



# Hellenic PCI Registry

Organization - Structure -

Directions - Initial Recordings

<http://registry.hellenicpci.gr/>

Georgios I. Papaioannou, MD, MPH, FACC, FSCAI

Athens Medical Center

Cardiac Catheterization Laboratory

18/2/2010

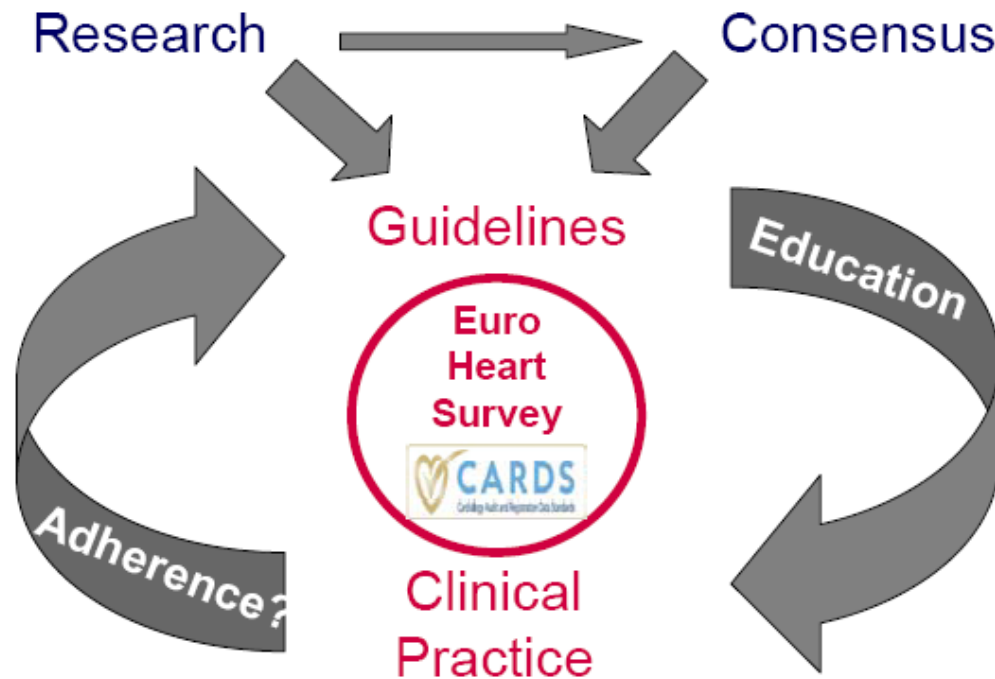
# Aim of the Hellenic PCI Registry (2008-2010)

- Common link with ESC (ESC PCI Registry) and EAPCI
- Recording of Centers/Operators/ Interventional Coronary Procedures with regional and national analyses
- Recording of basic indications, demographic, procedural and outcomes data of patients undergoing PCI
- National database for educational and professional requirements (in accordance to ESC/ACC)
- Quality and Outcomes Research

# Registries & Clinical Practice



## Prospective Registries / Surveys - Quality Cycle -



# Hellenic Heart Registry on PCI

- Initial attempt in 1998 – paper based
- Current decision of the WG of HSC for a f/u attempt
- Analyses at a national level & submission of data to the ESC
- **Web-based** database with **secure data entry** by **individual users** (user ID/password)
- Central analyses of data by the WG of HSC
- Each center may use the database for their own data analyses upon request

# Timetable of the PCI Registry

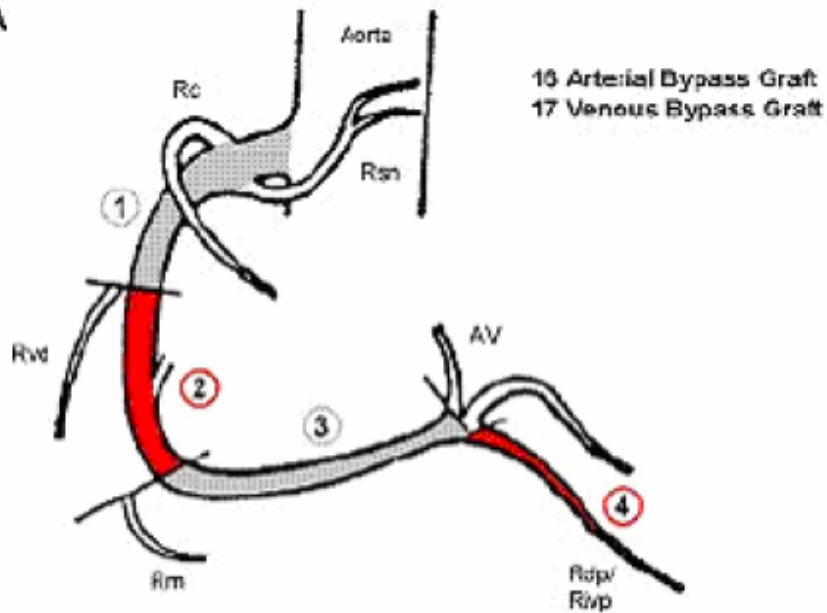
- 5/2006: WG decision
- 7/2006: Funding for the initial phase
- 9/2006: Collaboration with Philip Lees (Webmaster)
- 12/2006: Early design of database
- 3/2007: Testing version in a separate domain (Phase I)
- 7/2007: Phase II – Pilot cases entry (>300 patients, 9 centers)
- 2/2008: Phase III – Official start of Registry retrospectively from 1/1/2008 with a 3-5 year plan (>2500 patients entered so far)
- 2/2010: 2 year completion – Decision about further continuation with existing participation - Data analysis

