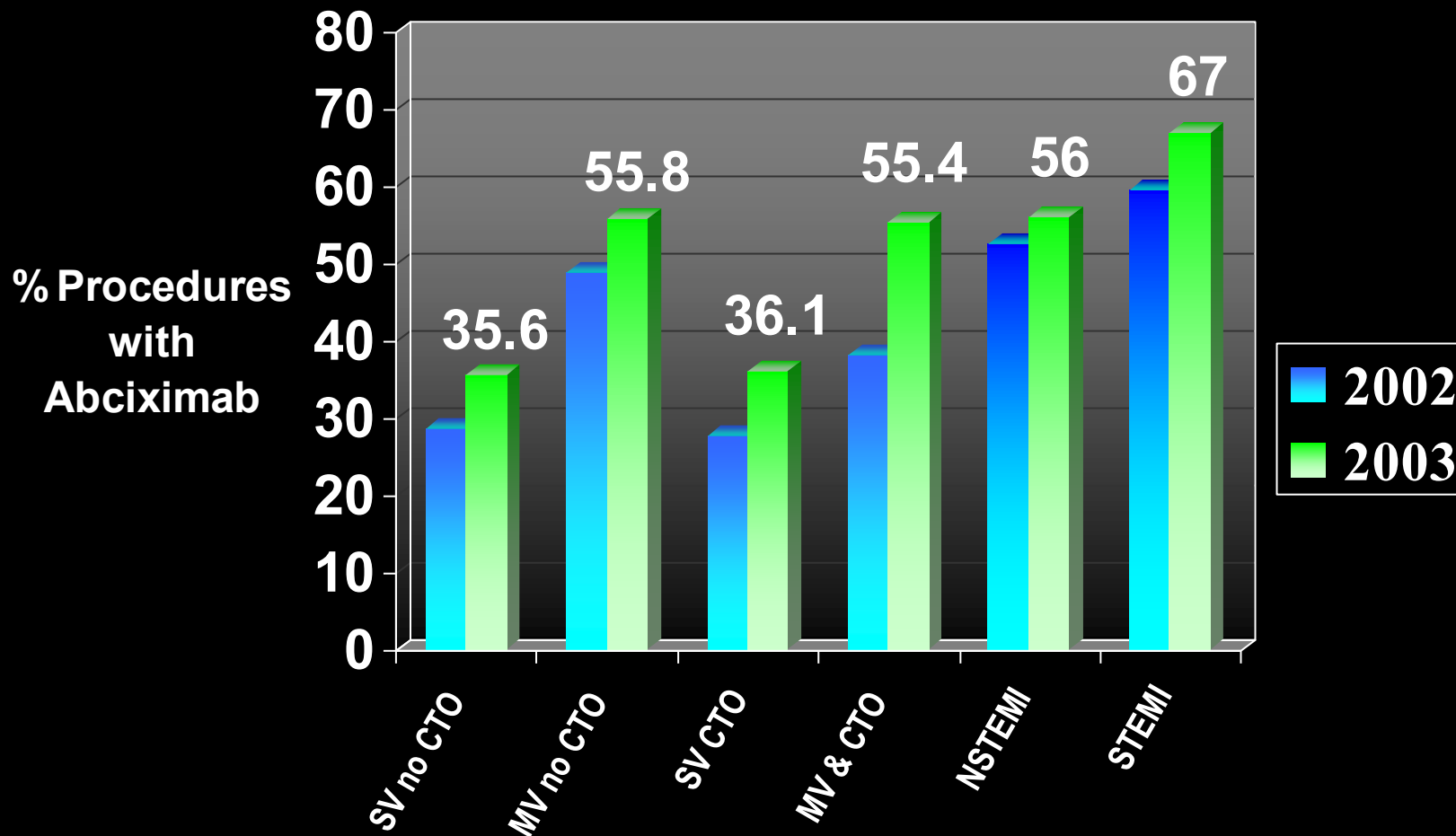
1999 - 2003

2003 data from 66 of 73 centres

No. of Centres

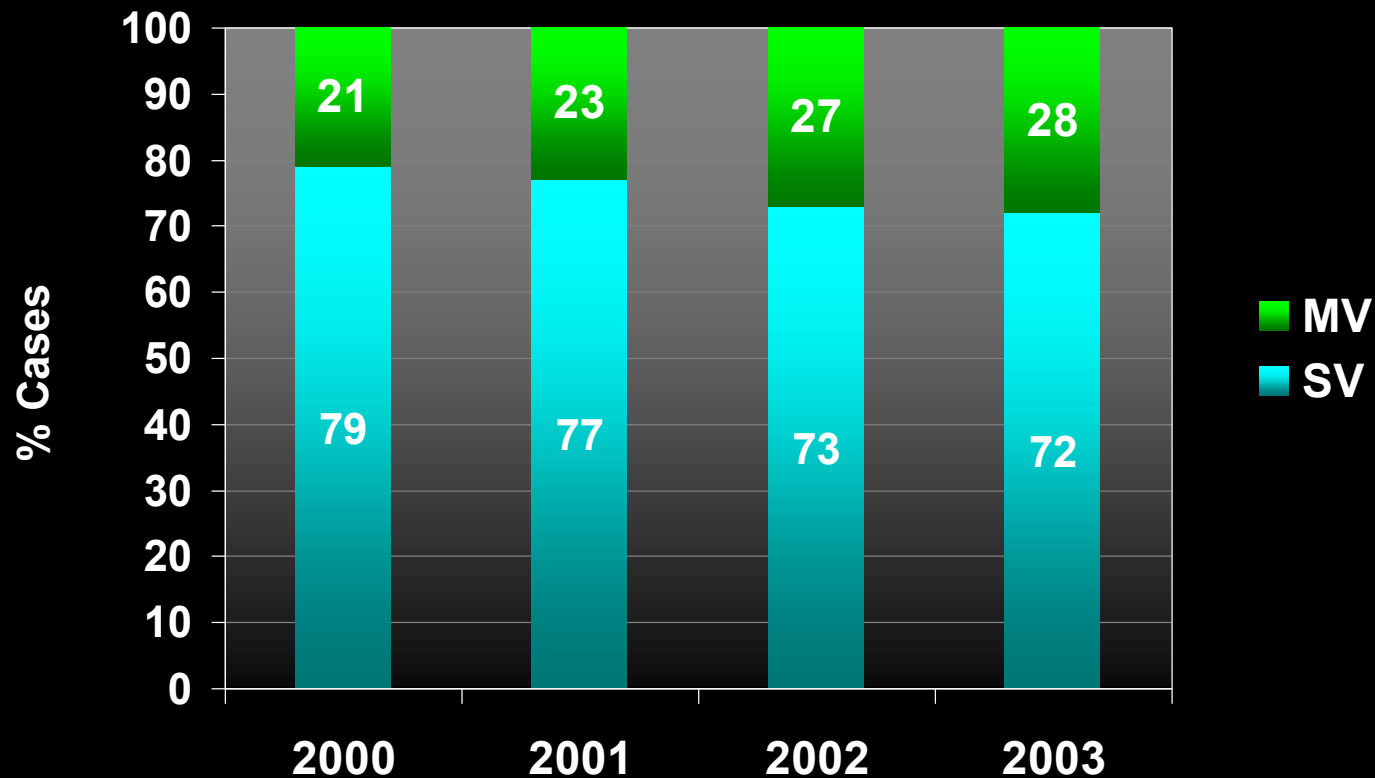


Abciximab use by Clinical Presentation

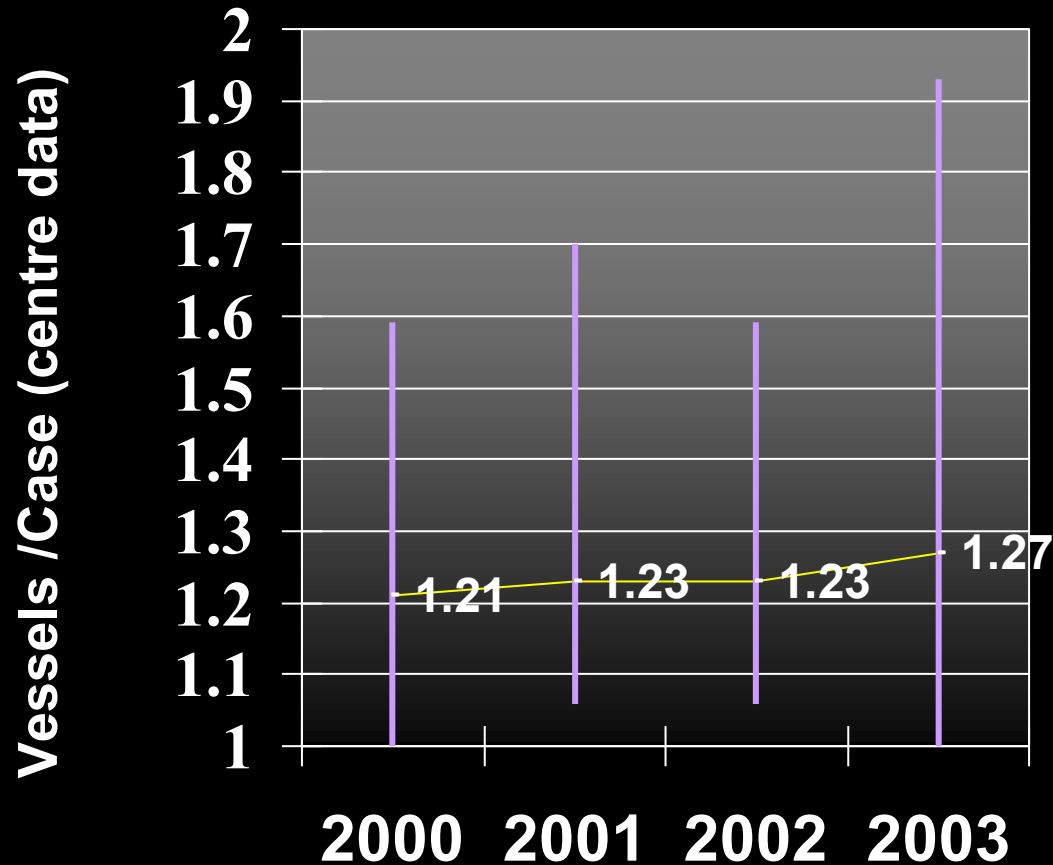


Multivessel Treatment

- Non STEMI cases



Multivessel Treatment



Mean (Range)

Additional Interventional Coronary Techniques (1)

2003 data from 70 of 73 centres

	Units	No	Δ % cf 2002	* % of all procs	Mean**	Range
Rotablation	31	288	+69%	0.54	9.3	1-69
Atherctmy (DCA)	7	15	+15%	0.03	2.1	1-6
TEC	3	3	-75%	0.006	1	1
Laser	3	22	+47%	0.04	7.3	1-12
Cutting balloon	49	1330	+8.5%	2.5	27.1	1-198

*% of all UK interventional procedures

**Mean number in units using the technique



2003 data: Ludman

Additional Interventional Coronary Techniques (2)

