

Statistics regarding interventional cardiology in Poland in 2013. Summary report of the Association of Cardiovascular Interventions of the Polish Cardiac Society (AISN PTK)

Kardiologia interwencyjna w Polsce w liczbach w roku 2013. Raport Zarządu Asocjacji Interwencji Sercowo-Naczyniowych Polskiego Towarzystwa Kardiologicznego (AISN PTK)

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The Board of the Association of Cardiovascular Interventions of the Polish Cardiac Society (AISN PTK) publishes traditional annual pooled data from the National PCI Registry (ORPKI) that draws upon individual data from each invasive cardiology centre in Poland for the year 2013.

In 2013, there were 154 invasive cardiology centres gathering data for the ORPKI Registry (an increase of five centres compared to 2012) and 90% of them had a 24/7 percutaneous coronary intervention (PCI) duty for acute patients. This report describes data from 151 (98.1%) centres; three minor cathlabs did not send their data for 2013. There are currently four catheterisation laboratories per million inhabitants in Poland, which translates to one centre for every 250,000 people. There were 677 independent PCI operators and 578 coronary diagnosticians in Poland in 2013, with 92% of the independent operators having at least one board certification, and 66% one specifically in cardiology. Due to the establishment of a national register of PCI operators, the AISN PTK for the first time in history is capable of presenting exact data concerning the characteristics of invasive cardiologists in Poland as of 2013 (this register is submitted to GIODO).

The number of cathlabs per million inhabitants is presented in Figure 1, both in Poland and in all 16 states of Poland. The highest number is observed in the Świętokrzyskie state.

Compared to 2012, there was a small decrease in the total number of coronary angiographies. There were 216,322 angiographies in 2013 (a decrease of 0.4%). The total number of PCI procedures was 120,084, which was 0.3% more than in 2012 (the PCI/angiography ratio remained stable and was 0.56 in 2013). As much as 54% of all PCI procedures were performed via the radial approach, 50% in ST segment elevation myocardial infarction (STEMI), and 57% in stable angina patients. Figure 2 presents the dynamic shift towards the radial approach in recent years in all patient subgroups. The change in the overall number of coronary angiographies and PCIs in the last ten years is presented in Figures 3 and 4. The number of PCI procedures per million inhabitants puts Poland in the lead in Europe. However, even though an increase in the total number was observed last year, the ratio per million has slightly diminished. In Figures 5 and 6, the numbers of coronary angiographies and PCIs per million inhabitants in 16 states are presented. The Silesian, Lubusz, Opole and Greater Poland states are at the top.

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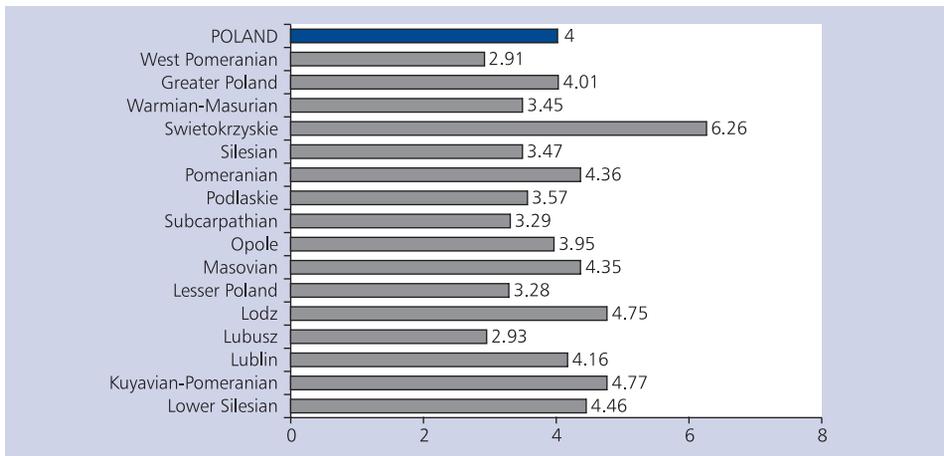


Figure 1. The number of invasive cardiology centres in Poland, per million inhabitants in different provinces
Rycina 1. Liczba pracowni kardiologii inwazyjnej w przeliczeniu na 1 mln mieszkańców w poszczególnych województwach