# Tables (8)

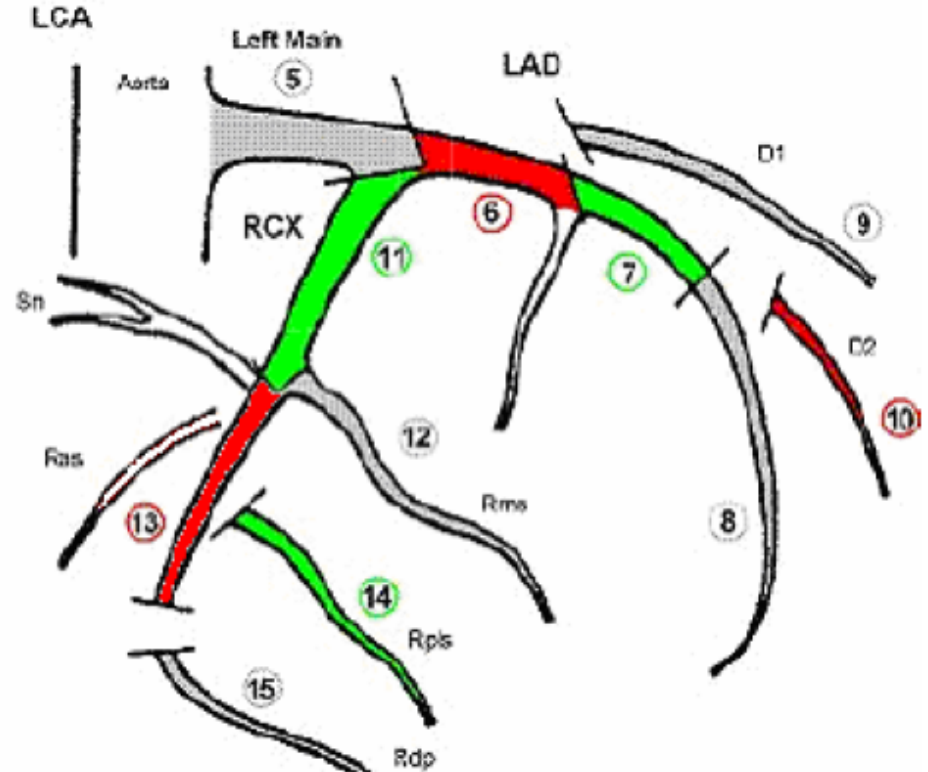
- Patient (Automatic entry ID-Demographics-Patient initials)
- Workup (History-Risk factors-Indication-Times-Admission Medications)
- PCI Angiogram (Angiographic findings based on the 15-segment model of ESC)
- PCI Procedure (Periprocedural medications-Additional diagnostic or therapeutic devices-Complications)
- PCI Lesions (Lesion characteristics-PCI device-Result)
- Outcome (In-hospital outcome)
- Follow up (1 year/3 years/5 years)
- Submit (Automatic initial validation)

