

The efficiency of public policies and programs for breast cancer prevention. Socio-medical perspectives within a Romania–France comparison

GABRIELA MOTOI, ANDREEA MIHAELA NIȚĂ

Faculty of Social Sciences, University of Craiova, Romania

Abstract

The *World Health Organization* (WHO) estimates that one of five persons develops a cancer form during their lives. Out of the total of malignant cancer forms known up to the present, the statistics currently place breast cancer on the first rank at European level, as a type of neoplasm registered and treated with a standard protocol through the medical programs approved within public policies. The cost for the treatment of this type of oncological disease is enormous; for this reason, the state should manifest a direct interest for the prevention, early diagnose and investments in the research of mammary neoplasm. The coherence of national and European policies is achieved on a regular basis, subject to changes in Community legislation and the approval of European Commission (EC) documents that design unified approaches. This year, the emergence of the Europe's Beating Cancer Plan, launched in 2021, has taken on the objective of investing in research and innovation, with a focus on the development of digital technologies that will increase expertise in genomics, onco-radiology, and digital health. The article analyzes the secondary data and empirical research collected at national and European level with the aim of highlighting the significant differences between public policies in Romania and France and identifying the pillars on which a national strategy similar to a functional European model can be built.

Keywords: breast cancer, public policies, prevention, incidence, intervention.

☞ Context: How does the European picture look? Comparative analysis of secondary data

Both at global and at European level, cancer represents a major “burden” for public health, causing more than one million deaths annually. Of all these, most of them are premature deaths, which can be stopped by effective and appropriate preventive measures (primary and secondary). As a chronic and incurable disease, cancer has many devastating effects, both individually and socially [1].

In 2018, there were around 3.9 million new cancer cases and 1.9 million cancer deaths in Europe. Of all newly diagnosed cases, more than 500 000 were breast cancers (with female patients) [2]. At the same time, cancer mortality increased in 2018 by 20% compared to 1995, from 1.2 million to 1.4 million deaths. Progress in survival rates has been made in countries that are more socio-economically developed and have been able to finance health systems more, thus leading to an improvement in awareness-raising about risk factors, screening, early diagnosis, treatment, etc.

The awareness of the acute need for action (from a public policy point of view) on cancer has been a marked trend over the last 20 years at European level and can be seen from the analysis of the expenditure for cancer of health systems: if in 1995 the direct costs of cancer were 52 billion Euros, in 2018 this expenditure doubled to 103 billion Euros, leading to an increase in cancer costs per capita by 86 % (from 105 Euros in 1995 to 195 Euros in 2018) [3].

Breast cancer is one of the most common diseases among women, with 400 000 women detected as having this disease every year [4]. As with other cancers, in breast cancer there are a multifactorial scale of risk factors, among the most known being: genetic predisposition, age particularities, hormonal and reproductive factors, disadjustments of endocrine glands, as well as lifestyle-related factors, such as: consumption of alcohol or tobacco, obesity, eating habits, lack of physical activity, etc. [5].

In 2020, out of a total of 1 237 588 new cancer cases found in women in Europe, 28.7% were breast cancers. Next to these, the most common cancers for female gender persons (in 2020) are shown in Figure 1.

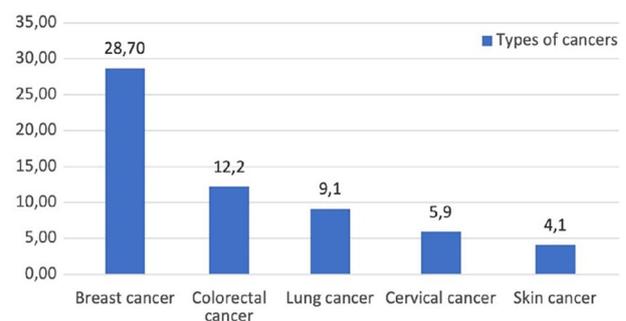


Figure 1 – The most encountered cancer types in Europe: 2020 (% out of the total of newly discovered cancers). Source: European Cancer Information System (ECIS). 2020 Cancer incidence and mortality, 22 July 2020, retrieved from: <https://ecis.jrc.ec.europa.eu>