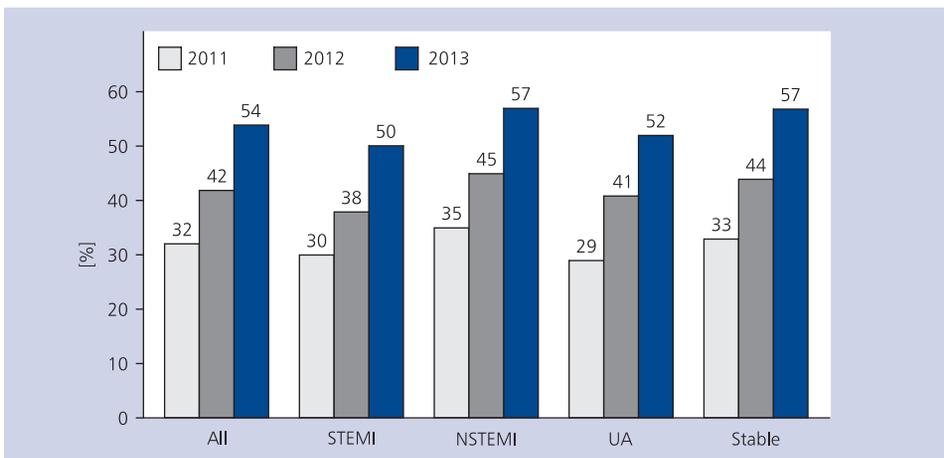


Figure 2. Percentage of radial approach percutaneous coronary interventions in subgroups of patients in 2011–2013; NSTEMI — non ST segment elevation myocardial infarction; STEMI — ST segment elevation myocardial infarction; UA — unstable angina
Rycina 2. Odsetek angioplastyk wieńcowych wykonywanych z dostępu promieniowego w poszczególnych grupach rozpoznaw w latach 2011–2013

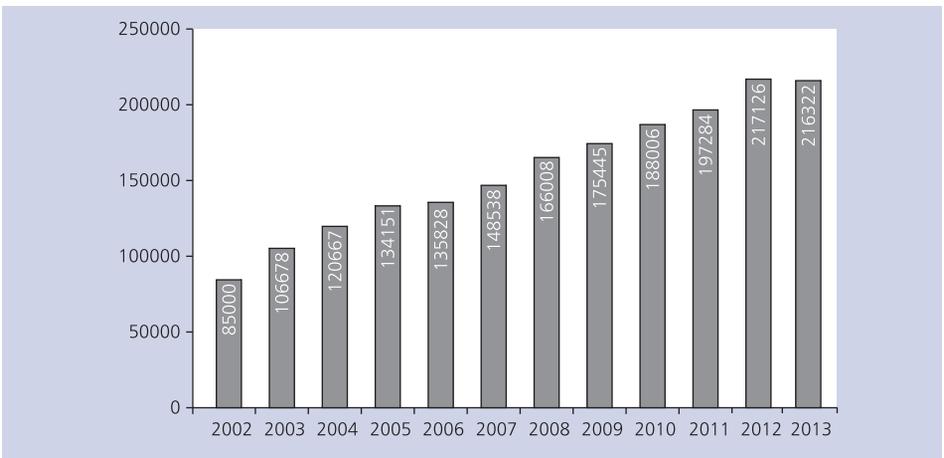


Figure 3. The number of coronary angiography procedures in Poland 2002–2013
Rycina 3. Zabiegi koronarografii w Polsce w latach 2002–2013

