ORIGINAL ARTICLE

Costs of management of patients with coronary artery disease in Poland: the multicenter RECENT study

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KEY WORDS

coronary artery disease, costs, Poland, public health

ABSTRACT

INTRODUCTION Treatment of coronary artery disease (CAD) generates the major part of public health expenditure in the developed countries.

OBJECTIVES The aim of the study was to estimate costs associated with the diagnosis and treatment of patients with CAD in Poland.

PATIENTS AND METHODS Costs were estimated in a representative sample of 2593 patients with CAD receiving general practitioner (n = 1977) or specialist care (n = 616) in 2005 (the multicenter RECENT study). Data from the National Health Fund, Social Insurance Institution, Central Statistical Office, and current literature were used.

RESULTS The total annual cost of CAD reached €2254.17 per patient, with 48% accounting for direct medical costs (drugs, medical consultations, laboratory tests, diagnostic procedures, invasive treatment, hospitalizations, emergency care) and 52% for indirect costs (related to absence at work and disability). Eighty-one percent of total direct medical costs were covered by the public payer (including 30% of pharmacological treatment costs). Direct medical costs covered by the public payer were higher in men and in patients with more severe angina symptoms (both $P < 0.05$). In the model based on the lowest prevalence of CAD (estimated based on the real population of patients treated in 2005), direct medical costs covered by the public payer reached €617.6 million, i.e., around 7% of the total public health expenditure in Poland in 2005.

CONCLUSIONS Modern management of CAD imposes enormous economic burden on the public health system in Poland. There is a need to develop and implement strategies that would optimize health care costs associated with the treatment of CAD.

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Received: July 29, 2012.
Revision accepted: November 6, 2012.
Published online: November 12, 2012.
Conflict of interest: P.P., W.B., and E.A.J. are consultants and members of the speaker's bureau of Servier. Servier provided financial support for the RECENT study execution, supervision of the database, and statistical analyses performed by the Servier staff.
Pol Arch Med Wewn. 2012; 122 (12): 599-607

INTRODUCTION Coronary artery disease (CAD) is the most common entity among the whole spectrum of cardiovascular diseases, being the major cause of ambulatory visits, hospitalizations, and deaths in the European countries.[1] Stable angina pectoris is the initial clinical manifestation of CAD in almost half of the patients,[2] with an average 5% annual rate of subsequent development of fatal and nonfatal myocardial infarction, imposing a substantial economic burden on healthcare systems in Europe (data from the Euro Heart Survey).[3]

Surprisingly, although today the development of medicine cannot ignore the economic background, evidence on the real costs of the management of CAD in Poland is lacking. Information about the real costs attributable to the management of CAD to be covered by the public payer in particular European countries (also in Poland) seems to be desirable. However, it is difficult to

estimate these costs reliably. The incidence and prevalence of CAD as well as hospitalization rates and mortality vary considerably between different European countries.[3] There is a clear East-West gradient with the highest mortality rates in Eastern Europe.[4] There are also differences regarding the diagnostic and therapeutic procedures performed in patients with CAD across the European countries,[3] for example, between Poland and the United Kingdom.[5]

Based on the estimates from the Central Statistical Office in Poland (Główny Urząd Statystyczny – GUS), the diagnosis of CAD in 2004 was confirmed in 2.9% to 8.6% of adult Poles.[6] According to the lower boundary estimates, it corresponded to 912,400 people with CAD with confirmed previous myocardial infarction. If this group would include also those without documented myocardial infarction, the total number of Poles suffering from CAD might even reach 2,718,300.[6] However, to estimate disease burden, the real population of patients with CAD should be considered as the lowest boundary estimate. As reported by Bandosz et al,[7] the eligible population for this estimation amounted to 706,670 patients suffering from chronic angina in 2005 in Poland.

Costs attributable to the management of patients with CAD account for the major part of public health expenditure, but so far these costs have not been assessed in Poland. Due to the aforementioned differences in the prevalence and management of CAD across Europe, all cost calculations based on the extrapolations from other European countries would be biased. Therefore, we performed a pharmacoeconomic analysis to estimate cost distribution related to both diagnosis and treatment of patients with CAD in Poland in 2005. We also aimed to estimate the global economic burden of CAD on the public healthcare system in 2005 in Poland, based on the population of patients with CAD,[7] which seemed to be the most realistic approach.

PATIENTS AND METHODS

Study sample The cost analysis constituted part of the RECENT study (Representative Evaluation of the CAD Treatment in the Outpatient Care in Poland) that was performed in Poland in 2005 under the auspices of the Polish Cardiac Society.[8,9] The study population consisted of a representative sample of outpatients (n = 2593) with an established diagnosis of CAD in 2005 in Poland. The majority of patients (n = 1977) received general practitioner (GP) care and the remaining patients (n = 616) received specialist care.