Thus, breast cancer is representing a significant share

of the total detectable types of cancer. As it has been extracted from the financial audit analyzes, the costs of prevention are economically much lower than the costs of intervention (involving anamnesis, radiological examination, surgical intervention, biopsy, oncological treatment, etc.). To reduce the mortality rate from breast cancer, information and awareness programs need to be disseminated so that everyone can decide on their own health responsibly (for breast cancer, carrying out the annual or biannual mammography for the 50–74 years age group) [6]. Also, one of the successful measures that could be applied at national level, would be the increase of health expenditure, to 6–7%, to be closer to the measures applied and implemented in other European countries [7].

☒ **Breast cancer in Romania and France: incidence, mortality, survival rate, prevention**

To achieve some comparative analyzes of the breast cancer situation in France and Romania, we used as a source of secondary data the Eurostat database for health indicators. Of course, as a number, the figures cannot be compared, given the differences between the population volumes of the two societies (65.3 million inhabitants in France, 19.1 million in Romania in 2021). But, as we will see in the Tables 1–4, we have opted to compare some variation indicators, which reflect how the incidence, mortality rate or survival rate of breast cancer have evolved, according to the case. For example, we have started from the argument that if there is a decrease or increase in mortality in a specific time segment, this can be a sufficiently strong statistical argument to support the conclusion that preventive measures taken at the level of a society (be it Romanian or French) are or are not effective and can contribute, in the long term, to reducing the incidence and mortality rate caused by breast cancer.

Some specialized studies [8] have shown that there is a close link between the level of education and preventive medical conduct. Thus, a high level of education gives individuals greater access to information, the possibility of properly informing themselves about certain diseases, of preventive medical behavior, of making choices or changes in individual life, contributing to an improvement in their state of health and, in the long term, in life quality [9]. In addition, not only the level of education contributes to fostering preventive behavior, but the entire social system in which an individual lives: the data below are consistent with the data from other studies developed at European level, which emphasize that there is no culture of prevention for certain diseases in Romania.

Regarding breast cancer prevention and individual medical consultation initiatives for early detection of such a disease, there are significant differences between France and Romania. Thus, according to a survey carried out by Eurostat in 2014, 79.0% of Romanian women (aged 50–69) pointed out that they had never made a breast examination by X-ray. This percentage reflects a worrying situation, which also confirms the conclusions of European studies that Romania is among the countries with the highest incidence of premature mortality (caused by diseases that could have been treated, had it been discovered early or in time). In the case of France, 40.3% of women mentioned

that they had had the last breast X-ray exam less than a year before the survey date (Table 1).

Table 1 – Self-reported last breast examination by X-ray among women, by age: 50–69 years (2014, Eurostat)

Country	Less than a year [%]	One to two years [%]	Two to three years [%]	Three years and more [%]	Never [%]
Romania	1.5	5.1	5.1	9.2	79.0
France	40.3	46.7	4.2	4.4	4.4

Source: Eurostat. Health Indicators, retrieved from: <https://ec.europa.eu/eurostat/web/health/data/database>

Then there are studies that also highlight the link between different social factors (such as disadvantaged residence environments) and the risk of illness [10, 11]. In the case of Romanian society, differences between residence environments are accentuated, not only regarding the health system, but also to education, labor market or economy and the development of activity sectors. These differences “overlap with increased inequalities concerning the access to health care services and their quality” [12] (Table 2).

Table 2 – Self-reported last breast examination by X-ray among women, by degree of urbanization: rural areas (2014, Eurostat)

Country	Less than a year [%]	One to two years [%]	Two to three years [%]	Three years and more [%]	Never [%]
Romania	0.9	2.6	2.7	4.6	89.2
France	39.5	47.4	4.2	5.1	3.8

Source: Eurostat. Health Indicators, retrieved from: <https://ec.europa.eu/eurostat/web/health/data/database>

In France, there was a 91% increase in the incidence of cancer cases among women during 1990–2018 (from 91 800 in 1990 to 1 777 400 in 2018). As for breast cancer, there is also an increase in the incidence in all age groups (up to the age of 60). In terms of the number of newly detected cases at the level of 2018 in France, it was above 50 000 persons (*i.e.*, 58 459 persons). The number of deaths recorded due to breast cancer was of 12 146, which was statistically a mortality rate of 14.0. In Romania, at the level of 2018, breast cancer was on the first rank regarding the incidence of new cancers in women of all ages (a number of 38 439 cases), approximately 9629 new cancer cases being registered, which makes up a share of 25.1% of the total of newly detected cancers [13].