# ESC 15 Segment Model

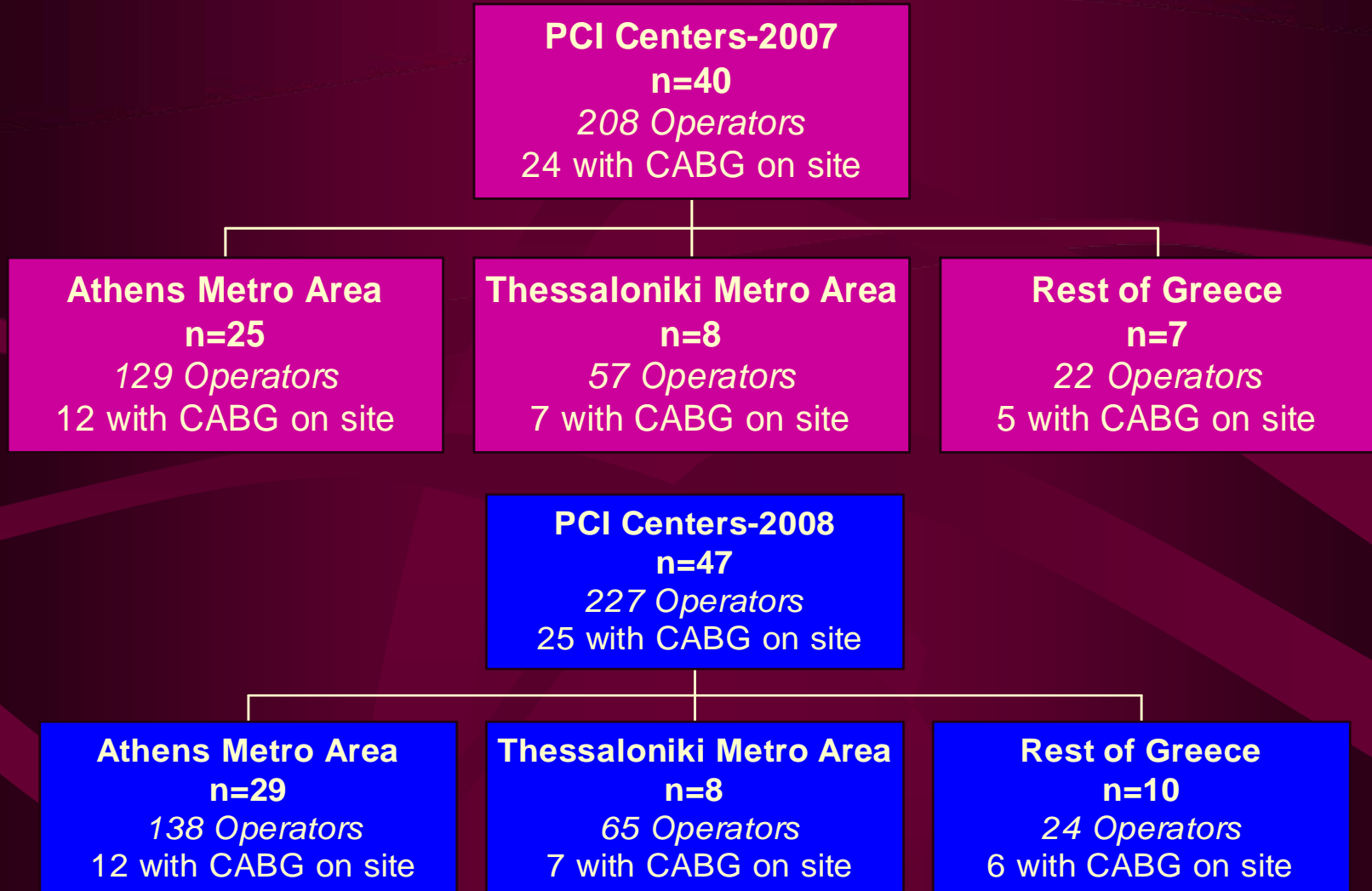
RCA



LCA



# Centers/Operators/CABG on site: 2007 & 2008





# New PCI Centers: 2008 & 2009

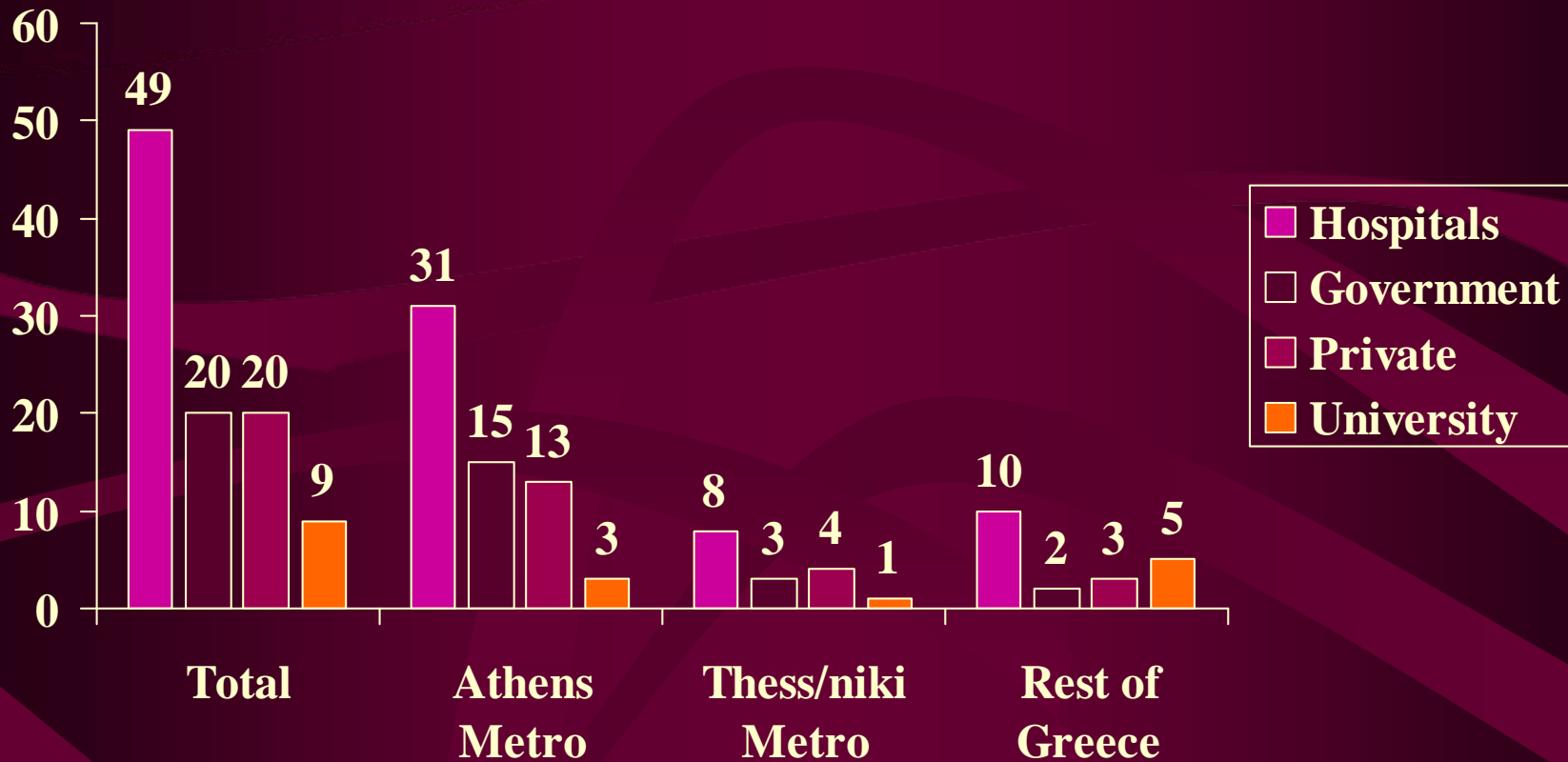
**New PCI Centers**  
**n=9**  
1 with CABG on site

**Athens Metro Area**  
**n=6**  
0 with CABG on site

**Thessaloniki Metro Area**  
**n=0**  
0 with CABG on site

**Rest of Greece**  
**n=3**  
1 with CABG on site

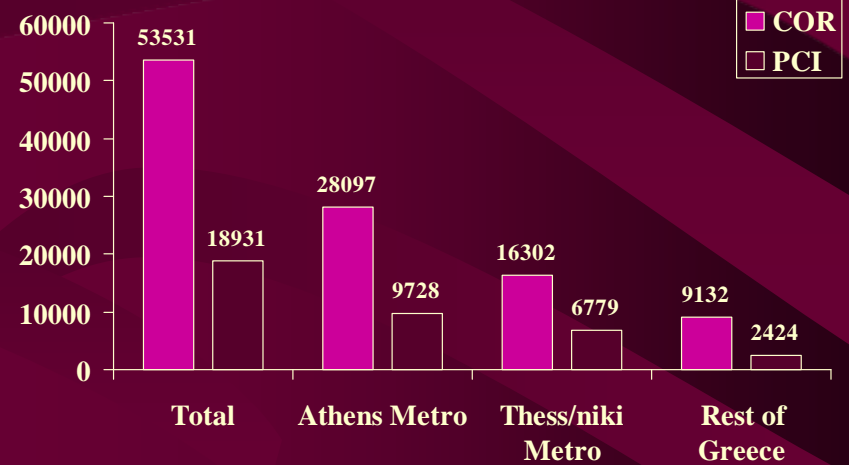
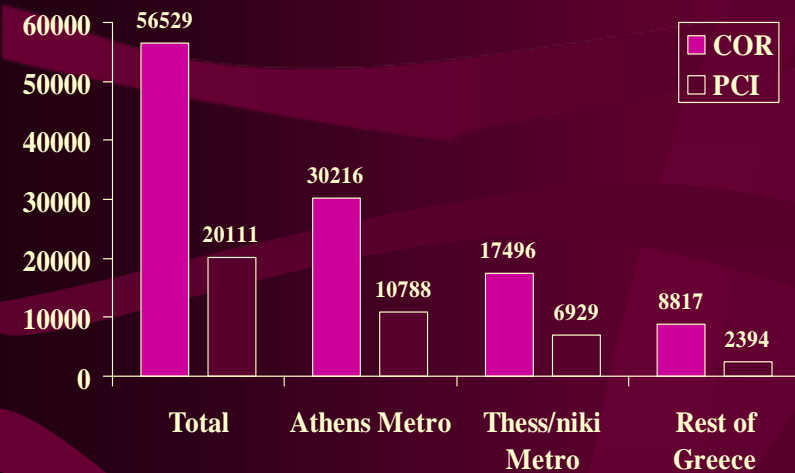
# PCI Centers: 2009 Status