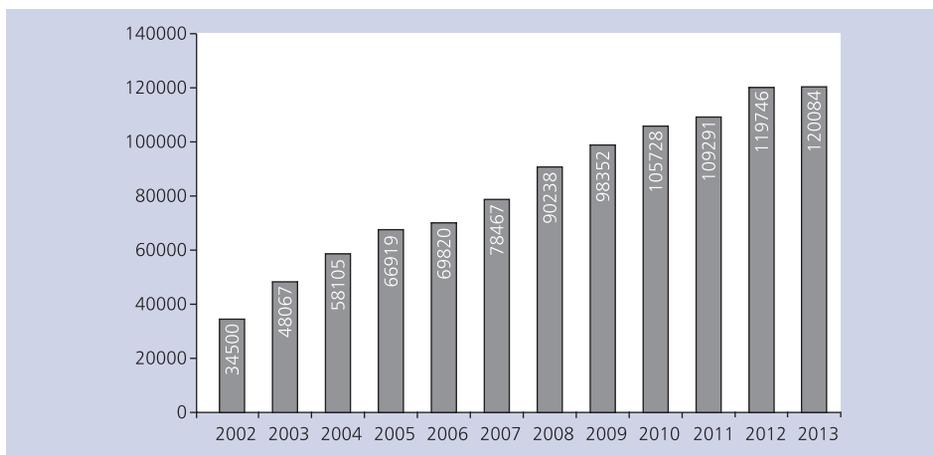


Figure 4. The number of coronary angioplasty procedures in Poland 2002–2013

Rycina 4. Zabiegi angioplastyki wieńcowej w Polsce w latach 2002–2013

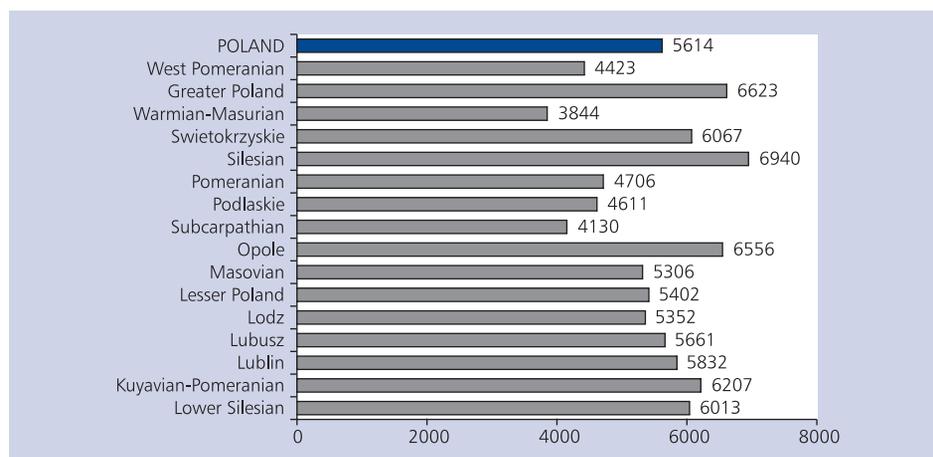


Figure 5. The number of coronary angiography procedures in Poland in 2013, per million inhabitants in different provinces

Rycina 5. Liczba koronarografii w Polsce w 2013 r. w przeliczeniu na 1 mln mieszkańców w poszczególnych województwach

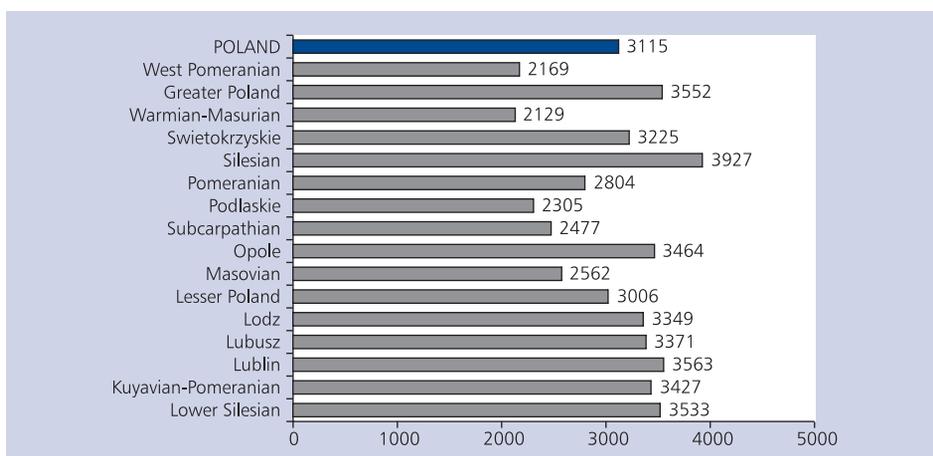


Figure 6. The number of coronary angioplasty procedures in Poland in 2013, per million inhabitants in different provinces

Rycina 6. Liczba zabiegów angioplastyki wieńcowej w Polsce w 2013 r. w przeliczeniu na 1 mln mieszkańców w poszczególnych województwach