2003 data from 70 of 73 centres

	Units	No	Δ cf 2002	% of all procs	Mean	Range
Thrombectomy †	30	347	+136%	0.65	11.6	1-92
Distal protection	32	345		0.65	10.8	1-101
Brachytherapy	8	118	-17.5%	0.22	14.75	1-33

†PercuSurge, Rescue, Angiojet, X-sizer



2003 data: Ludman

Other

Interventional Techniques

2003 data from 70 of 73 centres

	Units	No	* Δ cf 2002	% of all procedures	Mean	Range
PTMR	2	18		0.03	9	1-17
Septal ablation	16	57		0.1	3.6	1-20

*Not requested last yr, so comparison misleading and omitted

Other Diagnostic Techniques

2003 data from 70 of 73 centres

	Units	No	Δ cf 2002	% of all procedures	Mean	Range
IVUS	37	771	12%	1.5	20.8	1-131

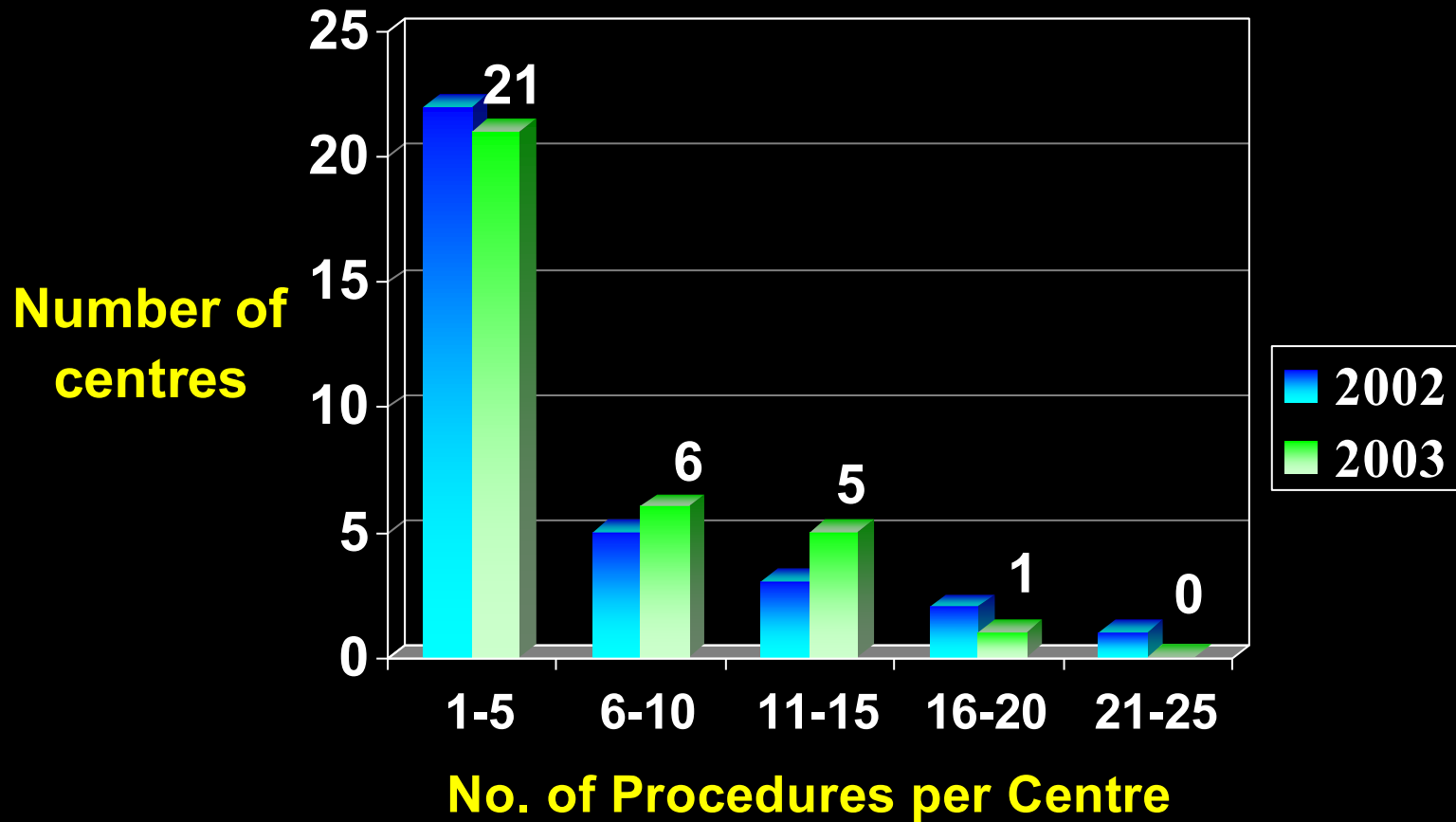
Press wire	38	926		1.7	24.4	1-139
Flow wire	6	8		0.01	1.3	1-2