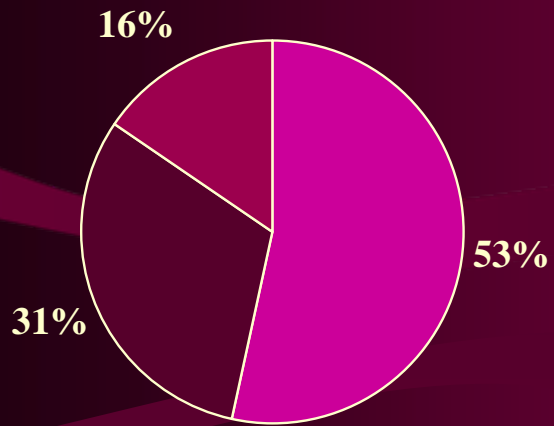
# COR/PCI Procedures: 2007 & 2008

2007

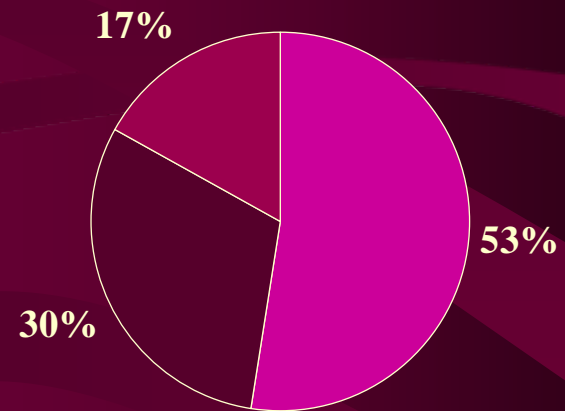
2008



# COR Procedures: 2007 & 2008

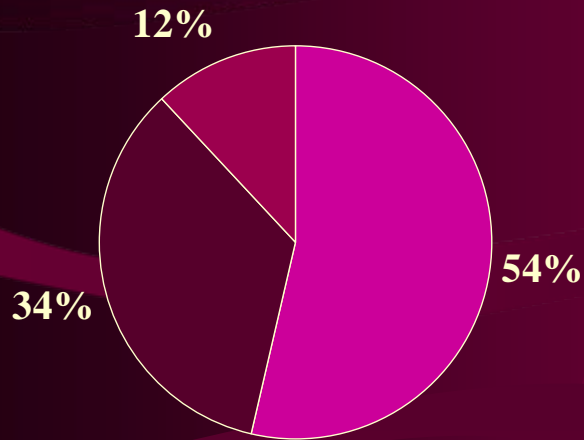


2007

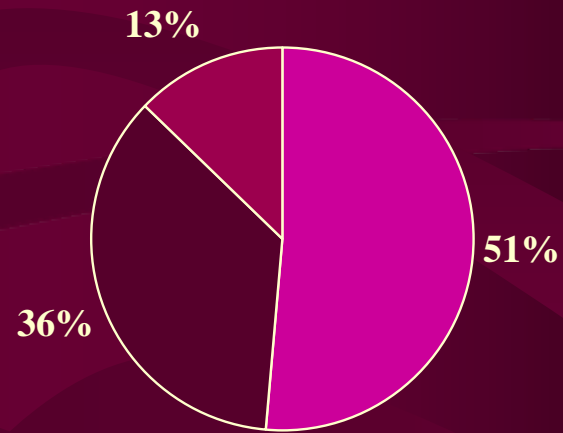


