



# Hellenic PCI Registry (2008-2011)

## Περιεχόμενο και αναγκαιότητα διατήρησης Registry Αγγειοπλαστικής

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

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

Athens Medical Center

Cardiac Catheterization Laboratory

18/2/2012

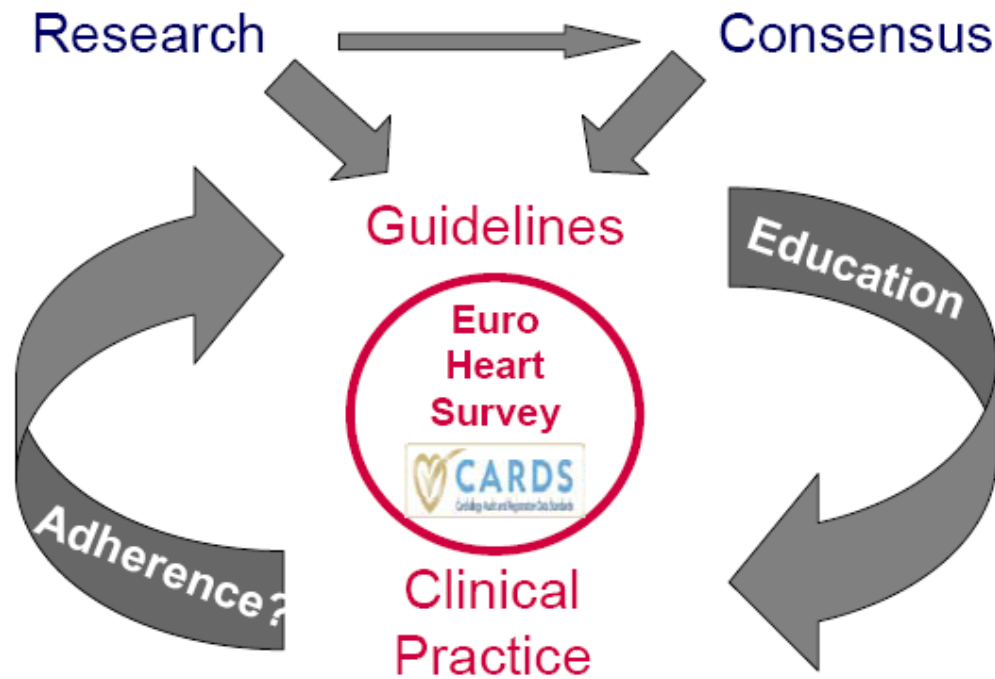
# Aim of the Hellenic PCI Registry (2008-2011)