Adult non coronary intervention

2003 data from 70 of 73 centres

	Units	No	Δ cf 2002	% of all procedures	Mean	Range
MV plasty	35	230	+15%	0.43	6	1-29
AV plasty	8	17	+183%	0.03	2.1	1-4
PV plasty	10	25	-3.8%	0.05	2.5	1-5
TV plasty	0					
PDA	9	38	+65%	0.07	4.2	1-11
ASD	27	450	+34%	0.85	16.7	2-54
PFO	22	195	+110	0.37	8.9	1-73
VSD	13	32		0.06	2.5	1-10

Mitral Balloon Valvuloplasty



Adult great vessel intervention

2003 data from 70 of 73 centres

	Units	No	Δ cf 2002	% of all procedures	Mean	Range
Coarct / Re-coart	13	89	+170%	0.16	6.8	1-24
Carotid	4	27	-64%	0.05	6.8	1-22
Aorta	4	12		0.02	3	1-6
Pulm art	8	31		0.06	3.9	1-8
SVC	10	59		0.11	5.9	1-24

Other procedures

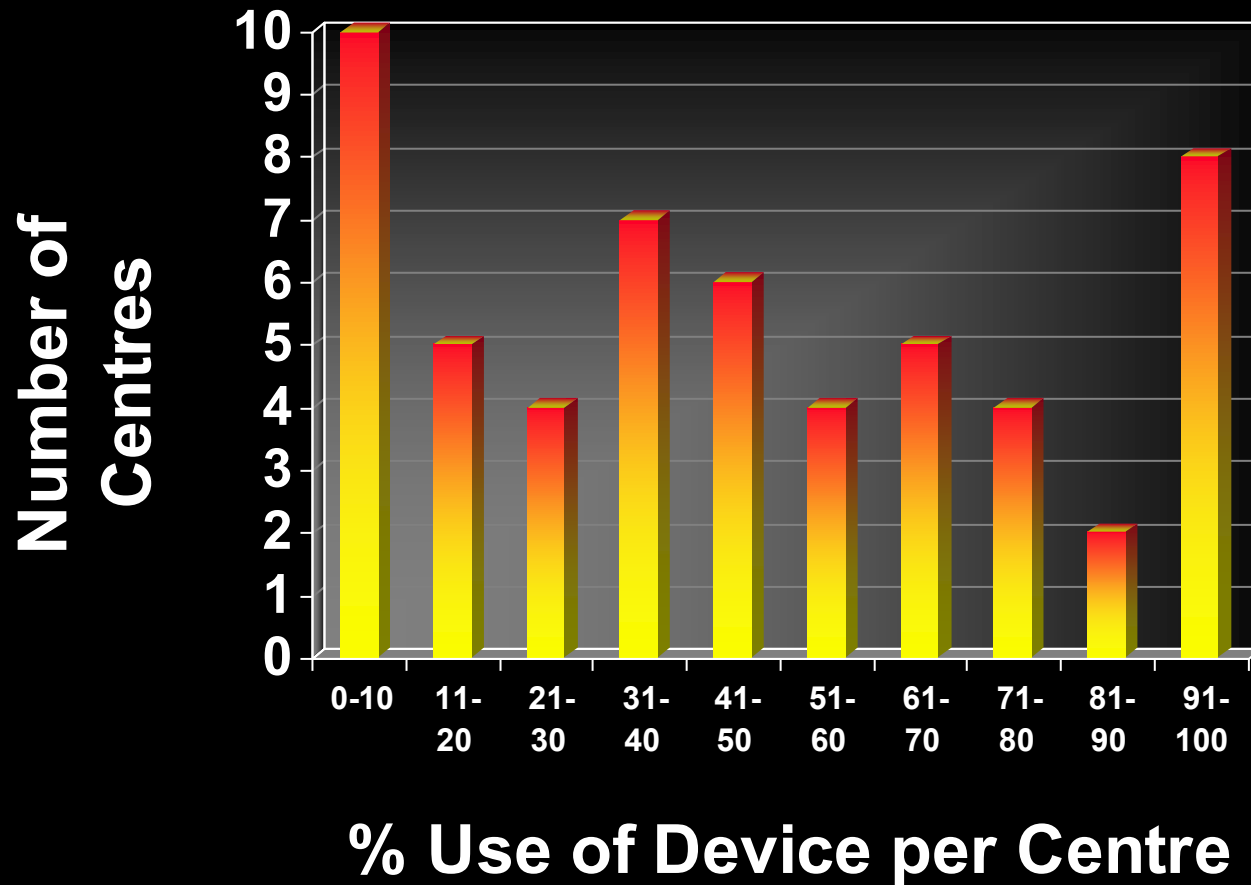
2003 data from 70 of 73 centres

	Units	No	Δ % cf 2002	% of all procs	Mean	Range
Foreign body removal	3	28	+75%	0.05	9.3	2-23
Embolisation	9	45	+87%	0.08	3	1-9
Balloon Pericardiotomy	3	14		0.02	4.7	1-11
Spinal cord stimulator	4	13		0.02	3.3	1-6

Femoral artery closure devices

2003 data from 55 of 73 centres

Mean: 47%



Audit Domains

- Structure
- Appropriateness
- Process
- Outcome

ANY Outcome Data (form C) **Inadequate or No Data**

- **Freeman Hospital**
- **London Chest Hospital**
- **St Bartholomew's**
- **Northwick Park Hospital**
- **St Peter's Hospital**
- **University Hospital of Wales**
- **BMI Priory Hospital**
- **BUPA Hospital Leeds**
- **London Independent Hospital**
- **Ross Hall Hospital**
- **St Anthony's**

Data to end of Procedure only

from 35 of 73:

Battle Hospital
Belfast City Hospital
Birmingham City Hospital
Birmingham Heartlands Hospital
City General Hospital
Derriford Hospital
Eastbourne Hospital
Glasgow Royal Infirmary
Glasgow Western Infirmary
Hairmyres Hospital
London Chest Hospital
Manchester Royal Infirmary
Morrison Hospital
North Hampshire Hospital
Northern General Hospital
Northwick Park Hospital
Royal Cornwall Hospital
Royal Free Hospital
St Bartholomew's Hospital
St Mary's Hospital

St Peter's Hospital
University Hospital of Wales
Victoria Hospital
BMI Alexandra Hospital
BMI Priory Hospital
BUPA Cambridge Lea Hospital
BUPA Hospital Leeds
BUPA Hospital Leicester
Cromwell Hospital
Golden Jubilee National Hospital (formerly HCI)
Leeds Nuffield Hospital
London Independent Hospital
Ross Hall Hospital
St Anthony's Hospital
The Yorkshire Clinic
Wellington Hospital

All PCI Procedures: Mortality

Year	Data From:	Total with mortality data	Mortality %	Range %
------	------------	---------------------------	-------------	---------