2008

# PCI Procedures: 2007 & 2008



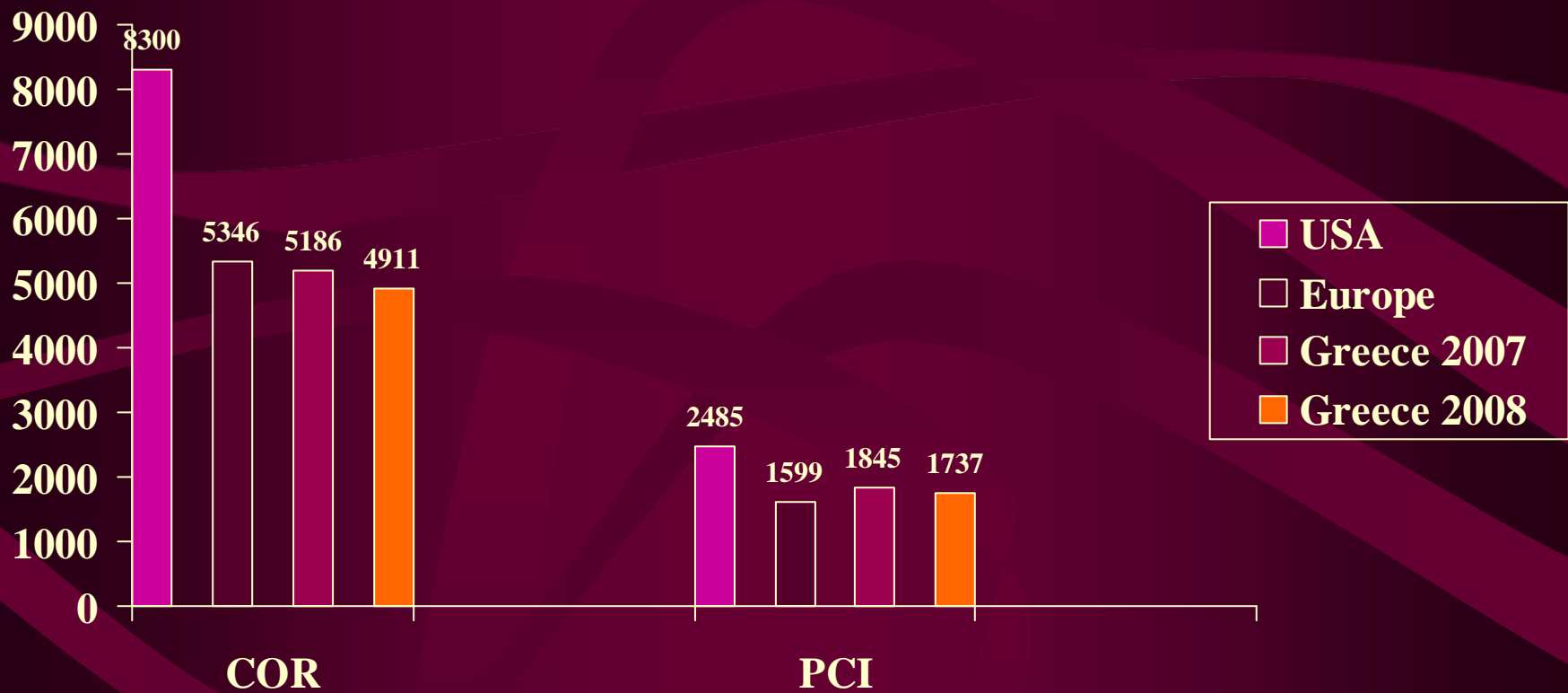
2007



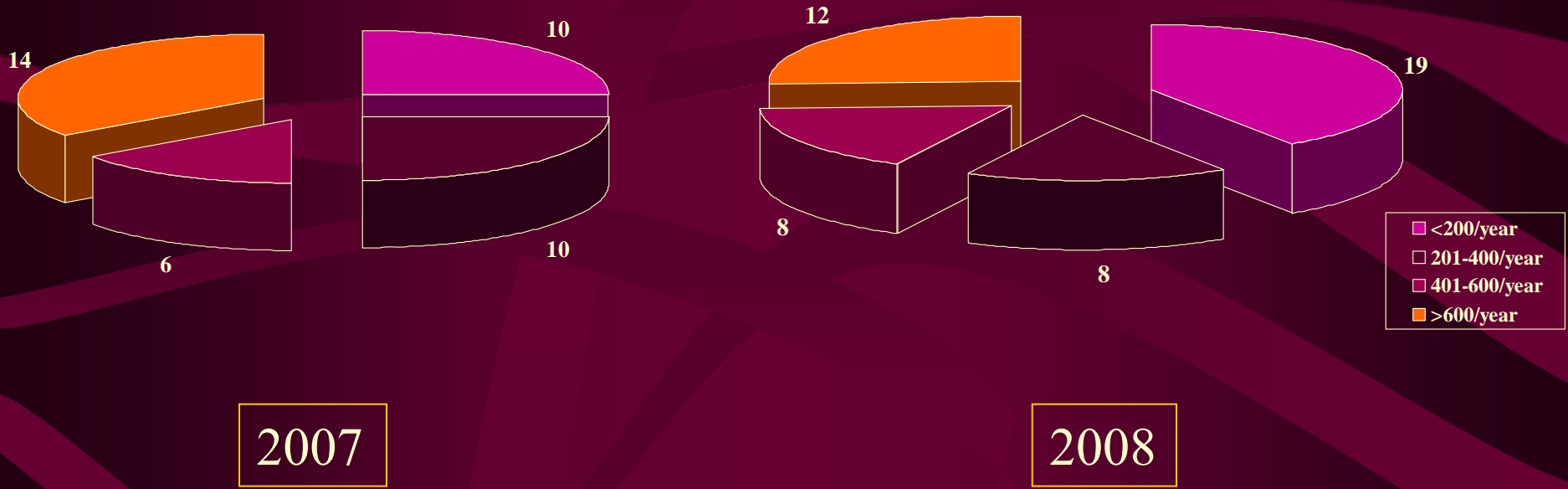
2008



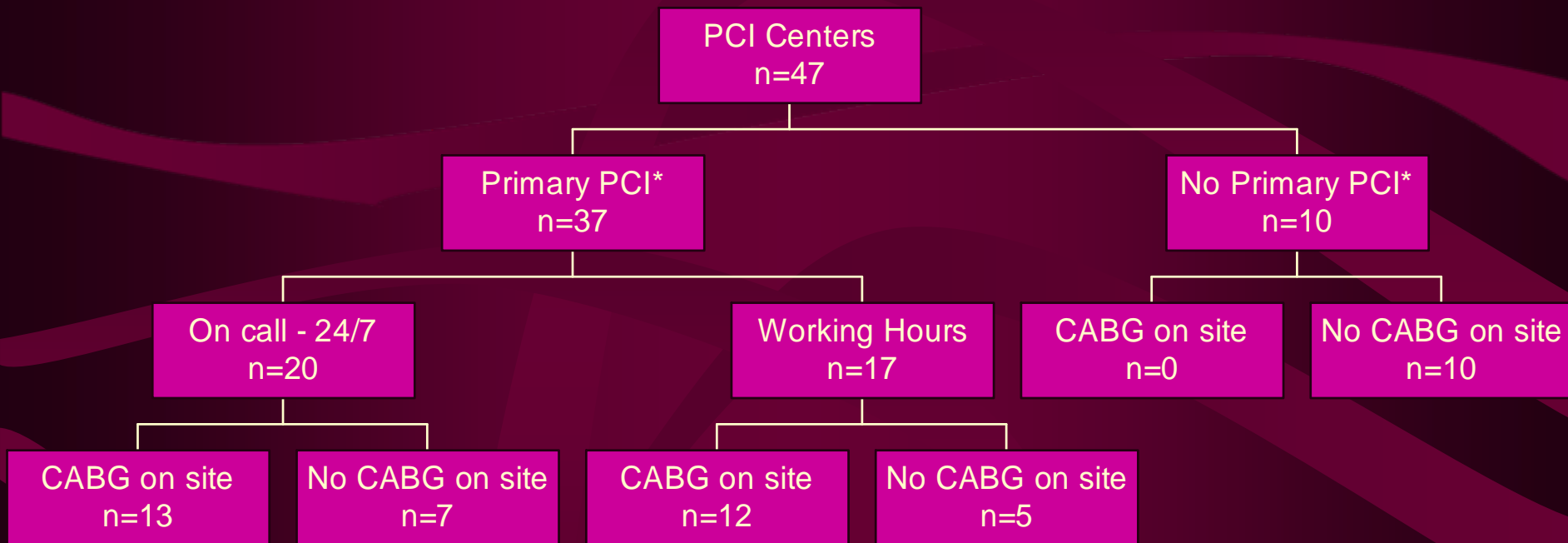
# COR & PCI Procedures / 10<sup>6</sup> population: 2007 & 2008 (10,9 million)