The cancer incidence forecast by 2025 shows a trend of continuous growth of new cancer cases in Romania, reaching 337.0‰ inhabitants in 2025 [14], which calls for greater attention to the prevention through screening, where possible, to reduce costs and mortality from this disease. The prognosis on breast cancer incidence in women (data reported by the oncology practice) by 2025 shows the trend of continuous growth in new breast cancer cases, reaching the rate of 74.8‰ women in 2025.

As regards the more recent statistical situation (year 2020), the comparative analysis shows a similar situation in the two countries in terms of cancer incidence, breast cancer mortality, but also differences in survival rates.

Regarding the incidence of breast cancer, the differences between the two societies are very small (also considering, of course, the differences in population size), which points out once again the conclusion made by numerous specialized works, that breast cancer is a disease faced by all societies, regardless of their level of development (Table 3).

Table 3 – Breast cancer incidence (2020). Romania–France benchmarking

Country	No. of cases	Incidence
France	58 083	164.4
Romania	12 085	113.1

Source: European Cancer Information System (ECIS). 2020 Cancer incidence, retrieved from: <https://ecis.jrc.ec.europa.eu>

In terms of breast cancer mortality, if we compare the two societies, there are minor and insignificant differences also here. It is interesting to analyze the medical typology (medical evolution) and the correlation with the (early) stage of the disease of patients who died due to breast cancer, because the chances to cure depend very much on the timing/period of the diagnosis [4] (Table 4).

Moreover, this mortality rate has increased in recent years in both societies, as reflected in the data from the

Table 5 – Evolution of female mortality caused by breast cancer (2011–2016)

Country	Year						Variation 2011–2016 [%]
	2011	2012	2013	2014	2015	2016	
Romania	3130	3127	3233	3336	3432	3455	+10.4
France	11 692	11 896	11 930	12 238	12 444	12 734	+8.9

Source: Eurostat. Health Indicators, retrieved from: <https://ec.europa.eu/eurostat/web/health/data/database>

The survival rate of breast cancer is determined, among other things, by three important factors: prevention, early detection, and expenditure/investment in disease research. Regarding this latter factor, the differences between the two societies are significant and are presented in the Table 6.

Table 6 – Survival rate (2000–2007)

Country	One year	Three years	Five years
France	94.73	85.77	78.28
Romania	88.31	73.60	62.86

Source: European Cancer Information System (ECIS). 2020 Cancer survival rate, 22 July 2020, retrieved from: <https://ecis.jrc.ec.europa.eu>

It can be noticed that the share of gross domestic product (GDP) allocated to health expenditure is twice as low in Romania as in France and the direct costs of cancer (*per capita*) are the lowest in Europe (3.5 times smaller than in France and 5 times smaller than in Switzerland, which is in the first position in terms of direct cancer costs) (Table 7).

Table 7 – Total health expenditures and costs for cancer: 2018

Expenditures	France	Romania
Expenditure – percent of GDP for health	11.2%	5.0%
Cancer expenditure – percent of total health expenditure	7.1%	7.1%
Cancer expenditure – EUR <i>per capita</i>	254	0

EUR: Euros; GDP: Gross domestic product. Source: Hofmarcher T, Brådvik G, Svedman C, Lindgren P, Jönsson B, Wilking N. Comparator Report on Cancer in Europe 2019 – disease burden, costs and access to medicines. The Swedish Institute for Health Economics (IHE) Report, Lund, Sweden, 2019, 7:43–44, retrieved from: <https://www.efpia.eu/media/580501/comparator-report-on-cancer.pdf>

☐ The foundation for European health policies and programs – with focus on cancer prevention

The health state of the population is “a complex social and biological phenomenon that expresses the level and characteristics of the health of members of a community

Table 5, which shows the evolution of female mortality from breast cancer in the period 2011–2011 (when, *e.g.*, in France, the II Plan for preventing and combating breast cancer was being implemented). These statistical data, which highlight the concern or caution with which this issue should be addressed, have been the basis for building the most important public health policy measures in the two states (which we will present in the second part of this article).