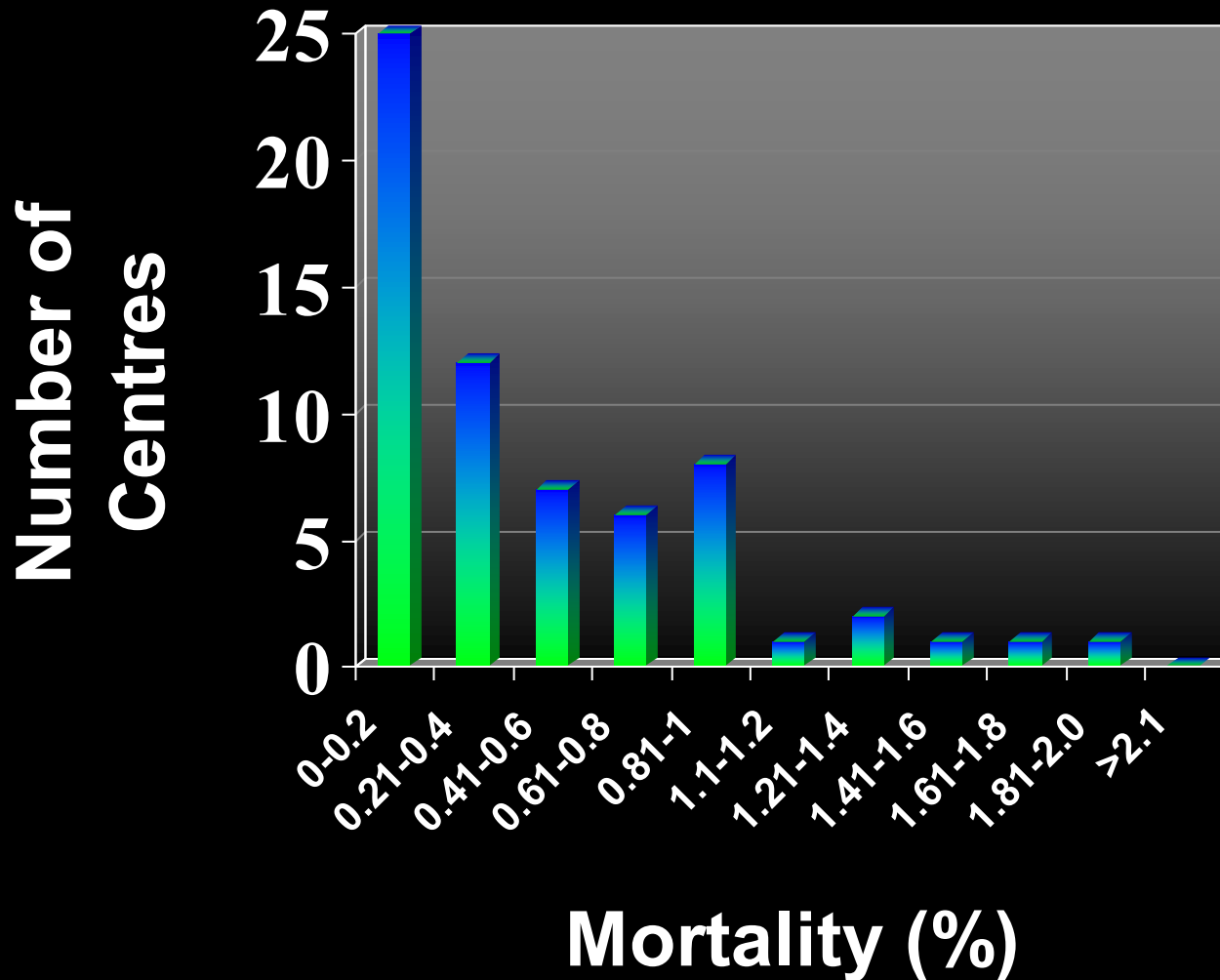
Includes all centres reporting cath lab outcome or hospital outcome