# PCI Volume per Center: 2007 & 2008



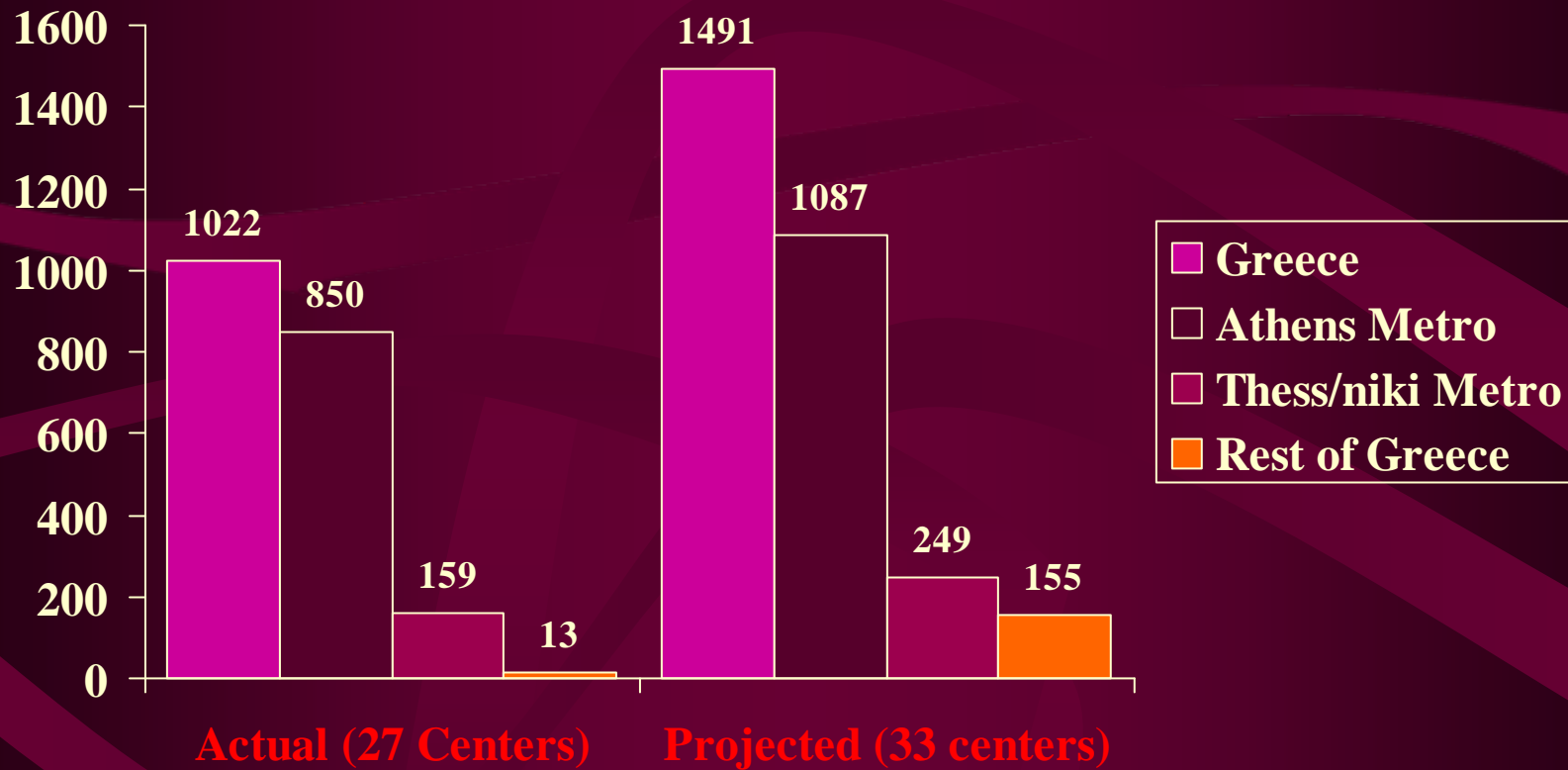
# PCI Centers & Primary PCI - 2008



\*Technical ability to perform primary PCI

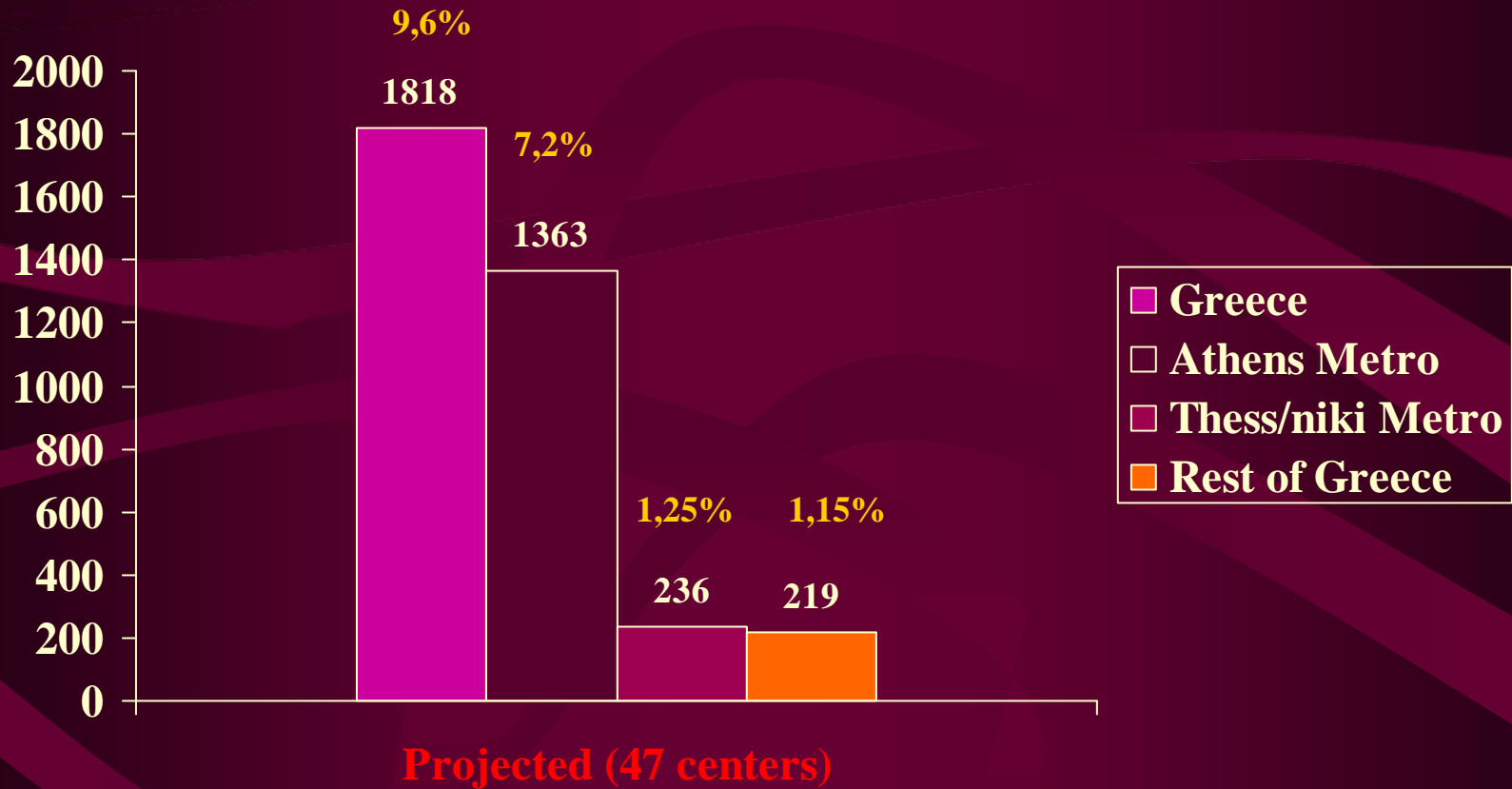


# Primary PCI numbers\*: 2007



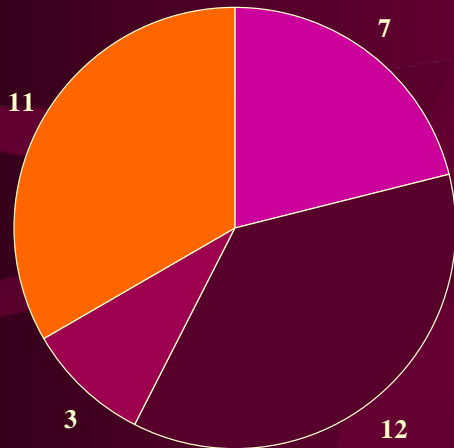
\* Data from 27 Centers (6 Centers with data missing )