- 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 -



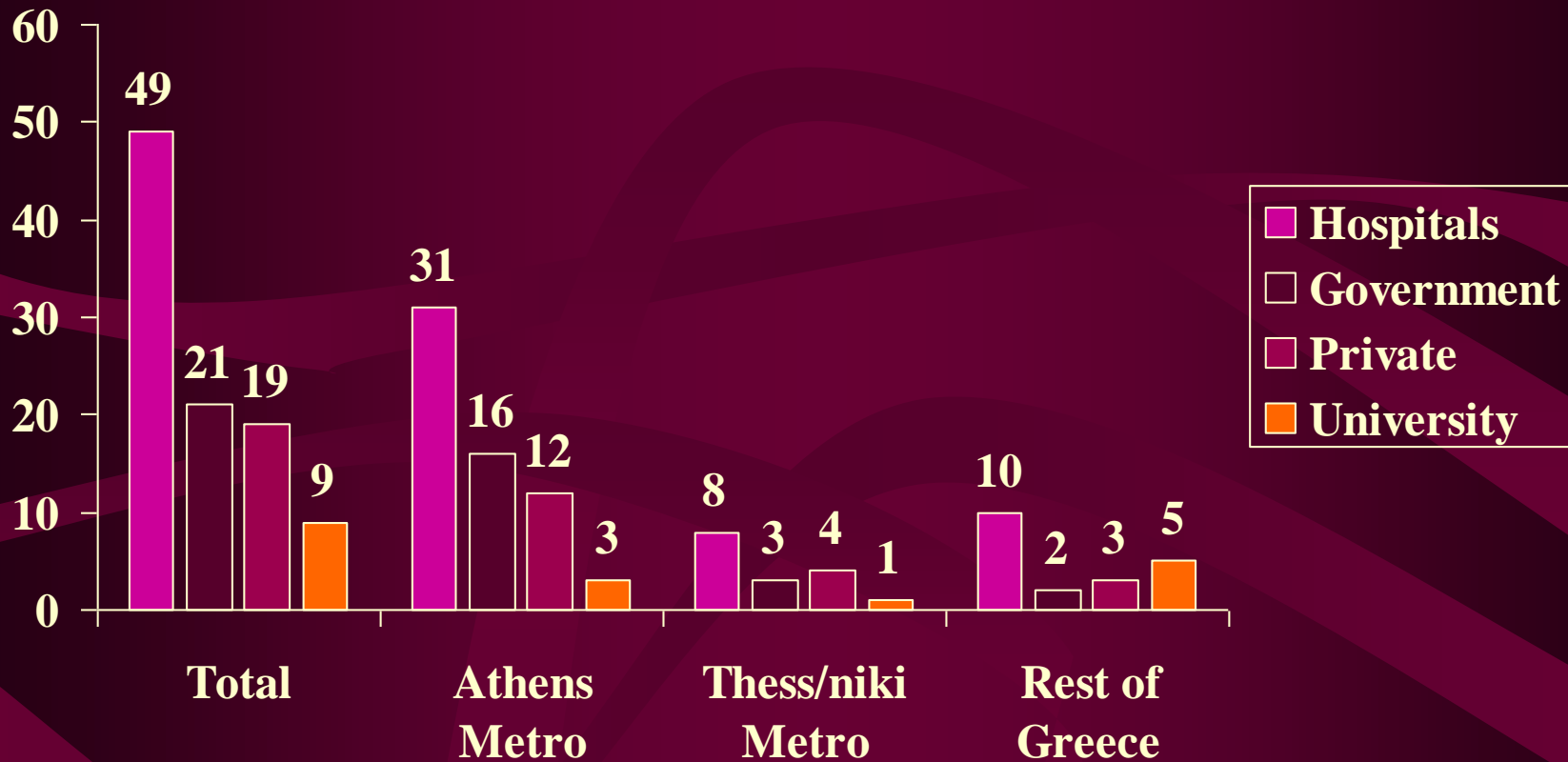
# Timetable of the PCI Registry

- 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)
- 2/2011: **3 year completion** – Analyses of more than 4000 entries (**National/Hospital/User level**)

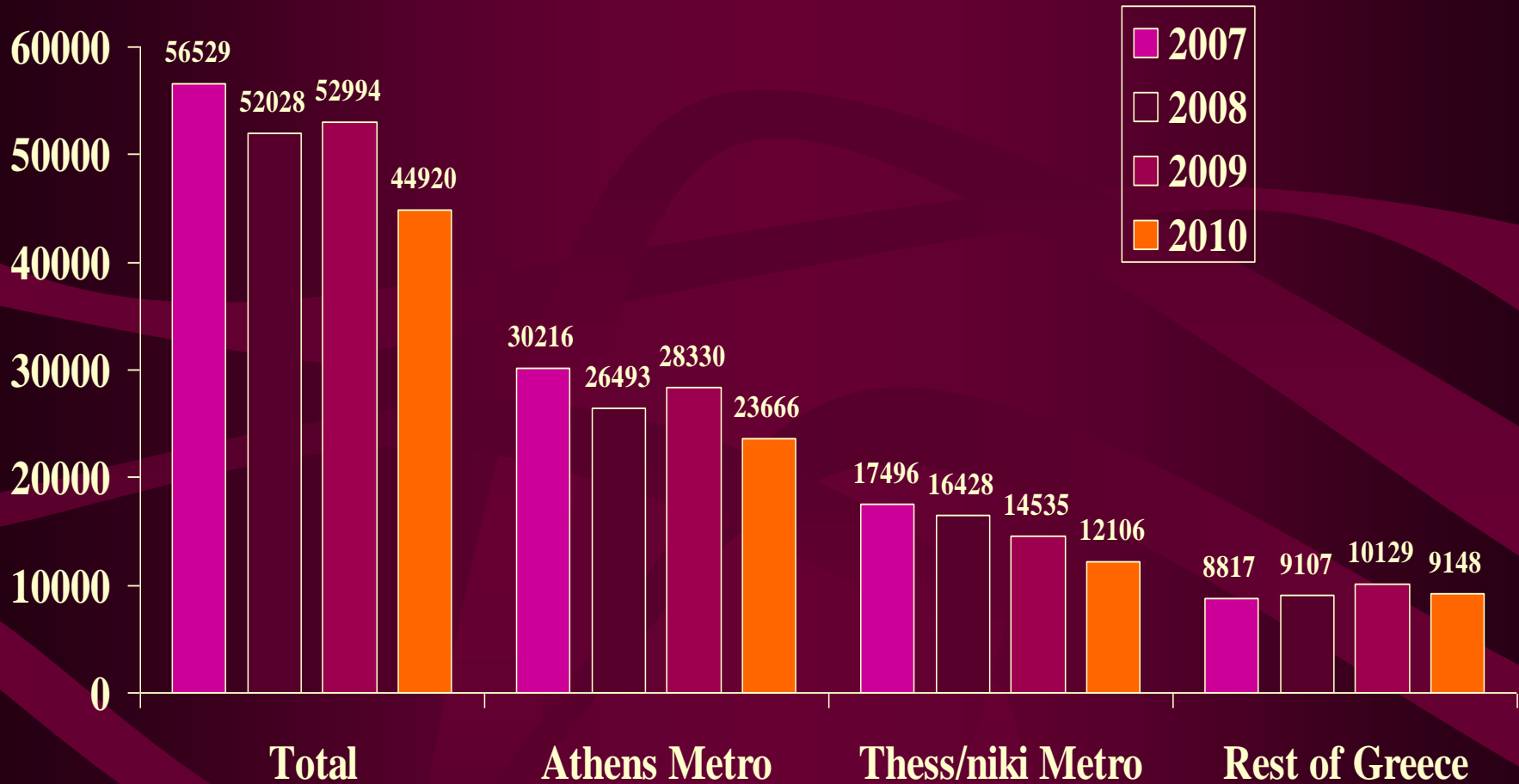
# Tables (8)