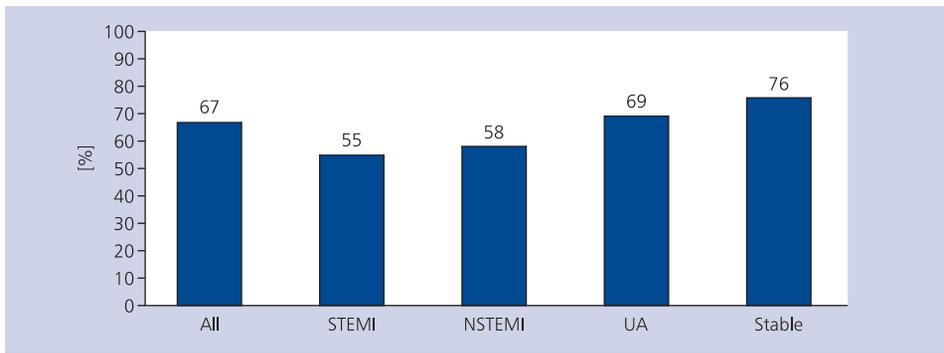


Figure 7. Percentage of drug eluting stents implantations in Poland in 2013 in patient subgroups; NSTEMI — non ST segment elevation myocardial infarction; STEMI — ST segment elevation myocardial infarction; UA — unstable angina

Rycina 7. Odsetek implantacji stentów pokrytych lekiem w Polsce w poszczególnych grupach chorych w 2013 r.

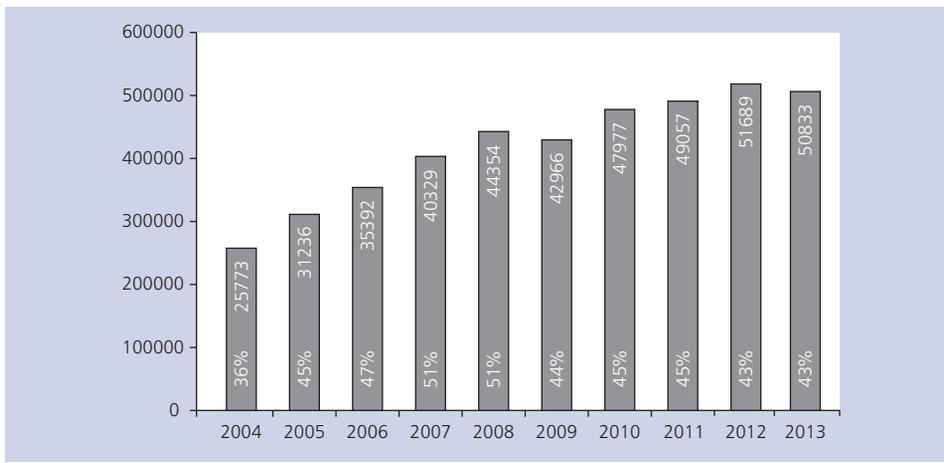


Figure 8. The number of interventions in acute phase of myocardial infarction 2004–2013 (STEMI and NSTEMI)

Rycina 8. Leczenie interwencyjne zawału serca w latach 2004–2013 (STEMI i NSTEMI)

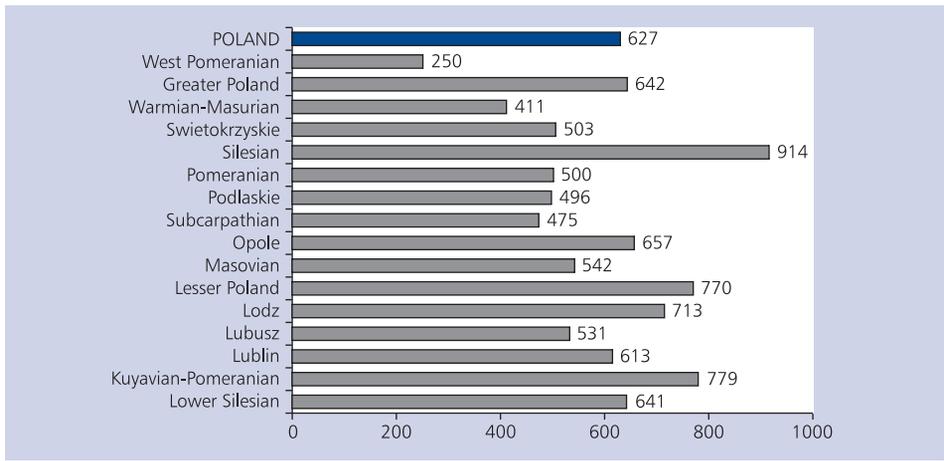


Figure 9. The number of primary angioplasty procedures for non ST segment elevation myocardial infarction, per million inhabitants in different provinces in 2013

Rycina 9. Liczba angioplastyk pierwotnych w zawału serca bez uniesienia odcinka ST w przeliczeniu na 1 mln mieszkańców w poszczególnych województwach w 2013 r.