# Primary PCI numbers: 2008

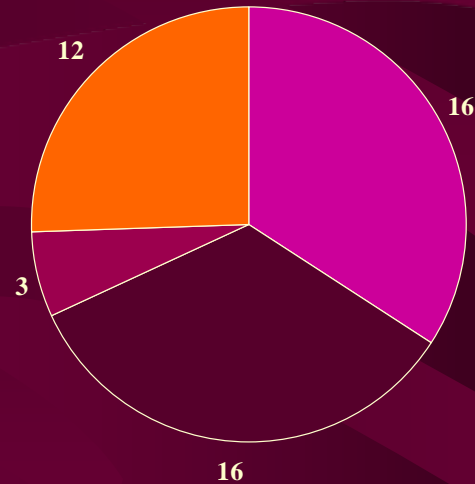


# Volume of Primary PCI per Center

2007



2008



# Hellenic PCI Registry (2/2008-10/2009)

n=2654 patients: **Demographics**

<b>Males</b>	2221 (83.6%)
<b>Females</b>	433 (16.4%)
<b>Age</b>	64.1 ± 10.8
<b>Height</b>	169.9 ± 10.8
<b>Weight</b>	81.6 ± 14.6
<b>BMI</b>	28.6 ± 1.2

# Hellenic PCI Registry (2/2008-10/2009)

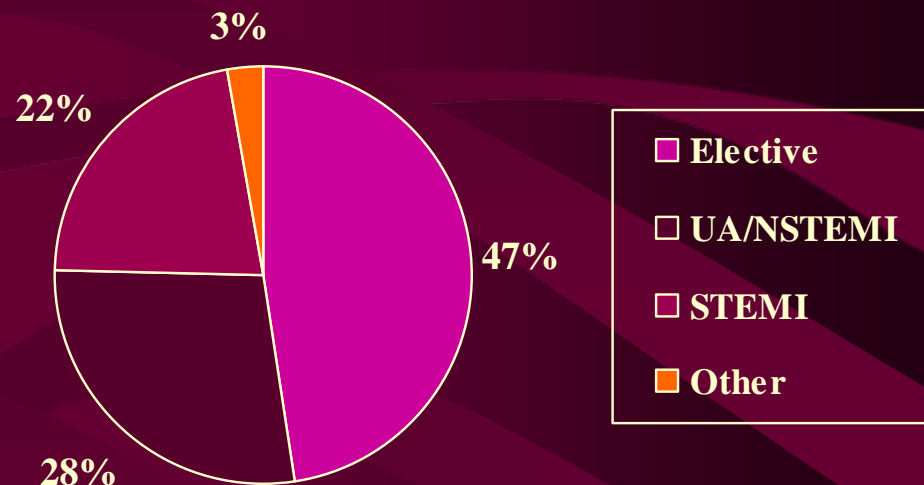
n=2654 patients: Demographics

<b>Hx Stable Angina</b>	734 (27.6%)
<b>Hx Prior MI</b>	660 (24.9%)
<b>Hx CVA</b>	51 (1.9%)
<b>Hx PVD</b>	132 (5%)
<b>Hx of CRF</b>	66 (2.5%)
<b>Hx Prior PCI</b>	543 (20.5%)
<b>Hx Prior CABG</b>	225 (8.5%)
<b>Current Smokers</b>	1007 (37.9%)
<b>Former Smokers</b>	828 (31.2%)
<b>Current Diabetes</b>	781 (29.4%)
<b>Hypertension</b>	1792 (67.5%)
<b>Dyslipidemia</b>	1767 (66.5%)

# Hellenic PCI Registry (2/2008-10/2009)

n=2654 patients: PCI Indication

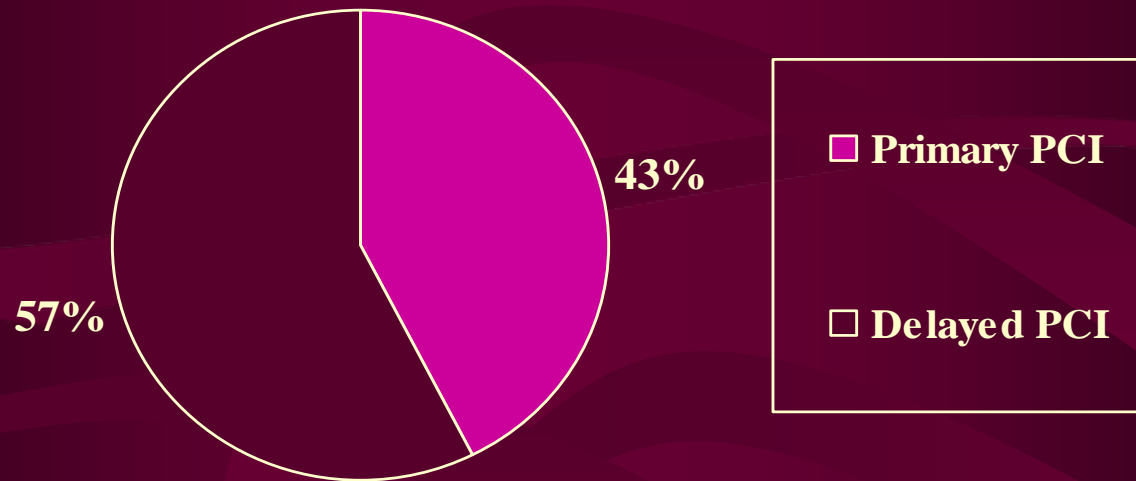
<b>Elective PCI*</b>	1261 (47.5%)
<b>ACS (UA/NSTEMI)</b>	313 (11.8%)
<b>STEMI</b>	248 (9.3%)
<b>ACS stabilized</b>	426 (16.1%)
<b>STEMI stabilized</b>	334 (12.6%)
<b>Other</b>	72 (2.7%)



\*Stable angina/documentated ischemia

# Hellenic PCI Registry (2/2008-10/2009)

## n=582 STEMI patients: Type of Therapy



<b>Thrombolytic Rx</b>	186 (31.9%)
<b>Primary PCI</b>	248 (43%)
<b>Post STEMI PCI</b>	334 (57%)