Details regarding the procedure of a representative selection of the analyzed subjects and the criteria for the diagnosis of CAD have been published previously.[8,9]

Time horizon and cost distribution The annual time horizon of the cost analysis was applied.

Information about cost components was collected using a questionnaire for cost assessment that had been exclusively constructed for this study. The questionnaire consisted of 9 sections regarding the particular categories of costs which had occurred within the last 12 months (see below for details).

The following cost distribution was applied prospectively for the purpose of this study. Total costs consisted of direct medical costs (paid by the public payer, i.e., those covered by the National Health Fund in Poland [Narodowy Fundusz Zdrowia – NFZ], public health insurance, and those paid by patients themselves), and indirect costs related to the absence from work and disability (covered by social insurance). Total direct medical costs were a sum of costs related to the following issues: drugs, medical consultations (in outpatient clinics), laboratory tests, diagnostic procedures (other than laboratory ones), invasive treatment, hospitalizations, emergency care. Indirect costs were a sum of sick leaves, pensions, and sickness benefits as a consequence of absence from work and/or disability due to CAD. Since the data regarding resource utilization are less sensitive to changing with time than the cost data, they were presented in the APPENDIX (available online).

Prevalence of coronary artery disease and related costs Total costs, direct medical costs, and indirect costs were expressed as the annual costs per patient with CAD per year. All cost categories were estimated for the whole studied population, as well as separately for patients receiving GP vs. specialist care.

All the cost values were presented in Euro (€) in accordance with the average exchange rate of the Polish National Bank in 2005 (€1 = 4.0254 PLN).

The unit costs were obtained from the participating medical centers and published data based on the rates from the NFZ.[10,11] The cost of reimbursed drugs was taken from the list of reimbursed drugs in Poland.[12] For non-reimbursed drugs, pharmacy market prices were considered. The capital cost method was implemented for the calculations of the indirect cost related to absence from work (sick leaves). The indirect costs related to disability (pensions and/or sickness benefits) were calculated according to the average Polish Social Insurance Institution rates.[13]

Resource utilization was expressed as the annual number of particular resource use per 100 patients, with a distinction between patients under GP or specialist outpatient care.

The cost distribution was analyzed in the whole group and in prespecified subgroups, i.e., in patients receiving GP vs. specialist care, in men vs. women, in patients aged below 65 years vs. 65 years and over, and in patients with different severity of angina (subsequent Canadian Cardiovascular Society [CCS] classes).

A prevalence-based method was originally assigned to estimate the economic burden of CAD. The prevalence of CAD was estimated based on the data provided by the GUS in Healthcare Statistics for 2004.[6] The lower boundary estimate

TABLE 1 All cost components attributable to coronary artery disease in Poland in 2005

Cost category	Annual cost per patient, €		
	all patients	under GP care	under specialist care
total costs	2254.17	2167.91	2479.99
direct medical costs	1079.09	996.15	1296.23
drugs	278.54	260.14	326.70
medical consultations	55.66	58.05	49.43
laboratory tests	17.18	17.72	15.78
diagnostic procedures	135.65	124.42	165.04
invasive treatment	263.45	235.10	337.66
hospitalizations	305.15	277.40	377.79
emergency care	23.46	23.32	23.84
indirect costs	1175.08	1171.76	1183.76
indirect cost related to absence from work	358.10	365.76	338.04
indirect costs related to disability	816.98	806.00	845.72

Abbreviations: GP – general practitioner

of the prevalence rate of Polish inhabitants with the diagnosis of CAD was defined as the sum of records of CAD with previous myocardial infarction, whereas the higher boundary estimate was defined as the sum of records of CAD not followed by myocardial infarction.[6] However, due to the risk of overestimation of the total costs caused by the high estimates of the population without confirmed disease, the real population approach was ultimately applied as the lowest boundary estimate, based on the data reported by Bandosz et al.[7]

Statistical analyses Cost data were compared using the nonparametric Wilcoxon test. A two-sided *P* less than 0.05 was considered statistically significant. All analyses were performed by means of weights computed according to a sampling design which enabled a representative estimation of the whole population of patients treated for CAD for at least 12 months in Poland.