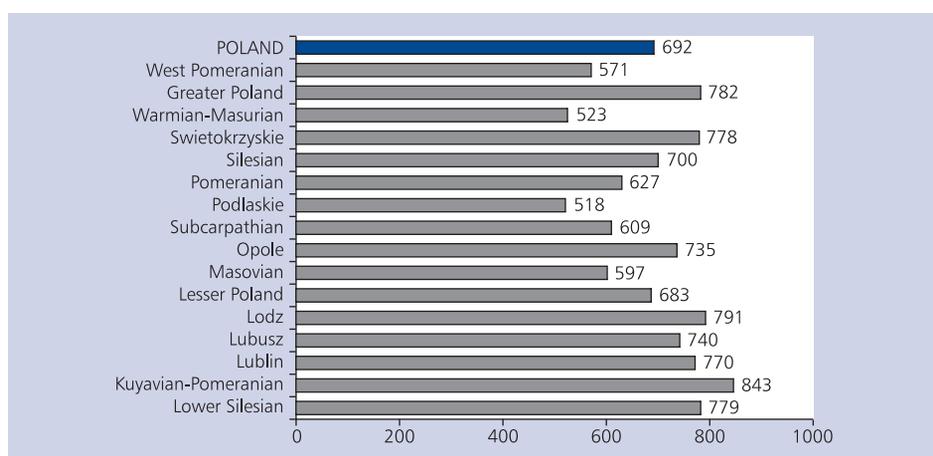


Figure 10. The number of primary angioplasty procedures for ST segment elevation myocardial infarction, per million inhabitants in different provinces in 2013

Rycina 10. Liczba angioplastyk pierwotnych w zawale serca z uniesieniem odcinka ST w przeliczeniu na 1 mln mieszkańców w poszczególnych województwach w 2013 r.

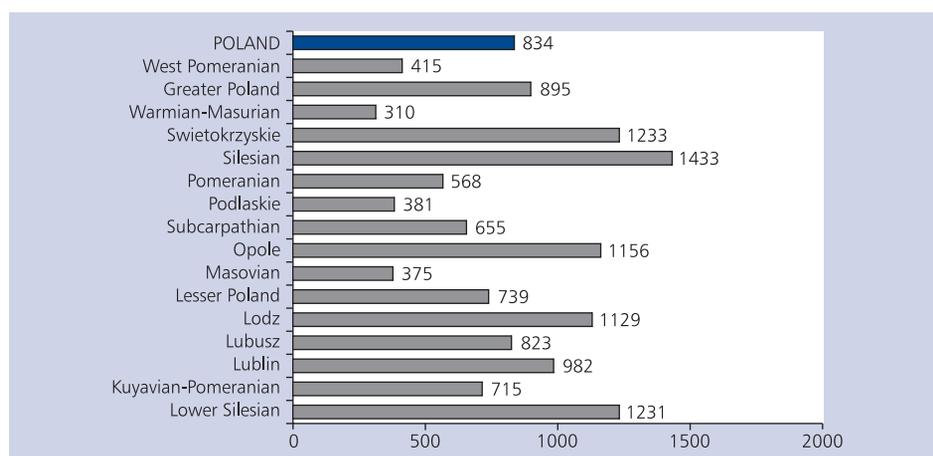


Figure 11. The number of angioplasty procedures for unstable angina, per million inhabitants in different provinces in 2013

Rycina 11. Liczba angioplastyk w niestabilnej dławicy piersiowej w przeliczeniu na 1 mln mieszkańców w poszczególnych województwach w 2013 r.

Diagnostic procedures other than coronary angiography (e.g. intravascular ultrasound [IVUS], fractional flow reserve [FFR], and optical coherent tomography [OCT]) were performed in 3,846 patients (an increase of 24%), including 1,447 IVUS, 2,203 FFR, and 196 OCT procedures.

A noticeable and clearly visible increase in the rate of drug eluting stents (DES) use was observed compared to 2012. DES stents were implanted in 67% of all PCI cases (48% in 2012). In Figure 7, DES usage in various subgroups is analysed. Depending on the centre, DES stents were used in 9–100% of PCI cases.