- 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)

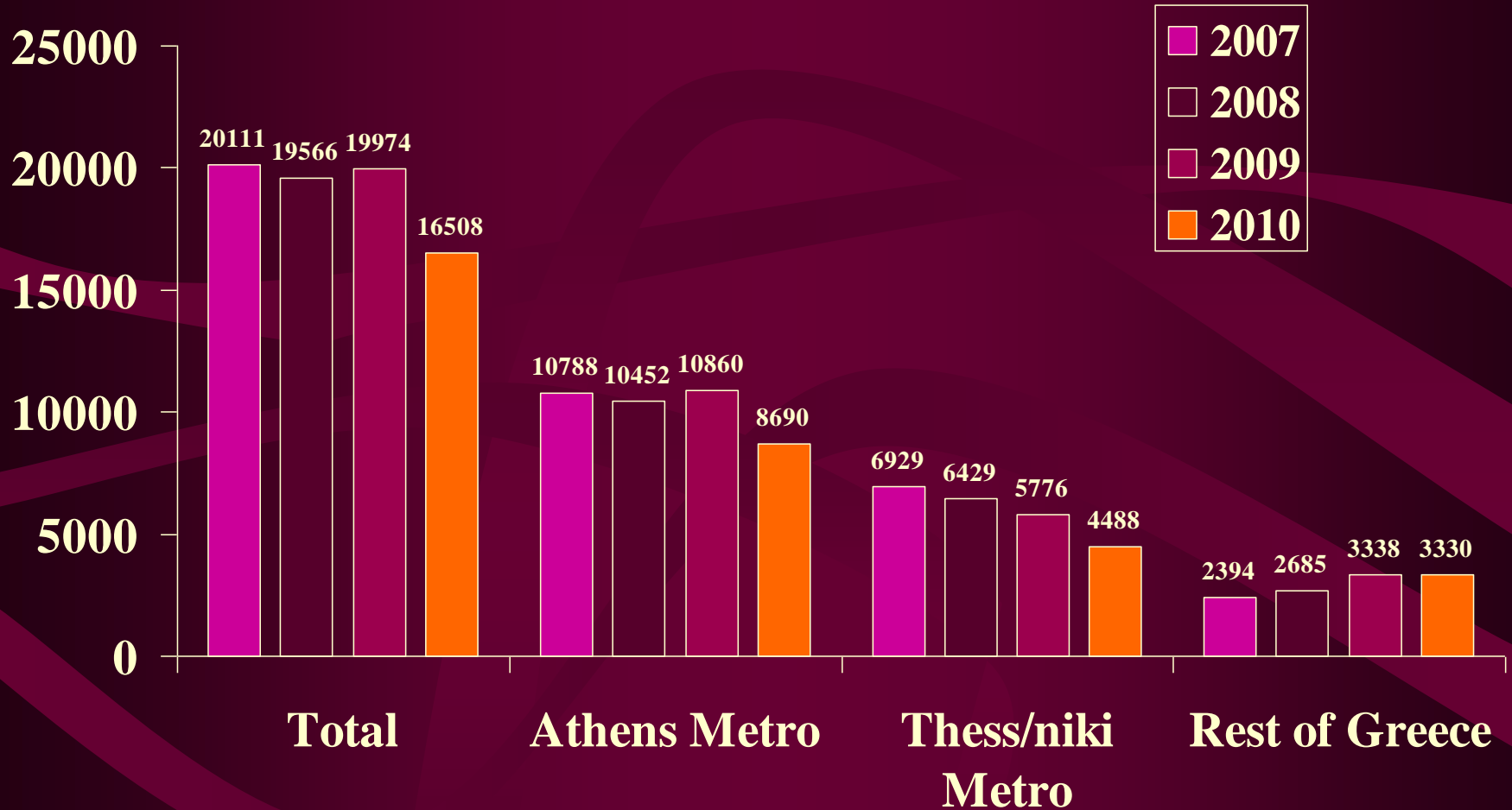
# PCI Centers: 2011



# COR Procedures 2007-2010

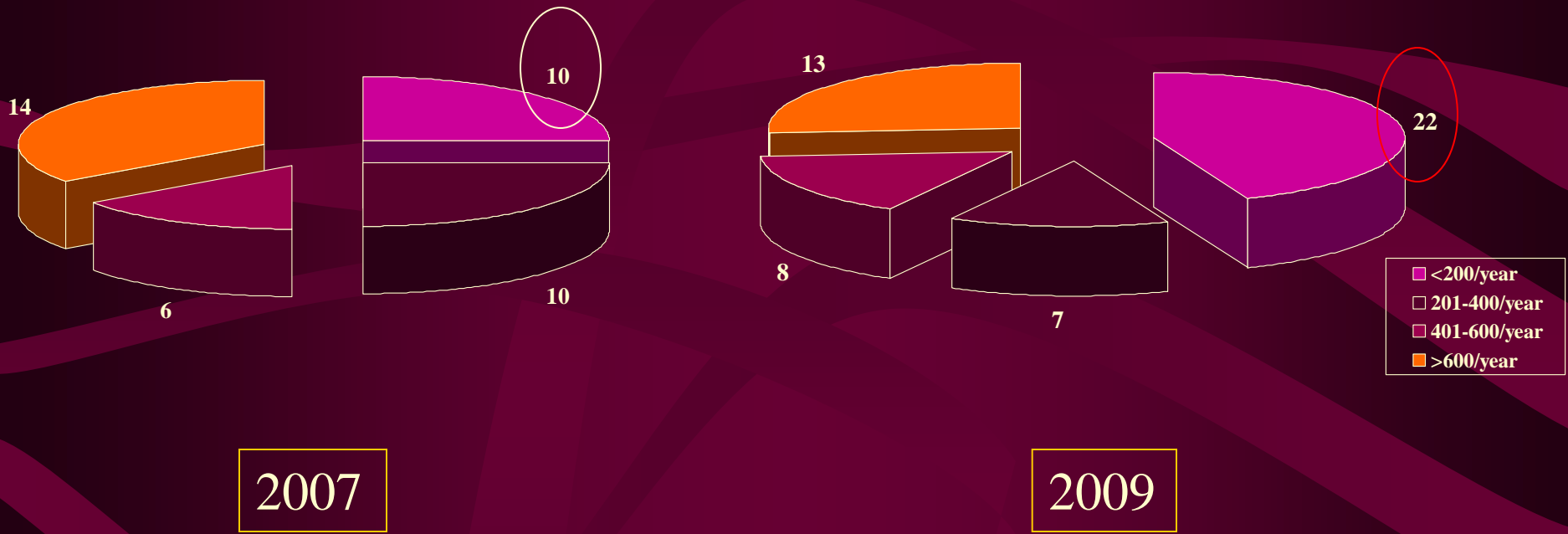


# PCI Procedures 2007-2010

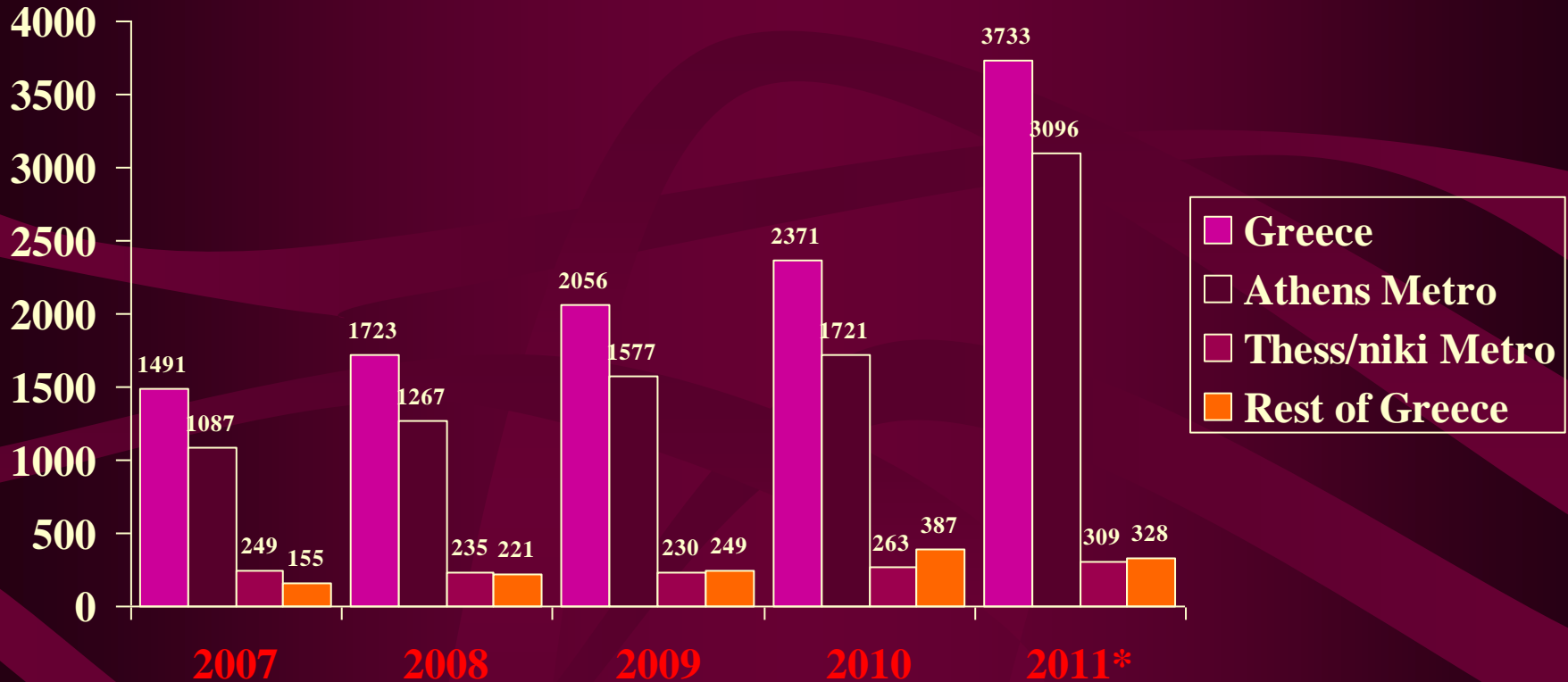




# PCI Volume per Center: 2007-2009



# Primary PCI numbers: 2007-2011



\*2011: Estimated numbers