Because of uncertainty surrounding some of the data concerning costs of invasive procedures and indirect costs, one- and multiway sensitivity analyses were performed for the above missing variables. The baseline values included in sensitivity analyses were based on the lower boundary estimates. The following conditions were prospectively assumed in sensitivity analyses:

A one-way simulation assuming a decrease in drug cost by 10%, according to the declarations of the NFZ in Poland after the changes introduced at the end of 2005 in the lists of reimbursed drugs

B one-way simulation assuming an increase in the number of coronary angiographies by 10% and an increase in the number of percutaneous coronary interventions (PCI) by 13%, according to the report published by the Working Group on Interventional Cardiology of the Polish Cardiac Society for the previous year[14]

C one-way simulation adopting a method for calculation of indirect costs related to the absence from work based on the Polish Social Insurance Institution rates instead of the capital-cost method[12]

D multiway simulation assuming conditions A and B in relation to direct medical costs

E multiway simulation assuming conditions A, B, and C.

Data processing and statistical analyses were performed using the STATISTICA software version 6 PL.

RESULTS Clinical characteristics of the study group We analyzed the data of 2593 patients with an established diagnosis of CAD (mean age, 65 ±10 years; men, 55%; body mass index [BMI] for men, 28.3 ±4.0 kg/m^2; BMI for women, 29.0 ±4.8 kg/m^2; CCS class I, II, III, IV, 38%, 48%, 13%, and 1% of the patients, respectively). In 50% of the subjects, CAD was diagnosed on the basis of past myocardial infarction. In the remaining patients, the diagnosis of CAD was established based on positive electrocardiography exercise test (39%), typical chest pain in patients over 60 years of age (36%), history of acute coronary syndrome (29%), performed PCI (22%), performed coronary artery bypass grafting (CABG, 14%), or significant lesions confirmed in coronary angiography (18%). The history of hypertension, diabetes, dyslipidemia, heart failure, arrhythmia, stroke, transient ischemic attack, peripheral artery disease, and chronic obstructive pulmonary disease was found in 78%, 24%, 58%, 34%, 32%, 5%, 6%, 10% and 9% of the patients, respectively. Seventy-nine percent of the patients were overweight and 31% had metabolic syndrome; 11% of the subjects were active smokers. Detailed characteristics of the examined patients have been published previously.[8]

Cost distribution in all patients The estimated values of all cost components in patients with CAD in Poland in 2005 are presented in TABLE 1. The annual resource utilization per 100 patients treated

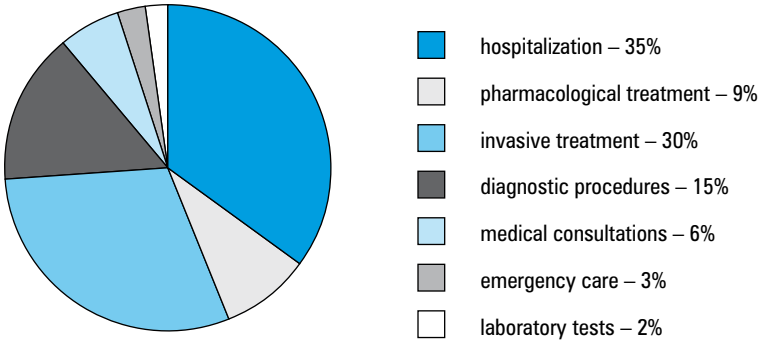

FIGURE 1 Distribution of direct medical costs in patients with coronary artery disease in Poland in 2005

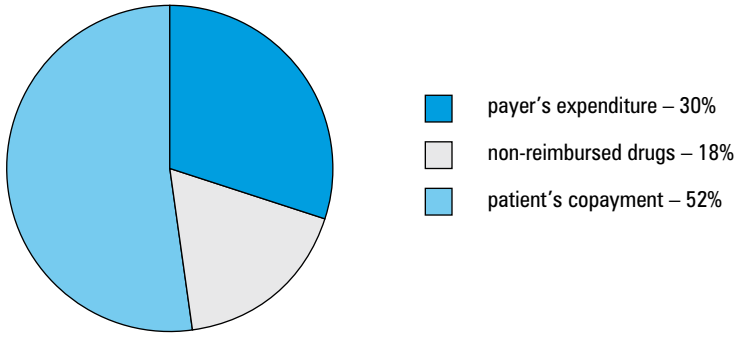

FIGURE 2 Structure of expenditure on pharmacological treatment (drugs) in Poland in 2005

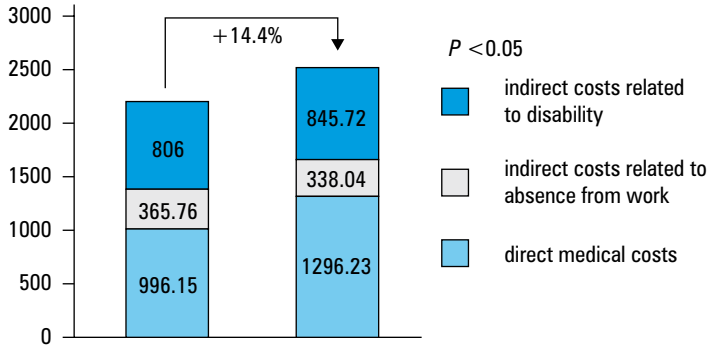

FIGURE 3 Comparison of total costs of coronary artery disease in Poland in 2005 between patients under general practitioner vs. specialist care

for CAD is presented in the Appendix (available online).