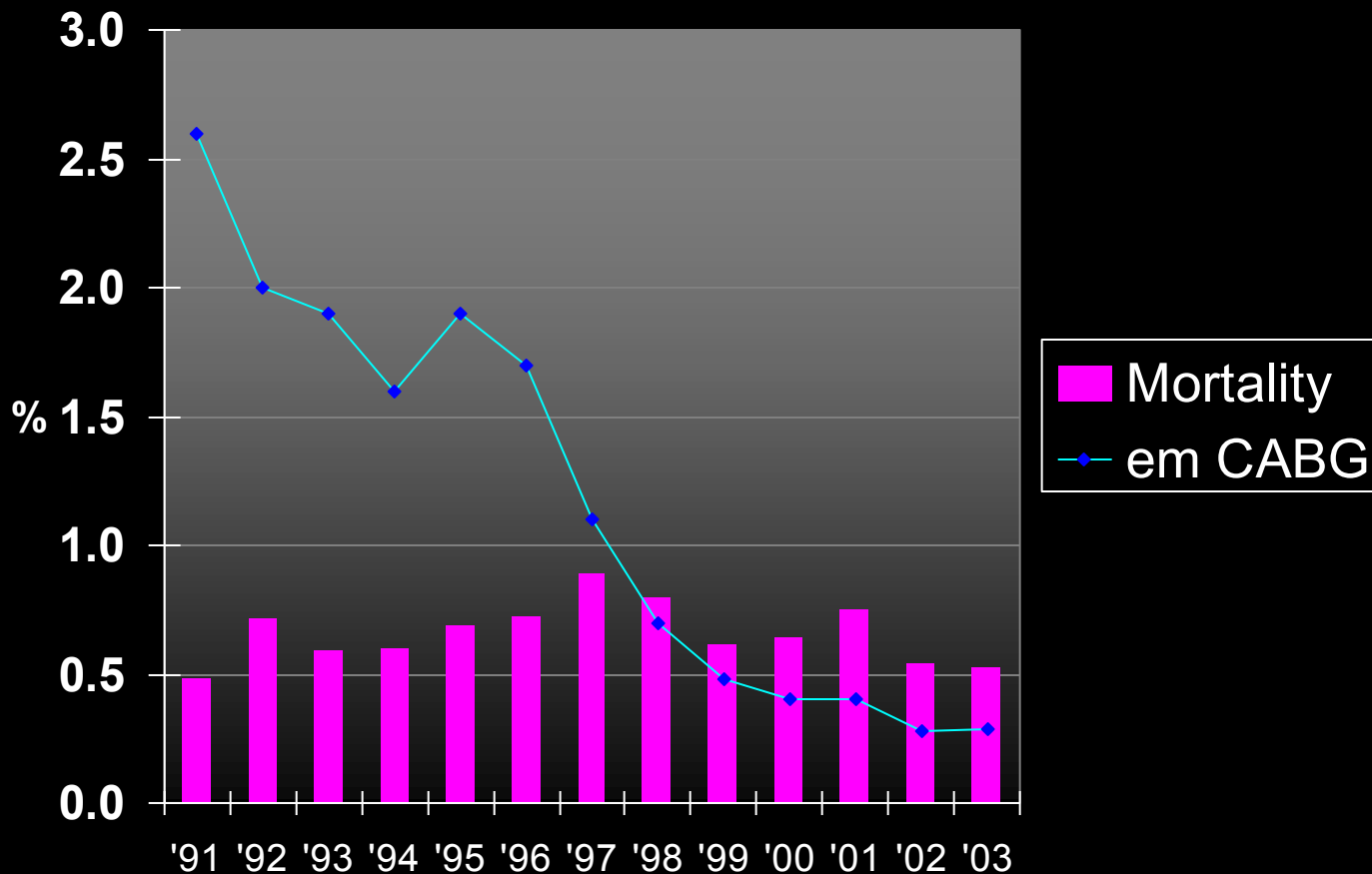
2003 data: Ludman

Mortality

2003 data from 64 of 73 centres

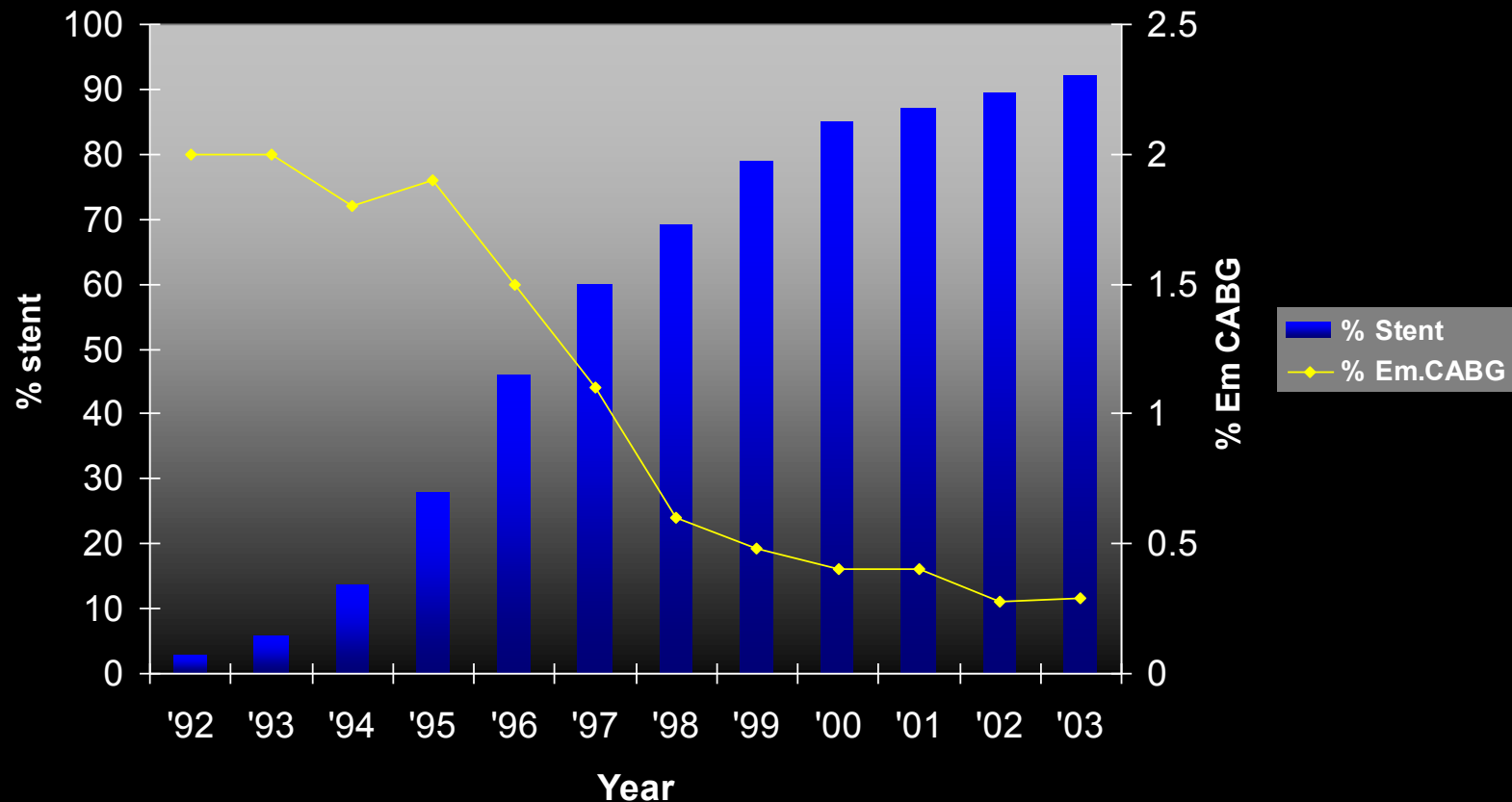


All Procedures: Outcome



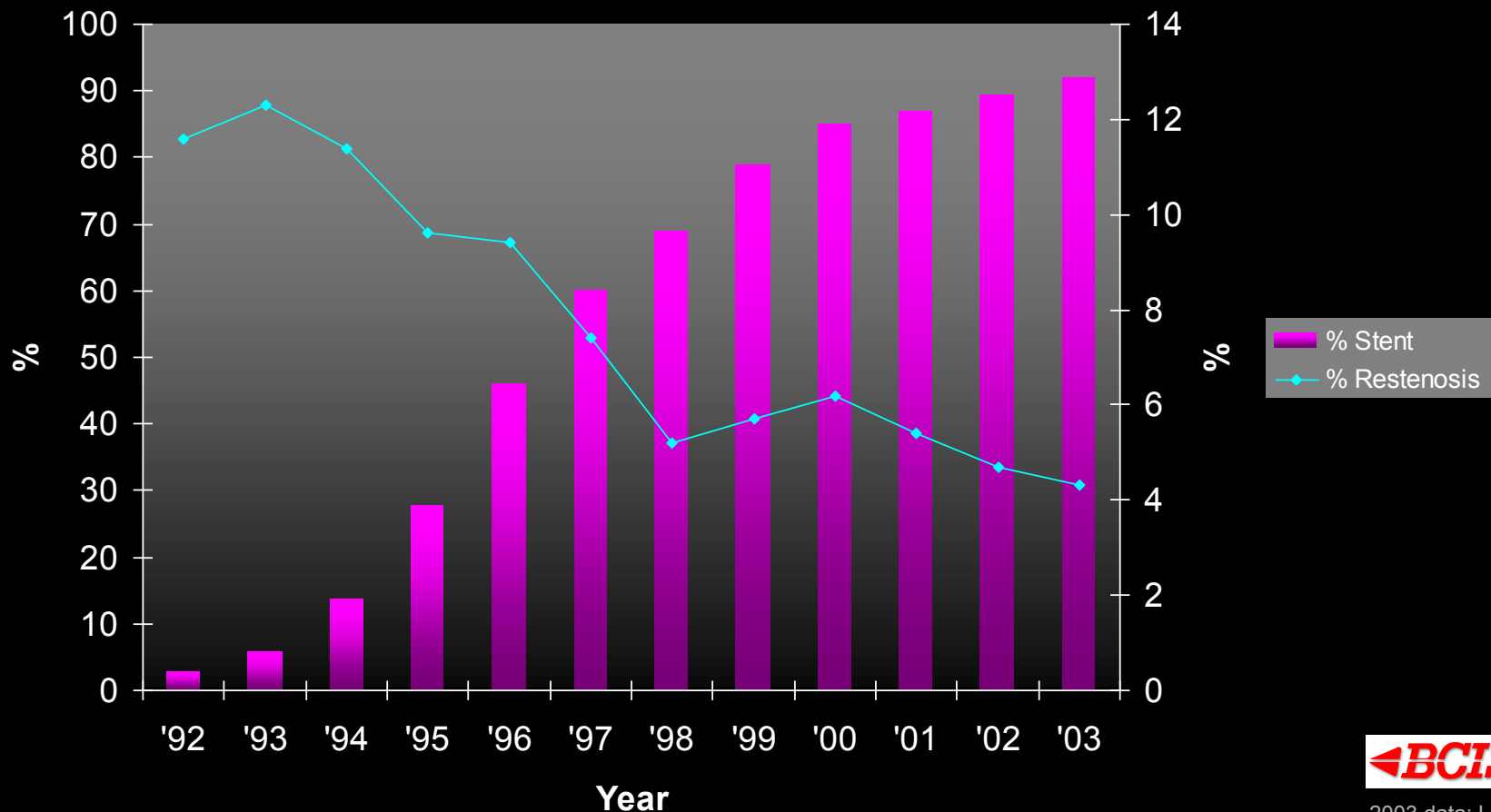
Stenting and the need for emergency CABG

(2002 data from 53 of 64 centres)



Stenting and procedures for restenosis

(2002 data from 48 of 64 centres)



Data on *HOSPITAL* outcome

(2003 data 36 of 73 sites)

Aberdeen Royal Infirmary
Bristol Royal Infirmary
Cheltenham General Hospital
Edinburgh Royal Infirmary
Freeman Hospital
Glenfield Hospital
Hammersmith Hospital
Harefield Hospital
Heart Hospital
Hull Royal and Castle Hill Hospital
John Radcliffe Hospital
King Edward VII
Kings College Hospital
Liverpool Cardiothoracic Centre
New Cross Hospital
Nottingham City Hospital
Papworth Hospital
Queen Elizabeth Hospital, Birmingham
Royal Brompton & Harefield NHS Trust
Royal Devon & Exeter Hospital

Royal Sussex County Hospital
Royal Victoria Hospital
Sandwell District General Hospital
Southampton General Hospital
St George's Hospital
St Thomas' Hospital
Taunton & Somerset
The James Cook University Hospital
Walsgrave Hospital
Western General Hospital
Wythenshawe Hospital
Yorkshire Heart Centre
BMI Park Hospital
BUPA Hospital Bristol
BUPA Hospital Southampton
Harley Street Clinic
London Bridge Hospital

Hospital Outcome 2003

Data from 35 centres

All Patients

No.	Success	Partial Success	Failed	Repeat PCI	CABG	MI	Death (Range)
-----	---------	--------------------	--------	---------------	------	----	------------------