# Hellenic PCI Registry (2/2008-10/2010)

n=3441 validated patients: Demographics

<b>Males</b>	2859 (83.1%)
<b>Females</b>	582 (16.9%)
<b>Age</b>	64.1 ± 11.1
<b>Height</b>	169.8 ± 10.8
<b>Weight</b>	81.9 ± 14.9
<b>BMI</b>	27.9 ± 3.9

# Hellenic PCI Registry (2/2008-10/2010)

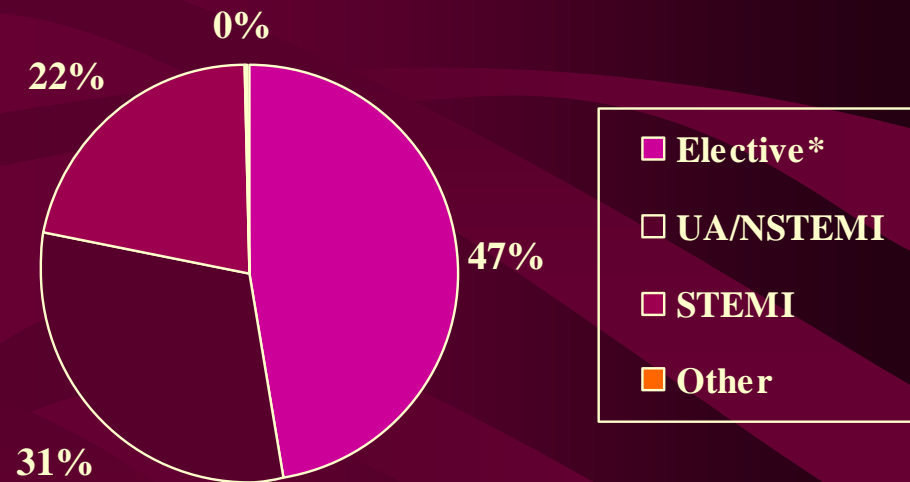
n=3441 patients: Demographics

<b>Hx Stable Angina</b>	877 (25.5%)
<b>Hx Prior MI</b>	797 (23.2%)
<b>Hx CVA</b>	56 (1.6%)
<b>Hx PVD</b>	171 (4,9%)
<b>Hx of CRF</b>	83 (2.4%)
<b>Hx Prior PCI</b>	726 (21.1%)
<b>Hx Prior CABG</b>	225 (9.1%)
<b>Current Smokers</b>	1337 (38.9%)
<b>Former Smokers</b>	1079 (31.4%)
<b>Current Diabetes</b>	1029 (29.9%)
<b>Oral Agents - IDDM</b>	601 - 172 (17.5% - 4.9%)
<b>Hypertension</b>	2392 (69.5%)
<b>Dyslipidemia</b>	2311 (67.1%)