Total annual costs reached €2254.17 per patient with CAD in 2005 in Poland. Total direct medical costs and indirect costs accounted for 48% and 52% of the total cost, respectively. The percentage distribution of all cost categories in all patients with CAD was as follows: drugs – 12%, medical consultations – 2%, laboratory tests – 1%, diagnostic procedures – 6% invasive treatment – 12%, hospitalizations – 14%, emergency care – 1%, indirect costs related to the absence from work – 16%, and indirect costs related to disability – 36%. The percentage distribution only within direct medical costs is demonstrated in FIGURE 1.

Indirect costs related to the absence from work and disability are covered by social insurance, whereas direct medical costs are paid from 2 major sources, i.e., the public payer (NFZ) and patients themselves. Therefore, we distinguished direct medical costs attributable to CAD covered by the public payer (NFZ) in TABLE 2. In Poland, most of healthcare services, with the exception of the patients' copayment for drugs, are financed from public sources. There was a marked difference in the participation of the public payer in financing cost components (30% of the cost of drugs vs. 93%–100% of the remaining cost categories) (TABLE 2).

The annual cost of pharmacological treatment (drugs) reached €278.54 per patient with CAD in 2005 in Poland. Only 30% of the costs related to pharmacological therapy in CAD were paid from public sources. The remaining 70% of the costs were paid by patients (52% for partially reimbursed drugs and 18% for non-reimbursed drugs, FIGURE 2).

Cost distribution in patients under general practitioner vs. specialist care All annual costs of CAD per patient were higher by 14% (€312.08) in subjects receiving specialist care compared with those receiving GP care ($P < 0.05$) (TABLE 1, FIGURE 3). Indirect costs related to absence from work and disability did not differ between the 2 groups. Therefore, the difference in total costs was driven mainly

TABLE 2 Direct medical costs of coronary artery disease in Poland paid by the public payer

Cost category	Annual costs per patient, € (%[a])		
	all patients	under GP care	under specialist care
direct medical costs	873.96 (81)	804.60 (81)	1 055.55 (81)
drugs	82.84 (30)	77.94 (3)	95.68 (29)
medical consultations	52.73 (95)	55.17 (95)	46.35 (94)
laboratory tests	16.34 (95)	17.01 (96)	14.61 (93)
diagnostic procedures	130.40 (96)	119.15 (96)	159.86 (96)
invasive treatment	263.12 (99)	234.65 (100)	337.66 (100)
hospitalizations	305.15 (100)	277.40 (100)	377.79 (100)
emergency care	23.37 (100)	23.28 (100)	23.61 (99)