For the second consecutive year, the number of all PCI procedures performed in acute coronary syndromes has increased in 2013. Altogether, there were 82,969 PCIs (5.4%

more than in 2012), which is 69% of all PCI procedures done in Poland. There was, however, a small decrease in the number of PCIs in STEMI (26,681, 5.6% less than in 2012), and an increase in PCIs in non STEMI (NSTEMI) (24,152, 3.2% more than in 2012). The number of primary PCIs in STEMI in Poland is 692 per million inhabitants per year, a figure that has fallen below 700 per million for the first time in many years. The difference between states is as much as 325 primary PCIs/million/year. The rate of PCIs in acute myocardial infarction (STEMI and NSTEMI) constitutes 43% of all PCIs. Detailed data concerning interventional treatment of myocardial infarction is set out in Figures 8 to 11.

Glycoprotein (GP) IIb/IIIa inhibitors were used in 17,386 patients in 2013, which is a small (0.1%) decrease

Table 1. The use of glycoprotein (GP) IIb/IIIa inhibitors in Poland in 2013

Tabela 1. Liczba zabiegów z zastosowaniem antagonistów glikoproteiny (GP) IIb/IIIa w 2013 r.

GP IIb/IIIa receptor antagonist	Number of procedures
Abciximab	4,399 (25%) ↓
Eptifibatide	12,929 (74%) ↑
Tirofiban	58 (1%) ↑
Total	17,386 ↓

compared to 2012. Eptifibatide was used in 74% of cases and abciximab in 24%. The details are presented in Table 1.

PCI complications were reported rarely. Periprocedural deaths occurred in 0.64% of patients (a decrease of 0.11%), the majority of which was in the STEMI (2.06%) and NSTEMI (0.69%) subgroups, respectively. These values seem stable throughout the years. Periprocedural myocardial infarction (type 4a) was reported in 0.38% of patients (an increase of 0.1%), and urgent cardiac surgery (coronary artery bypass grafting) due to complications or failed PCI attempt in 0.09% of cases. Stroke was diagnosed during the PCI procedure in 0.06% of patients (an increase from 0.04% in 2012).

There were 24,098 extracardiac peripheral percutaneous procedures in Poland in 2013. Transcatheter aortic valve implantation was performed in 330 cases, and percutaneous left atrial appendage (LAA) closure in 50 cases. The numbers of patent/persistent foramen ovale procedures, as well as atrial septal defect and ventricular septal defect closures, in adults remained similar to those of previous years. On the other hand, we have noted as many as 100 cases of therapeutic hypothermia after sudden cardiac arrest. The numbers of selected non-coronary procedures in 2013 are presented in Table 2.

In summary, we have observed an increase in PCI procedures in Poland in 2013, especially in patients with acute coronary syndromes (mainly unstable angina but also NSTEMI). On the other hand, a decrease in STEMI procedures has been noticed. New percutaneous procedures such as LAA closure, hypothermia and IVUS/FFR procedures which are now reimbursed by the government were more frequently performed than in 2012. It is disturbing that differences still exist in the numbers of PCI procedures between the different states of Poland, although the spread of invasive cardiology centres seems equal.

Table 2. The number of selected non-coronary procedures in 2013, performed in cardiac centres for adults in Poland

Tabela 2. Liczba wybranych zabiegów pozawieńcowych wykonanych w pracowniach kardiologii inwazyjnej dorosłych w 2013 r.

Selected procedures	Number
Carotid artery stenting	880
Vertebral artery stenting	82
Renal artery stenting	143
Subclavian artery stenting	140
PTA above the knee	2,621
PTA below the knee	1,008
Mitral valvuloplasty	36
Pulmonary valvuloplasty	59
Aortic valvuloplasty	140
PFO closure	355
ASD closure	399
VSD closure	12
PDA closure	145
LAA closure — percutaneous	50
TAVI	313
PAVTI — pulmonary valve	17
Therapeutic hypothermia	100
Renal denervation	97
Myocardial biopsy	891
MitraClip	20

ASD — atrial septal defect; LAA — left atrial appendage; PAVTI — pulmonary artery valve transcatheter implantation; PFO — patent/persistent foramen ovale; PDA — patent ductus arteriosus; PTA — percutaneous transluminal angioplasty; TAVI — transcatheter aortic valve implantation; VSD — ventricular septal defect

According to the new regulations, since 1 January, 2014 a new national, electronic PCI Registry database has been filled in by each invasive cardiology centre in Poland (the ORPKI Registry). This new registry is affiliated to Jagiellonian University Medical College in Krakow. The AISN PTK Board hopes that the new database will provide more accurate and complete data reported annually, and that the first reports concerning 2014 will be available as soon as Q1 2015.

Conflict of interest: none declared