# Hellenic PCI Registry (2/2008-10/2010)

n=3441 patients: PCI Indication

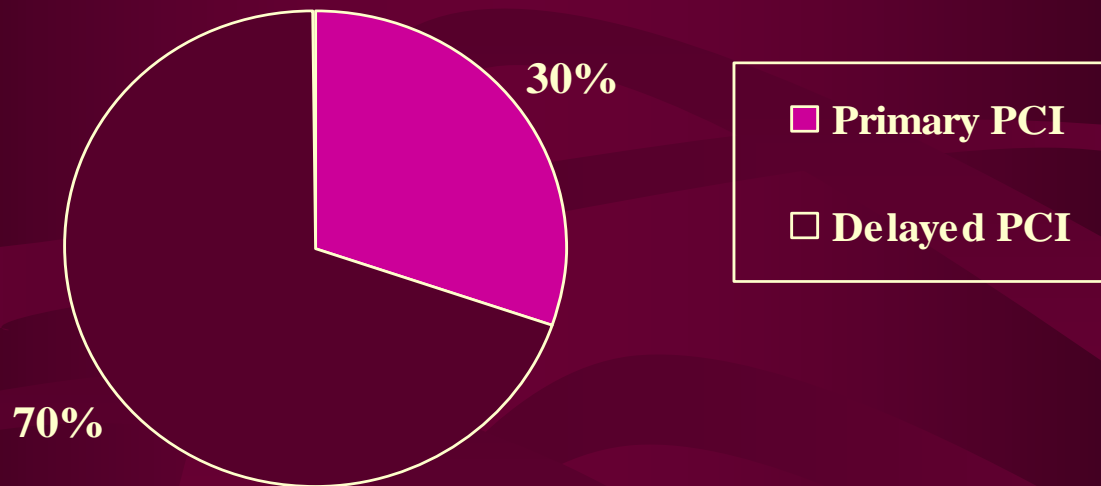
<b>Elective PCI*</b>	1622 (47.1%)
<b>ACS (UA/NSTEMI)</b>	441 (12.8%)
<b>STEMI</b>	284 (8.3%)
<b>ACS stabilized</b>	622 (18.1%)
<b>STEMI stabilized</b>	458 (13.3%)
<b>Other</b>	14 (0.4%)



\*Stable angina/documentated ischemia

# Hellenic PCI Registry (2/2008-10/2010)

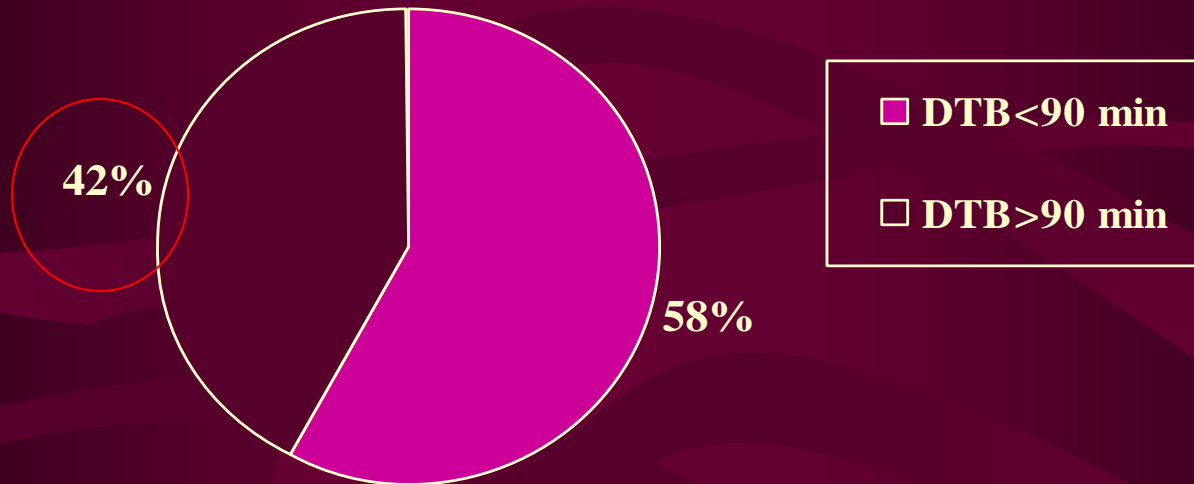
## n=742 STEMI patients: Type of Therapy



<b>Thrombolysis prior PCI</b>	267 (35.9%)
<b>Primary PCI</b>	225 (30.3%)
<b>Delayed PCI</b>	517 (69.7%)

# Hellenic PCI Registry (2/2008-10/2010)

## n=225 STEMI Primary PCI Patients: Times



<b>Mean symptom to door (min)</b>	249
<b>Mean door to balloon (min)</b>	140
<b>Door to balloon &lt; 120 min</b>	147 (65.3%)
<b>Door to balloon &lt; 90 min</b>	130 (57.7%)