Hospital Outcome 2003

Data from 35 centres

Elective Patients

No.	Success	Partial Success	Repeat PCI	CABG	MI	Death (Range)
-----	---------	--------------------	---------------	------	----	------------------

Hospital Outcome 2003

Data from 35 centres

Patients with previous bypass grafts Patients treated for restenosis

No.	Success	Partial Success	Repeat PCI	CABG	MI	Death (Range)
-----	---------	--------------------	---------------	------	----	------------------

Does not account for clinical syndrome
CABG patients includes Rx of native and grafts



2003 data: Ludman

Hospital Outcome 2003

Data from 30 centres

Acute coronary syndromes (UA/NSTEMI)

No.	Success	Partial Success	Repeat PCI	CABG	Q MI	Death (Range)
------------	----------------	----------------------------	-----------------------	-------------	-------------	--------------------------

Includes all classified as treated for UA and post MI angina (stable and unstable)

Hospital Outcome 2003

Data from 22 centres

Patients Rx for acute vessel closure

No.	Success	Partial Success	Repeat PCI	CABG	Q MI	Death (Range)
-----	---------	--------------------	---------------	------	------	------------------

? SAT rate 0.23%



2003 data: Ludman

Hospital Outcome 2003

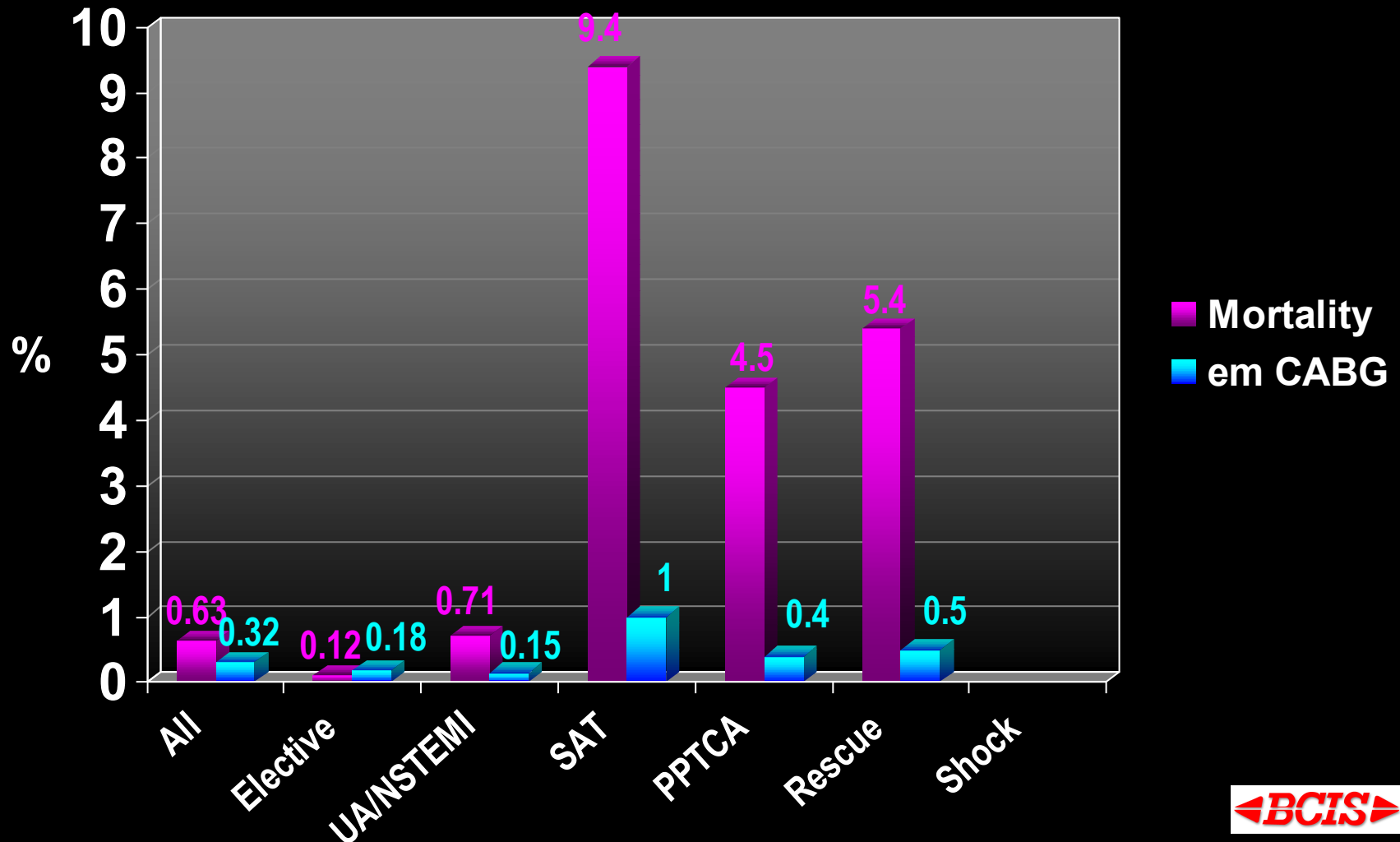
Data from 22 centres

Patients Rx for STEMI

No.	Success	Partial Success	Repeat PCI	CABG	re-MI	Death (Range)
-----	---------	--------------------	---------------	------	-------	------------------

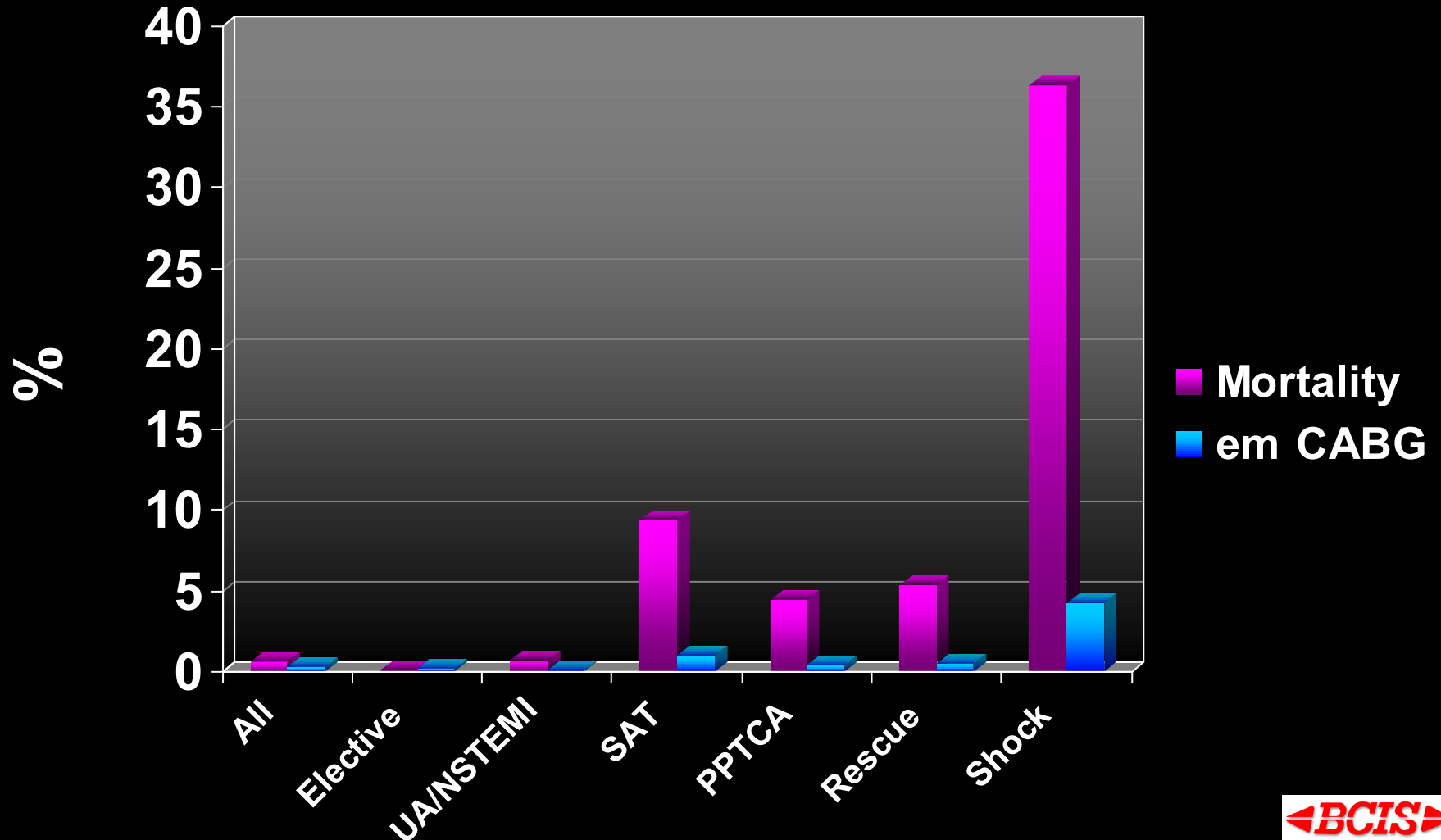
Hospital MACE Overview 2003

(Data from 35 centres; 32,950 patients)