Table 4 – Breast cancer mortality (2020). Romania–France benchmarking

Country	No. of cases	Mortality
France	14 183	35.6
Romania	3918	36.2

Source: European Cancer Information System (ECIS). 2020 Cancer incidence, retrieved from: <https://ecis.jrc.ec.europa.eu>

as a whole; the health state is closely linked to the living standard of the population” [15]. In fact, the problem of the health state is closely linked to the functional needs of our social system. Almost all definitions of health contain elements of the functional needs of the individual as a member of the society [16].

At European level, health is considered “a social right to which all citizens must have access, as opposed to the USA, *e.g.*, where health is an individual good, for which individuals have to pay high costs” [17]. Thus, access to health services is a fundamental right of all the countries of the European Union (EU), guaranteed in the Charter of Fundamental Rights of the EU; according to Article 35 “everyone has the right of access to preventive healthcare and to benefit from medical care under the conditions laid down in national laws and practices” [18]. Among the European documents of a programmatic nature relevant for the health protection field, we can mention the following: The Treaty on the Functioning of the EU (Article 168 on the protection of public health); the 2020 Strategy; the EU Health Program – *Health for Growth* (2014–2020). This program is designed around four axes: health promotion and disease prevention; supporting innovation and sustainability in EU health systems; improving access to a quality and safer healthcare; ensuring the protection of citizens against cross-border health threats.

Focusing on the issue of breast cancer disease, in 2006, the European Commission (EC) developed and adopted the *European Guidelines for Assurance in Breast Cancer Screening and Diagnosis*, a public policy document with the main objective of promoting best practices in the field of national (and/or regional) programs which are aimed at preventing and combating breast cancer by reducing the number of illnesses.

From a social point of view, we must bear in mind that there is a close link between the aging of the population and the increase in the cost of cancer treatments. This combination of factors has a significant impact on health budgets, even for the most developed societies. Health

systems are therefore experiencing a continuous increase in the level of necessary resources, due to population aging, the discovery of more efficient and costly technologies and medicines, and the increase in the number of people receiving healthcare services. The chosen health model for the provision of services is not important, but the effect of that system on the health of the population.

The promotion of a healthy lifestyle (primary prevention) and secondary prevention (*e.g.*, screening) [19] are effective public health policy measures aimed, *inter alia*, at identifying new cases at early stages of development and reducing cancer risk. Otherwise, many European countries have implemented screening and early detection programs for breast cancer which can effectively contribute to reducing the difficulties faced by European countries in national health budgets [20].

State intervention in the prevention of breast cancer through effective public policies is justified in the context of strong socio-economic inequalities which exist in all European societies (inequalities in terms of exposure to risk factors, access to early detection services, in diagnostic facilities and care services [21]). Moreover, the objective of any public policy in the field of breast cancer prevention, such as screening programs, is to ensure fairness and equal opportunities [20]. The degree of access of individuals to health services has direct implications for the general health of the population in a society, contributing to the reduction of the risk factors that may cause predisposition to economic, social, and medical marginalization [22]. Secondly, in the context of socio-economic development, however, this indicator is not only seen from the point of view of the living standard, but also of the implications it has on the quality of the workforce, because a healthy population means a healthy workforce, which can actively contribute to the development of any society.

Moreover, there are societies whose health systems prioritize reform, infrastructure development and orientation towards prevention. In fact, the latter is a priority for all societies, especially for the developing ones, “that cannot solve all the issues along and need external resources, great problems that need to be supported as conditions of the costs growth for health” [23].

As regards public policy measures implemented at European level, after 2000, the first of these were drafted in 2003 by the Council of the EU, which regulated a set of 30 recommendations for all EU Member States at the time. The recommendations called on all EU Member States to take common measures to implement national screening programs for breast cancer, cervical cancer, and colorectal cancer. More specifically, these recommendations aimed at *implementing national population-based programs*.