# Hellenic PCI Registry (2/2008-10/2010)

n=3441 patients: Angio Data

<b>EF &gt;50%</b>	2460 (71.5%)
<b>30%≤EF≤50%</b>	647 (18.7%)
<b>EF&lt;30%</b>	84 (2.5%)
<b>EF Unknown</b>	250 (7.3%)
<b>LM&gt;50%</b>	93 (2.7%)
<b>1VD</b>	1754 (51%)
<b>2VD</b>	1087 (31.6%)
<b>3VD</b>	598 (17.4%)
<b>Cardiogenic Shock</b>	18 (0.5%)
<b>Treated LM</b>	67 (1.2%)
<b>Treated LAD*</b>	2189 (39.6%)
<b>Treated CX*</b>	1440 (26.1%)
<b>Treated RCA*</b>	1825 (33.1%)
<b>Treated by-pass graft</b>	116 (2.1%)

\*Lesions



# Hellenic PCI Registry (2/2008-10/2010)

n=3441 patients: PCI Data

<b>Femoral Access</b>	3299 (95.9%)
<b>Radial Access</b>	109 (3.2%)
<b>IVUS</b>	74 (2.2%)
<b>Pressure wire</b>	67 (1.9%)
<b>IABP</b>	7 (0.2%)
<b>Distal Protection</b>	17 (0.5%)
<b>Thrombectomy</b>	150 (4.3%)
<b>Vascular closure device</b>	1135 (32.9%)

# Hellenic PCI Registry (2/2008-10/2010)

n=3441 patients – 5521 Lesions: **PCI Data**

<b>Type A lesion</b>	637 (11.5%)
<b>Type B lesion</b>	3454 (62.6%)
<b>Type C lesion</b>	1430 (25.9%)
<b>Restenosis - Bifurcation</b>	197 - 799 (3.6% - 14.5%)
<b>Direct stenting</b>	876 (15.9%)
<b>PCI with stent</b>	5161 (93.5%)
<b>Mean number stent(s) per patient</b>	1.74
<b>Mean number stent(s) per lesion</b>	1.14
<b>Mean stent size (mm)</b>	3.08
<b>Mean stent length (mm)</b>	22.08
<b>Multi-segment PCI</b>	3517 (63.7%)
<b>Successful PCI</b>	5378 (97.4%)
<b>BMS stenting*</b>	1060 (19.2%)
<b>DES stenting*</b>	4097 (74.2%)

\* Stent not specified: 362 (6.6%)

# Hellenic PCI Registry (2/2008-10/2010)

n=3441 patients: Concurrent PCI Management

<b>Clopidogrel prior PCI</b>	2051 (59.6%)
--- <b>300 mg</b>	1765 (51.3%)
--- <b>600 mg</b>	286 (8.3%)
--- <b>&lt;6 hrs</b>	626 (30.5%)
--- <b>&gt;6 hrs</b>	1425 (59.5%)
<b>Clopidogrel during PCI</b>	1364 (39.6%)
--- <b>300 mg</b>	857 (62.8%)
--- <b>600 mg</b>	507 (37.2%)
<b>GIIbIIIa inhibitors (upstream)</b>	99 (2.9%)
<b>GIIbIIIa inhibitors (procedural)</b>	383 (11.1%)

# Hellenic PCI Registry (2/2008-10/2010)

## n=3441 patients: Complications & Outcomes

<b>Periprocedural complications</b>	105 (3.1%)
<b>Acute segment closure</b>	21 (0.6%)
<b>Side branch occlusion</b>	28 (0.8%)
<b>Distal embolization</b>	12 (0.3%)
<b>Coronary perforation</b>	13 (0.4%)
<b>No flow/slow flow</b>	31 (0.9%)
<b>In hospital death</b>	18 (0.5%)*
<b>Periprocedural MI</b>	35 (1.0%)*
<b>Periprocedural CVA</b>	15 (0.4%)
<b>MACE (Death/MI/CVA)</b>	65 (1.9%)
<b>Stent thrombosis</b>	15 (0.4%)
<b>Repeat PCI</b>	16 (0.5%)
<b>Emergency CABG</b>	4 (0.1%)
<b>Major bleed</b>	21 (0.6%)
<b>Renal failure</b>	11(0.3%)