a percentage of total costs attributable to a particular cost category

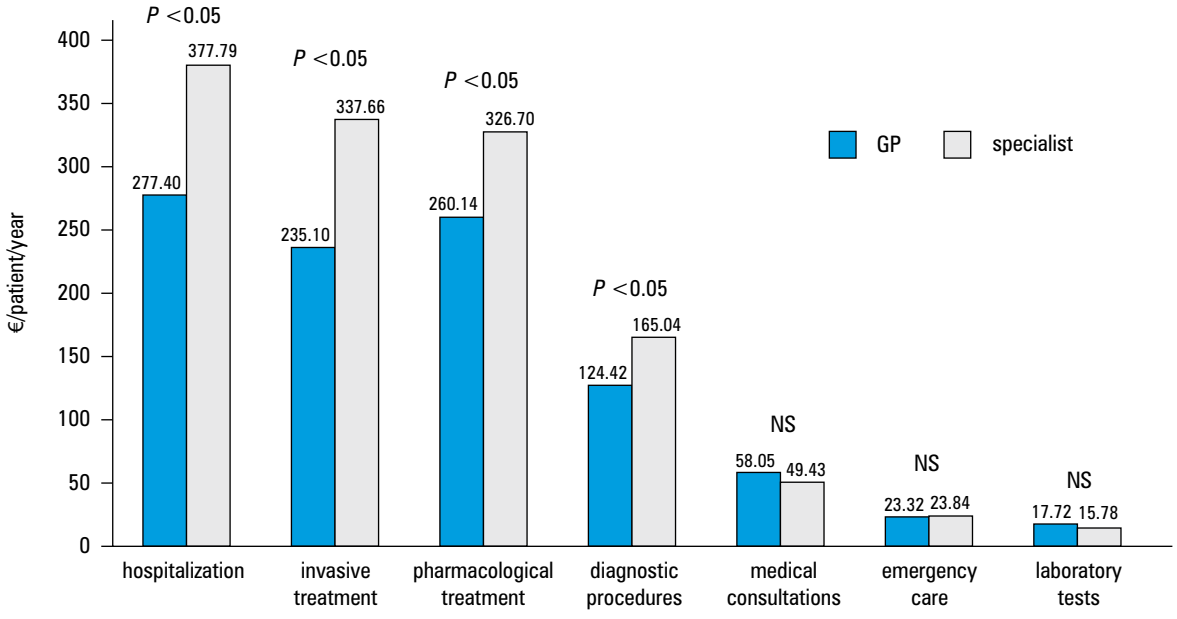

FIGURE 4 Comparison of direct medical costs of coronary artery disease in Poland in 2005 between patients under general practitioner (GP) vs. specialist care

TABLE 3 Comparison of direct medical cost of coronary artery disease between men and women covered by the public payer (costs per patient per year)

Cost categories	Men, €	Women, €	Difference, %
direct medical costs	973.08	750.75	30[a]
drugs	86.03	78.88	9[a]
medical consultations	53.55	51.72	4
laboratory tests	15.96	16.82	–5
diagnostic procedures	143.66	113.92	26[b]
invasive treatment	304.65	211.50	44[a]
hospitalizations	347.47	252.53	38[a]
emergency care	21.77	25.37	–14

a $P < 0.05$, b $P < 0.001$

TABLE 4 Comparison of direct medical cost of coronary artery disease between patients aged below vs. those aged 65 and over covered by the public payer (costs per patient per year)

Cost categories	Age <65 years, €	Age ≥65 years, €	Difference, %
direct medical costs	945.81	803.50	18
drugs	85.96	79.78	8
medical consultations	55.64	49.88	12[a]
laboratory tests	15.64	17.03	–8
diagnostic procedures	148.14	113.00	31[b]
invasive treatment	321.20	206.16	56[a]
hospitalizations	298.15	312.01	–4
emergency care	21.06	25.64	–18

a $P < 0.01$, b $P < 0.001$

by higher direct medical costs (drugs, diagnostic procedures, invasive treatment, and hospitalizations) among patients receiving specialist care (TABLE 1, FIGURE 4).

Direct medical costs of coronary artery disease covered by the public payer in prespecified clinical subgroups **Sex** Direct medical costs attributable to CAD covered by the public payer were higher in men than in women by 30% ($P < 0.05$) (TABLE 3). The difference was driven mainly by higher costs of drugs, diagnostic procedures, invasive treatment, and hospitalizations in male patients with CAD (TABLE 3).

Age There was a trend towards higher direct medical costs of CAD covered by the public payer in subjects aged below 65 years compared with those 65 years and older (TABLE 4). This trend was due to observed higher costs related to medical consultations, invasive treatment, and hospitalizations in patients under the age of 65 years (TABLE 4).

Severity of angina symptoms Direct medical costs attributable to the management of CAD in Poland covered by the public payer were higher in patients with angina symptoms in CCS class II by 7% and in CCS classes III–IV by 48%–76% compared with those in CCS class depending on the cost category (TABLE 5). Higher direct medical costs in subjects in CCS classes II–IV were driven mainly by the greater costs of diagnostic procedures, hospitalizations, and emergency care, and additionally invasive treatment in subjects in CCS class III (TABLE 5).

Economic burden of coronary artery disease in Poland in 2005 The lower boundary estimate of the GUS was the prevalence rate of 2.9% corresponding to 912,400 adult Polish inhabitants suffering from CAD with previous myocardial infarction. The higher boundary estimate of the GUS was the prevalence rate of 8.6%, corresponding to 2,718,300 of adult Polish inhabitants with

TABLE 5 Comparison of direct medical cost of coronary artery disease in patients with a different Canadian Cardiovascular Society (CCS) class covered by the public payer (costs per patient per year)

Cost categories	CCS I, €	CCS II, €	CCS III, €	CCS IV, €
direct medical costs	773.39	826.54	1364.50	1147.43
drugs	76.78	86.60	85.68	86.41
medical consultations	46.13	56.99	58.49	59.57
laboratory tests	13.87	17.03	21.60	17.61
diagnostic procedures	109.33	140.29	162.77	148.26
invasive treatment	273.11	231.97	360.14	296.86
hospitalizations	241.52	270.64	622.76	462.83
emergency care	12.64	23.03	53.07	75.89
total cost fluctuation, %	–	7	76	48

CAD including also those with nonconfirmed myocardial infarction. The lowest boundary estimate based on the real population of patients with chronic angina in 2005 indicated a population of 706,670 individuals.