Hospital MACE Overview 2003

(Data from 35 centres; 32,950 patients)



CCAD

- **Pilot**
- **Governance**
- **Current position**
- **First Wave Roll Out**

CCAD

- **Pilot**
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- First Wave Roll Out

Clarification of Indication for Intervention

Dataset 5.1.2 - Question 2.02

1	Stable - angina	Stable Syndromes
2	Stable - coronary/LV anatomy	
3	ACS - no acute MI	Confusion
4	ACS - Primary PCI for AMI (no lysis)	Acute STEMI syndromes
5	ACS - Facilitated PCI for AMI (lysis + PCI)	
6	ACS - Rescue PCI for AMI (failed lysis)	
7	ACS - PCI for reinfarction (no lysis)	
8	ACS - Rescue PCI for reinfarction (failed lysis)	
9	Staged procedure	
10	Hybrid procedure	
11	Acute or subacute PCI thrombosis	
12	Bail out following acute complication of	
98	Unlisted	
99	Unknown	

3 ACS - no acute MI

Acute coronary syndrome with or without enzyme release but excluding patients presenting with ST elevation or new LBBB and a history typical of acute myocardial infarction

Misleading

Should include ALL ACS that are not *acute* STEMI

i.e.

Unstable angina

NSTEMI

Convalescent STEMI

New Description:

3. ACS - UA, NSTEMI or convalescent STEMI

New explanation:

Acute coronary syndrome with or without enzyme release and a history typical of acute myocardial infarction.

Patients whose initial presentation was STEMI, but whose PCI is being performed later during the hospital stay are included in this group.

(Excludes patients having PCI for an ongoing STEMI which are coded 4 to 8).

1	Stable - angina
2	Stable - coronary/LV anatomy
3	ACS - no acute MI
4	ACS - Primary PCI for AMI (no lysis)
5	ACS - Facilitated PCI for AMI (lysis + PCI)
6	ACS - Rescue PCI for AMI (failed lysis)
7	ACS - PCI for reinfarction (no lysis)
8	ACS - Rescue PCI for reinfarction (failed lysis)
9	Staged procedure
10	Hybrid procedure
11	Acute or subacute PCI thrombosis
12	Bail out following acute complication of diagnostic
98	Unlisted
99	Unknown

Stable - angina
Stable - coronary anatomy / LV function
ACS - UA, NSTEMI or convalescent STEMI
ACS - Primary PCI for STEMI (no lysis)
ACS - Facilitated PCI for STEMI (lysis + PCI)
ACS - Rescue PCI for STEMI (failed lysis)
ACS - PCI for reinfarction (no lysis)
ACS - Rescue PCI for reinfarction (failed lysis)
Staged Procedure
Hybrid procedure
Acute or subacute PCI thrombosis
Bail out following complication of diagnostic
Unlisted
Unknown

New text in red

CCAD

- Pilot
- **Governance**
- Current position
- First Wave Roll Out



**GOVERNANCE ARRANGMENTS FOR THE CORONARY ANGIOPLASTY
AUDIT COMPONENTS OF THE CENTRAL CARDIAC AUDIT DATABASE**

Introduction

1. This document sets out the governance arrangements, underpinning principles and operational guidelines for the management of the coronary angioplasty audit components of the Central Cardiac Audit Database (CCAD).

Governance

2. The CHD Project Manager will be accountable to a Board chaired by the Healthcare Commission for the operation of the coronary angioplasty elements of CCAD and the activities of CCAD staff. This board will be referred to as the Percutaneous Coronary Intervention Tripartite Oversight Group
3. The Board will consist of members from the Health Commission, the British Cardiovascular Intervention Society and the Department of Health (DH). The NCASP CHD Project Manager responsible for CCAD will attend to advise and observe

- | | |
|---------------------------|---|
| Commission Representative | - To be agreed - Chair |
| Commission Representative | - Jonathan Boyce - Member |
| BCIS Representative | - President of BCIS Dr Keith Dawkins |
| BCIS Representative | - BCIS audit secretary Dr Peter Ludman |
| BCIS Representative | - BCIS Scottish representative Dr Keith Oldroyd |
| DH | - Dr Roger Boyle - Member |
| DH | - Gavin Lamer - Member |
| NCASP | - David Cunningham - Observer |

4. DH representative will liaise with the devolved administrations prior to meetings to provide a UK wide Government position at the Board.
5. The board will be able to invite further advisers to attend on an ad hoc basis, for example, for expert statistical or analytical advice.
6. The Board's decisions will be reached by consensus.
7. The Healthcare Commission will host the meetings and provide secretariat.
8. The Board will meet every quarter. Urgent business requiring speedy resolution can be cleared by e-mail on a consensus basis.



Service Level Agreement (SLA)

between

**NHS Information Authority (NHSIA), National Clinical Audit
Support Programme (NCASP)**

and

the British Cardiovascular Intervention Society (BCIS)

For the provision of audit data relating to Percutaneous
Interventional Cardiology procedures in the United Kingdom

Effective from: June 2004 To: May 2005

Version: 2.0

Date: June 2004

Author: Martin Old



Governance of CCAD

Tripartite PCI Oversight Group

BCIS

President – Keith Dawkins / Martyn Thomas

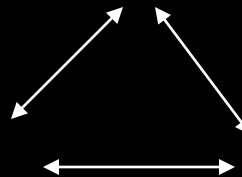
Audit secretary – Peter Ludman

Scottish Representative – Keith Oldroyd

Healthcare Commission

Johnathan Boyce

TBA



Department of Health

Roger Boyle

Gavin Larner

Observers:

NCASP / CCAD

David Cunningham



Tripartite PCI Oversight Group

Terms of reference

- **Safeguard confidentiality of**
 - patients / professionals / institutions
- **Make CCAD an authoritative source of PCI data**
- **Provide HC with information and analysis**
 - to give public accurate / accessible information on PCI outcomes
- **Consider modifications to the dataset**

Tripartite PCI Oversight Group

Principles

- **Confidentiality**
 - Data / analyses will not be communicated without explicit consent of Group
 - Data used to demonstrate / promote CCAD will have patients / professionals and institutions anonymised
 - CCAD will log all central uses of the local encryption keys
- **Respect**
 - data will not be used to unfairly represent an individual or institution

Tripartite PCI Oversight Group

Principles (cont)

- **Publication**
 - presented in such a way as to promote greater public understanding and improve patient care
- **Defensive Practice**
 - Analyses will be sensitive to the risks of promoting defensive practice to the detriment of patients
- **Independence**
 - data analyses by independent and authoritative unit
- **UK wide if possible**