\* 1.2% ESC PCI Registry for Death and MI

# Hellenic PCI Registry (2009-2010)

n=2191 validated patients: Outcomes\*

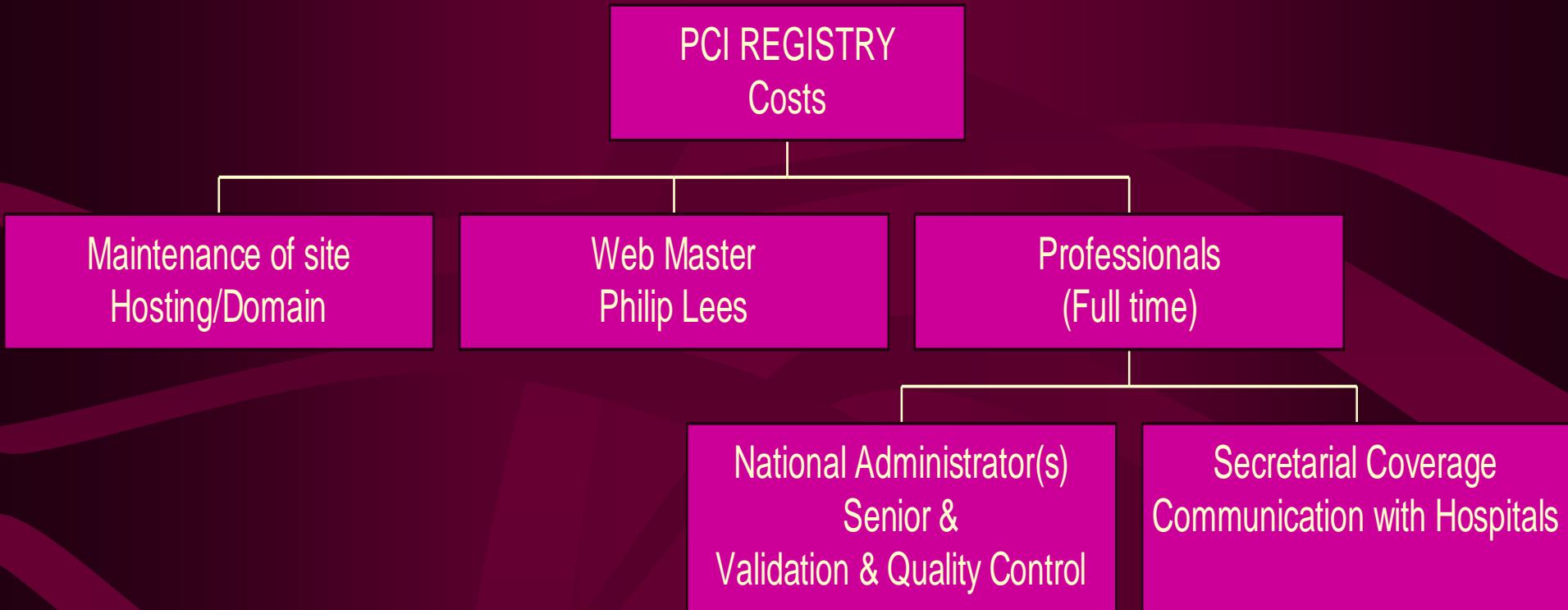
<b>Death</b>	15 (0.7%)
<b>Myocardial Infarction</b>	22 (1.0%)
<b>CVA</b>	9 (0.4%)
<b>MACE</b>	44 (2.0%)

**\*Improved reporting of outcomes (mainly death) as Registry evolves – Pending non-validated entries in 2010 with outcomes**

# Registry General Issues

- National vs Regional
- “Selective” National
- “Selective” Regional
- Individual Hospital
  - Type of information / patients (?ACS only)
  - Amount of information
  - Obligation of filling

# Financial Issues



# Registry Benefits

- Data on all patients having PCI
- Data on ACS – Stent-for-life initiative
- Type of care – Areas of improvement in ACS patients
- Number of operators – Hospitals with Cath Lab facilities – Regional differences
- Type of interventional procedures (expanding to non-coronary cases too)



# 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

# 2012 Proposal to WG

- Continue keeping the existing structure of the Database (web site – server) **with full-time professional(s)**
- Complete a 3 year recording (2/2011) (**done already**)
- Establish software for National/Center/User analysis of entries (in plan)
- Decision regarding a **“Selective” National Registry** with aim to cover representative patients/data across the whole country

# Participating Hospitals (>20 entries)

**IKA Pedelis, Athens (1)\***

**Univ Ioannina (2)\***

**Univ Alexandroulopis (3)\***

Interbalcan Thessaloniki

Univ Patras

Gennimatas, Athens

Athens Medical Center

Euromedica, Thessaloniki

Thriassio, Athens

Metropolitan, Athens

Onassio, Athens

Kyanoys Stavros, Athens

Nikaias, Athens

Iatriko Psyhiko, Athens

**\*Top 3 Hospitals**

## Participating Physicians (Alphabetic order >10 entries)

Achtypis, Dionysis

Alexopoulos, Demetrios

**Arampatzis, Akis (3)**

Avramides, Dimitrios

Davlouros, Periklis

Hahalis, Georgios

Kantzis, Ioannis

Kapetanopoulos, Athanasios

Karanikolas, Nikolaos

Kostopoulos, Konstantinos

Kotsanis, Athanasios

Koutsogiannis, Nikolaos

Maginas, Athanasios

**Michalis, Lambros (1)**

Olympios, Christoforos

Papaioannou, Georgios

Raisakis, Kostis

Routoulas, Theodoros

Sassalos, Costantinos

Sionis, Dimitrios

Skalidis, Manolis

Sourgounis, Angelos

Stefanidis, Ioannis

Stratigis, Nikolaos

Triantis, Georgios

Tsigas, Gregorios

**Tsikaderis, Demetrios**

**Tziakas, Dimitris (2)**