According to the lower boundary estimate of the GUS, the total cost attributable to CAD in Poland in 2005 could reach €2056.7 million, and according to the lowest boundary estimate – €1592.0. More than half of this value (52%) was due to the indirect cost, 70% of which resulted from patients' disability (TABLE 6). Direct medical costs covered by the public payer in 2005 in Poland were estimated at €797.4 million in the model with the lower prevalence rate of CAD and as €617.6 million in the real population model (81% of total direct medical costs). It corresponded to 8.8% and 6.8%, respectively, of the total NFZ expenditure on healthcare in Poland in 2005. Costs attributable to pharmacological treatment of CAD covered by the public payer in 2005 were estimated at €88.6 million (8% of total direct medical costs from the public payer perspective). It corresponded to approximately 5.1% of total NFZ expenditures on drug reimbursement in Poland in 2005.

According to the higher GUS boundary estimate, total cost attributable to CAD in Poland in 2005 might have reached even €6127.5 million in 2005 (TABLE 6).

The results of both one- and multiway sensitivity analyses demonstrated that the assumed changes in drug costs and the numbers of invasive procedures did not significantly affect the overall total costs attributable to CAD in Poland. In contrast, the assumed approach regarding the calculation of the indirect costs significantly changed the final costs, causing a moderate overestimation. Detailed results of sensitivity analyses for the real population approach were presented in FIGURE 5.

DISCUSSION To the best of our knowledge, this is the first pharmacoeconomic analysis performed among patients with stable CAD in one of the Eastern European countries after the political and social transition in the 1990s. We estimated that total annual costs attributable to CAD reached €2254.17 per patient in Poland in 2005, with 48% accounting for direct medical costs. Importantly, 81% of total direct medical costs were covered by the public payer, but this included only 30% of pharmacological treatment costs. Direct medical costs paid from public sources were higher in men compared with women, in patients aged below 65 years compared with those aged 65 years and older, in subjects with more severe vs. less severe angina symptoms, and in patients receiving specialist vs. GP care.

CAD exemplifies a prevalent clinical entity that requires a long-term pharmacological treatment, is associated with frequent hospitalizations and invasive diagnostic and therapeutic procedures. In the 1990s in the United Kingdom, the economic burden of CAD was the greatest among all chronic diseases,[15] and the direct medical cost related to angina pectoris paid by the British National Health Service (NHS) was £669 million, representing approximately 1.3% of the total healthcare expenditure.[16] We have estimated that the total costs attributable to CAD could range from €2056.7 to €6127.5 million in Poland in 2005 if

TABLE 6 Economic burden of coronary artery disease in Poland in 2005

Cost categories	Lowest boundary estimate (the real population), million €	Lower boundary estimate (GUS data), million €	Higher boundary estimate (GUS data), million €
total costs	1592.0	2056.7	6127.5
direct medical costs	762.6	984.5	2 933.3
indirect costs	830.4	1072.1	3194.2
indirect costs related to absence from work	253.1	326.7	973.4
Indirect costs related to disability	577.3	745.4	2220.8