Service Level Agreement

BCIS

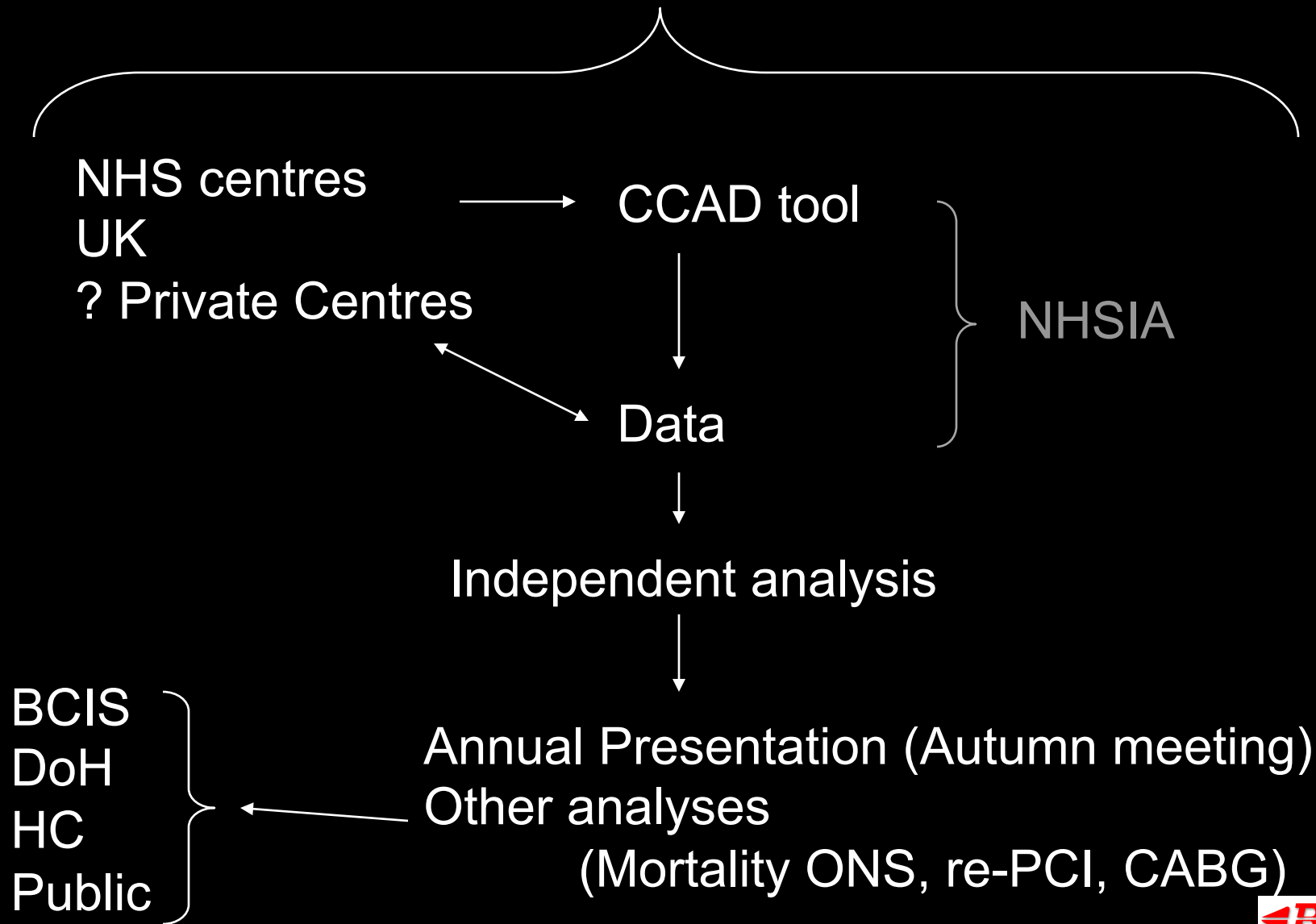


NHS Information Authority
National Clinical Audit Support Programme (NCASP)

Service Level Agreement

- **Nuts and bolts**
 - Harvesting / transmission / validation / cleaning of data
- **Provision of real time feedback**
 - PCI centres can compare themselves against national anonymised data
- **Administration and coordination of the service**
 - CCAD (on behalf of NCSP)

Tripartite PCI Oversight group



CCAD

- Pilot
- Governance
- **Current position**
- First Wave Roll Out

Centres downloading to CCAD

as of Oct 2004

James Cook University Hosp	Regular
Queen Elizabeth Birmingham	Regular
Leeds General Infirmary	Regular
Torbay	Regular
Bristol	Intermit
King College, London	Intermit
Royal Brompton	Intermit

CCAD

- Pilot
- Governance
- Current position
- **First Wave Roll Out**

CCAD 1st wave roll out

Birmingham City Hospital
Birmingham Heartlands Hospital
Freeman Hospital
Glenfield Hospital
Harefield Hospital
Heart Hospital
John Radcliffe Hospital
Liverpool Cardiothoracic Centre
Manchester Royal Infirmary
New Cross Hospital
North Hampshire Hospital
Nottingham City Hospital
Papworth Hospital
Royal Brompton Hospital
Royal Free Hospital
Royal Sussex County Hospital
Sandwell District General
Southampton General Hospital
St Bartholomew's Hospital
St Peter's Hospital
St Thomas' Hospital
Torbay Hospital
Victoria Hospital
Wythenshawe Hospital

CCAD tool: Local v National

National Aggregate												
Year	Syndrome Technique	N	%	Age	Male	Vessels	Lesions	Occlusions	Stents	Elutes	Success	Comple
▶ 2000		592	10.2%	61.8	76.0	1.1	1.4	0.0	0.9	0%	0%	0%
▶ 2001		753	13.0%	63.1	75.3	1.2	1.3	0.0	0.9	0%	0%	0%
▶ 2002		695	12.0%	61.6	73.5	1.3	1.4	0.1	1.4	9%	96%	94%
▶ 2003		2,877	49.8%	62.4	74.0	1.3	1.5	0.1	1.5	20%	95%	92%
▼ 2004		862	14.9%	62.2	71.9	1.3	1.4	0.1	1.5	42%	95%	92%
	▶ 1. Stable	324	37.6%	62.8	70.1	1.3	1.5	0.1	1.7	50%	97%	93%
	▶ 2. Acute Coronary Syndrome (ACS/ (Not Categorized)	526	61.0%	62.0	73.2	1.2	1.4	0.1	1.5	39%	95%	91%
		12	1.4%	57.4	66.7	0.0	0.0	0.0	0.0	0%	0%	0%
		5,779	100.0%	62.3	74.0	1.2	1.4	0.1	1.4	17%	95%	92%

Procedures for QEB												
Hospital Year	Syndrome Technique	N	%	Age	Male	Vessels	Lesions	Occlusions	Stents	Elutes	Success	
▼ QEB. Queen Elizabeth Hospital, Edgbaston		1,584	27.4%	62.8	72.5	1.3	1.5	0.1	1.5	15%	98%	
	▶ 2002	325	20.5%	63.0	70.8	1.2	1.4	0.1	1.3	1%	97%	
	▶ 2003	1,058	66.8%	62.6	73.6	1.3	1.5	0.1	1.6	16%	98%	
	▼ 2004	201	12.7%	63.3	69.7	1.3	1.4	0.1	1.5	28%	98%	
	▶ 1. Stable	93	46.3%	64.5	69.9	1.2	1.4	0.1	1.5	34%	97%	
	▶ 2. Acute Coronary Syndrome (ACS/	108	53.7%	62.3	69.4	1.3	1.5	0.0	1.6	24%	99%	
		5,779	100.0%	62.3	74.0	1.2	1.4	0.1	1.4	17%	95%	

N.B. test data only



2003 data: Ludman

BCIS - CCAD

- Try to have all PCI units returning data via CCAD by April 2005

Summary

- **73 PCI centres in UK**
- **894 PCI pmp in UK**
- **Cath : PCI = 3.53 : 1**
- **PCI : CABG = 2.1 : 1**
- **MACE**
 - **Stable syndromes**
 - **mortality 0.12%, CABG 0.18%**
 - **UA / NSTEMI**
 - **Mortality 0.71%, CABG 0.15%**
- **BCIS – CCAD**
 - **great progress**