# Hellenic PCI Registry (2/2008-10/2009)

n=2654 patients: Angio Data

<b>EF &gt;50%</b>	1866 (70.4%)
<b>30%≤EF≤50%</b>	457 (17.2%)
<b>EF&lt;30%</b>	110 (4.1%)
<b>EF Unknown</b>	221 (8.3%)
<b>LM&gt;50%</b>	73 (2.7%)
<b>1VD</b>	1354 (51%)
<b>2VD</b>	838 (31.6%)
<b>3VD</b>	462 (17.4%)
<b>Treated LM</b>	9 (0.3%)
<b>Treated LAD</b>	1357 (51.1%)
<b>Treated CX</b>	847 (31.9%)
<b>Treated RCA</b>	1055 (39.8%)
<b>Treated by-pass graft</b>	58 (2.2%)



# Hellenic PCI Registry (2/2008-10/2009)

n=2654 patients: PCI Data

<b>Femoral Access</b>	2436 (91.8%)
<b>Radial Access</b>	110 (4.2%)
<b>IVUS</b>	59 (2.2%)
<b>Pressure wire</b>	38 (1.4%)
<b>IABP</b>	7 (0.2%)
<b>Distal Protection</b>	12 (0.4%)
<b>Thrombectomy</b>	112 (4.2%)

# Hellenic PCI Registry (2/2008-10/2009)

n=2654 patients: PCI Data

<b>Type A lesion</b>	14%
<b>Type B lesion</b>	63%
<b>Type C lesion</b>	27%
<b>Mean No stents per lesion</b>	1.2
<b>Mean stent size (mm)</b>	2.8
<b>Mean stent length (mm)</b>	17.4
<b>BMS stenting</b>	40.7%
<b>DES stenting</b>	59.3%
<b>Clopidogrel 300 mg</b>	1994 (75%)
<b>Clopidogrel 600 mg</b>	597 (22.5%)
<b>GP IIbIIIa inhibitors</b>	355 (13.4%)

# Hellenic PCI Registry (2/2008-10/2009)

n=2654 patients: Complications & Outcomes

<b>Periprocedural complications</b>	85 (3.2%)
<b>Acute segment closure</b>	19 (0.7%)
<b>Side branch occlusion</b>	25 (0.9%)
<b>Distal embolization</b>	13 (0.5%)
<b>No flow/slow flow</b>	26 (1%)
<b>In hospital death</b>	6 (0.2%)*
<b>Periprocedural MI</b>	18 (0.7%)*
<b>Periprocedural CVA</b>	7 (0.3%)
<b>Stent thrombosis</b>	9 (0.3%)
<b>Repeat PCI</b>	16 (0.6%)
<b>Emergency CABG</b>	7 (0.3%)
<b>Major bleed</b>	15 (0.6%)
<b>Renal failure</b>	7 (0.3%)

\* 1.2% ESC PCI Registry

# Difficulties & Problems

- Motivation of physicians (multifactorial)
- Politics
- Clear understanding of the role and the benefits of the registry with broad participation in analyses
- Establish a structure especially in high-volume centers for secretarial help
- Loss of enthusiasm of existing users if a wide participation can not be achieved
- **Minimal increase in participation in year 2008**

# 2010 Proposal to WG

- Continue keeping the existing structure of the Database (web site – server)
- Complete a 2 year recording (2/2010)
- Perform analyses of the data and f/u
- Discussion in the WG regarding ways to expand participation for further continuation of the Database

# EAPCI Data

- ESC effort to collect “minimal” basic interventional data – effort to record practices and patterns across Europe (obligatory)
- Started in 2006 – Data submitted for 2007 & 2008
- 2009 data should be collected in a more precise pattern retrospectively
- Monthly forms created for 2010 (prospective collection)
- **We should all participate!**

# EAPCI Form

Coronary	Please insert 0, if a procedure is not performed in your country, please	
	Number	Not available
Coronary angiography: cases	53531	
PCI: cases	18931	
- multivessel PCI (in 1 session!)	6125	
- PCI of unprotected LM		NA
- PCI for ongoing infarction	1533	
- PCI during diagnostic study (ad hoc)	17998	
- radial/brachial approach	379	
- puncture site closing device		NA
PCI: complications		NA
- infarction after PCI (by any definition)		NA
- emergency CABG after PCI		NA
- in-hospital death after PCI		NA
Stent: cases	18135	
- multiple stents		NA
- drug-eluting stents	12948	
Directional atherectomy		NA
Rotablator		NA
Laser catheter/wire		NA
Brachytherapy		NA
Clot catcher/ clot remover		NA
Intracoronary pressure registration	284	
Intracoronary doppler		NA
Intracoronary ultrasound	965	
Intracoronary OCT		NA
Intra-aortic balloon pump during PCI	267	
Percutaneous left ventricular assist pump	0	
Other devices	0	
GP IIb/IIIa antagonist	3325	
Ionic low-osmolar contrast medium		NA
Nonionic contrast medium		NA
Iliac or leg artery intervention		NA
Renal artery intervention		NA
Carotid artery intervention		NA

2008 Country Summary		Not available
Country	Greece	
Population (in Mio)	10.9	
Representative/Delegate: name	Georgios I. Papaioannou, MD, MPH	
Representative/Delegate: institution	Athens Medical Center	
Representative/Delegate: phone	2106106715	
Representative/Delegate: fax	2106862270	
Representative/Delegate: e-mail	gpapaio@otenet.gr	
Catheterization centers (number)	47	
- diagnostic only:	0	
- diagnostic and interventional:	47	
- cath rooms:	71	
- cath operators:	238	
PCI operators:	205	
PCI centers with cardiac surgery:	25	
PCI centers with cardiac database:	5	
Regional/National database:	Y	

Other		
Alcohol ablation for septal hypertrophy		NA
Mitral valvuloplasty (interventional)		NA
Aortic valvuloplasty (interventional)		NA
Pulmonary valvuloplasty (interventional)		NA
Percutaneous Mitral Valve Repair		NA
Transcatheter Aortic Valve Replacement		NA
Transcatheter Pulmonary Valve Replacement		NA
PDA closure by catheter		NA
PFO closure by catheter	80	
ASD closure by catheter	165	
VSD closure by catheter		NA
Coarctation angioplasty		NA
Left atrial appendage closure		NA



# Hellenic Heart Registry on Percutaneous Coronary Interventions

- Link: <http://registry.hellenicpci.gr/>
- Επικοινωνία:
  - [admin@hellenicpci.gr](mailto:admin@hellenicpci.gr)
  - [gpaio@otenet.gr](mailto:gpaio@otenet.gr)
  - [athanasios\\_kotsanis@hotmail.com](mailto:athanasios_kotsanis@hotmail.com)
  - [ananou@cc.uoi.gr](mailto:ananou@cc.uoi.gr)

Thank you for your participation!