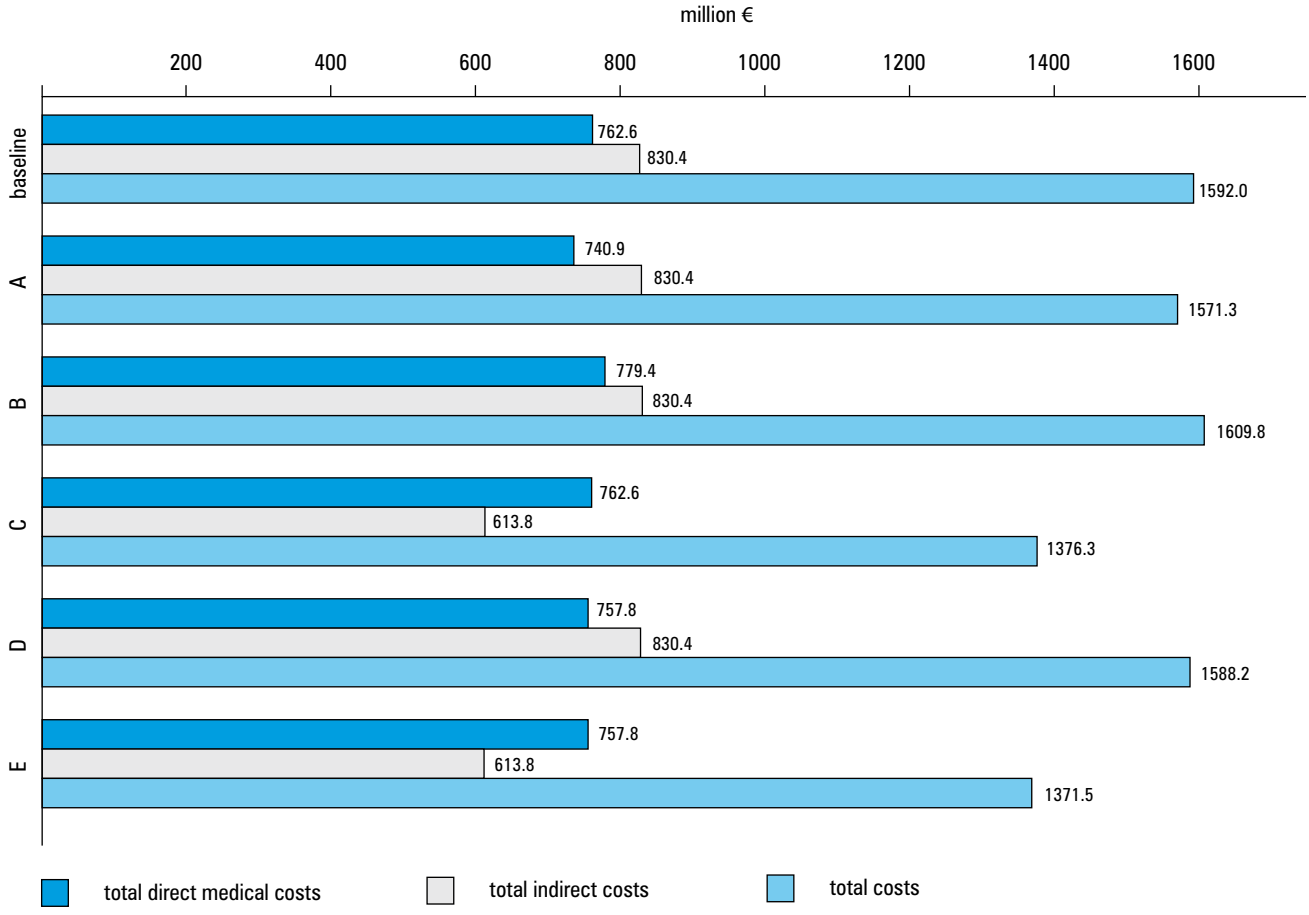

FIGURE 5 Results of sensitivity analyses; conditions A, B, C, D, and E are described in detail on page 601

the prevalence was estimated based on the GUS data. Nevertheless, the more realistic estimation seems to be based on the real population of patients with CAD registered in 2005, which diminishes the risk of cost overestimation. Therefore, this approach was ultimately applied as the lowest boundary estimate, and in this case the total cost attributable to CAD in Poland was estimated at €1592 million, and the direct medical cost of the management of CAD covered by the NFZ constituted about 7% of all public expenditure on healthcare in Poland in 2005, which was a high rate compared with the other European countries.

It should be emphasized that in Poland around 50% of total costs attributable to CAD corresponded to direct medical costs, while the same amount of money had to be paid from the public system of social insurance. The similar proportion between direct and indirect costs (1:1) related to the management of patients with CAD has been confirmed in other European countries.[17,18] In 1995 in Sweden, annual direct medical and nonmedical costs per patient with CAD were estimated at $5563 and $5309, respectively.[18] Also in Switzerland, direct medical costs were reported to constitute 47% of the total costs and indirect costs – 53%.[17]

When planning cost strategies for the optimal management of patients with CAD, it is worth noting that total costs were significantly higher (14.4%) in patients receiving specialist vs. GP care in Poland. Hospitalizations and invasive treatment constituted the major cost drivers for the public payer in these 2 groups. Also in Poland, the cost of drugs was covered mainly by patients themselves (70%), which markedly exceeded the copayment level observed in other European Union countries.

Study limitations We need to acknowledge that the study was performed in 2005, so it does not reflect exactly the current situation in Poland, because since then many changes have occurred in the reimbursement policy, cost measurement in healthcare, access to health care, and the increasing prevalence of CAD in modern Polish population. The main uncertainty concerns the procedures of invasive cardiology. In order to at least roughly assess the level of this uncertainty, we compared the data of the NFZ and the registry of the Polish Cardiac Society Cardiovascular Intervention Section[19] concerning the following procedures: coronary angiography, PCI, and CABG in 2005 vs. 2011. The number of procedures performed in 2005 and 2011 was 129,716, 66,466, and 15,000 vs. 77,333, 120,893, and 13,583, respectively for coronary angiography, PCI, and CABG, indicating the differences in the contribution of invasive cardiac procedures in total costs, with a prominent 2-fold increase in the number of PCI performed in the years 2005–2011 in Poland.

Since resource utilization data are less sensitive to changes with time than cost data, the particular resource use has been presented in the appendix to the main body of the article in order to improve

the usefulness of our results for future comparisons based on the contemporary data.

Although one may consider our analyses as not up-to-date, it is worth noting that there have been no publications in the past 20 years reporting the costs of the management of patients with CAD in Poland. Moreover, taking into consideration that beyond economic issues, the prevalence of CAD is increasing and the risk factors accelerating the progression of CAD are poorly controlled, particularly in diabetic subjects,[20-22] the provided data most likely underestimate rather than overestimate the current costs of the management of CAD in Poland.

Conclusions Our paper provides objective evidence for the high economic burden of CAD for the modern healthcare system in Poland. There is a need for further comprehensive monitoring and analysis of the costs related to this disease in order to support the decision making regarding optimal public resource allocation and the best social and economic benefits.

Further studies aiming at the development and implementation of innovative, cost-effective management strategies that would reduce the need for hospitalization (and the need for invasive procedures) are warranted.

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Koszty leczenia pacjentów z chorobą niedokrwienną serca w Polsce: wieloośrodkowe badanie RECENT

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SŁOWA KLUCZOWE

choroba niedokrwienna serca, koszty, Polska, zdrowie publiczne

STRESZCZENIE

WPROWADZENIE Leczenie choroby niedokrwiennej serca (ChNS) generuje większą część kosztów publicznego systemu opieki zdrowotnej w krajach rozwiniętych.

CELE Celem pracy jest oszacowanie kosztów związanych z diagnostyką i leczeniem chorych na ChNS w Polsce.

PACJENCI I METODY Szacowanie kosztów przeprowadzono w oparciu o reprezentatywną grupę 2593 chorych na ChNS objętych ambulatoryjną opieką lekarza rodzinnego (n = 1977) lub specjalisty kardiologa (n = 616) w 2005 roku (wieloośrodkowe badanie RECENT). Wykorzystano dane Narodowego Funduszu Zdrowia, Zakładu Ubezpieczeń Społecznych i Głównego Urzędu Statystycznego oraz dane z piśmiennictwa.

WYNIKI Całkowite roczne koszty związane z leczeniem ChNS wyniosły 2254,17 euro na pacjenta, z czego 48% stanowiły koszty bezpośrednie (leki, konsultacje lekarskie, testy diagnostyczne, procedury inwazyjne, hospitalizacje, leczenie na izbie przyjęć), a 52% – koszty pośrednie (związane z nieobecnością i niezdolnością do pracy). 81% wszystkich bezpośrednich kosztów medycznych pokryto z funduszy publicznych (w tym 30% kosztów farmakoterapii). Bezpośrednie koszty medyczne były większe u mężczyzn i osób z bardziej nasiloną dławicą piersiową ($p < 0,05$). W modelu z najmniejszą częstością występowania ChNS (w oparciu o dane chorych leczonych w 2005 roku), bezpośrednie koszty medyczne pokryte ze środków publicznych wyniosły 617,6 miliona euro, tj. około 7% wszystkich wydatków publicznych na zdrowie w Polsce w 2005 roku.

WNIOSKI Nowoczesne leczenie ChNS stanowi ogromne finansowe obciążenie systemu publicznej opieki zdrowotnej w Polsce. Istnieje potrzeba opracowania i wdrożenia systemów optymalizujących zarządzanie finansami w tym zakresie.

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Praca wpłynęła: 29.07.2012.
Przyjęta do druku: 06.11.2012.
Publikacja *online*: 12.11.2012.
Zgłoszono sprzeczność interesów: P.P., W.B., and E.A.J. pełnią funkcję konsultantów i wykładowców firmy Servier. Firma Servier udzieliła wsparcia finansowego na przeprowadzenie badania RECENT, nadzór nad bazą danych oraz analizy statystyczne dokonane przez pracowników firmy Servier.
Pol Arch Med Wewn. 2012; 122 (12): 599-607