Based on these recommendations, regular monitoring reports have been carried out on the implementation degree of these programs, with the first two being carried out in 2008 and 2016. The 2008 report highlighted that despite progress, Member States had not exceeded the target set for the minimum number of cases (50%). One of the conclusions of the 2016 report pointed out that in 25 of the 28 EU Member States *national population-based screening programs were implemented*, including 95% of women in the 50–69 age group [24].

According to the report published in 2017, at EU level, three Member States (Bulgaria, Greece, and Slovakia) only

implemented non-population-based programs. A pilot project called “Stop and get Screened” was implemented in Bulgaria, whose main objective was to perform screening for breast, cervical and colorectal cancer, using the same type of approach – *population-based program*. This project was completed in 2014, currently Bulgaria having only one *non-population-based* screening program. As for the Romanian society, the report mentioned the existence of a pilot program, which was carried out in Cluj-Napoca, but on a small scale: the project was aimed at the participation of only 2363 women. In addition, between 2016 and 2018, Romania, together with Bulgaria and Latvia, represented the countries with the lowest screening rate among women aged 50 to 69 [25].

In Europe, the screening interval for public programs is two years in most countries except Great Britain and Malta. The test groups are women aged 50 to 69, but there are also countries where the age threshold is over 70 (*e.g.*, France, Sweden, Italy, Portugal) or countries where the threshold is under 40 years (Greece and Sweden). In 11 of the 28 European countries, the policy document regulating screening for early detection of breast cancer is implemented in the form of a law. Digital mammography is used as a test method for breast cancer in 16 countries (out of 28, at 2018 level).

From the analysis of the report published in 2017, we can see that positive results have been achieved over time in those countries where screening programs have a longer “tradition”: *e.g.*, the first European screening programs were implemented in Finland (1987), the United Kingdom (1988) and The Netherlands (1989).

The fundamental changes proposed to be achieved in the oncology field through the *European Plan for Action against Cancer*, launched in the winter of 2021, have gone from the pandemic context and the comparative analysis of the number of deaths caused by pandemic *vs.* oncological disorders (approx. 1/4 of the over 1.3 million people). The 40% cancer cases out of the approx. three million registered during 2020 could have been prevented, which is why the President of the EC decided to allocate EUR 4 trillion to activate this plan, with the aim of reducing inequalities between EU countries.

☞ **Benchmark comparative perspective (Romania–France) on public policies in the field of prevention and early detection of breast cancer**

In **Romania**, social health insurances are the main system for the protection of the population; they are compulsory and operate in a decentralized manner, on the principle of solidarity and subsidiarity in the collection and use of the funds (the Bismarck principle). The financing of health in Romania is achieved “mainly from public revenues, most of which are covered by the budget of the *National Single Health Insurance Fund* (FNUASS), supplemented by sums from the State budget and the State social security budget, as well as from the population’s own income”. As mentioned above, the Romanian health system is one of the poorest financed systems in the EU; in addition to underfunding, there are other organizational and infrastructure problems that hinder its development, as is the case with other European societies. And this puts its mark on the

state of health of the population and the risks to which it is exposed, as confirmed by EU statistics: *e.g.*, in 2018, Romania was the country with the lowest *healthy life years* (57 years) compared to the European average of 62 [26]. In addition, in the *European Health Consumer Index* (EHCI), since 2017, Romania has been the last ranking of the European Health systems, which considers indicators such as: accessibility of medical services (waiting times for control and treatment), patients' rights, information to patients, treatment results, survival rates for chronic or incurable diseases, prevention services, etc. [27].

As for cancer disease, at national level, Romania is implemented *The National Oncology Program*, which has several sub-programs in its structure, but all are focused on the treatment of this disease and not on its prevention. In 2016, the Ministry of Health adopted the *First Integrated Multiannual National Plan for Cancer Control in Romania* for the period 2016–2020, a public policy document whose main objective was to promote preventive behavior. The training of preventive behavior involved, on the one hand, campaigns to raise awareness and inform the public about the risk factors for cancer; on the other hand, it involved conducting pilot screening campaigns for the most common cancers (breast cancer and colorectal cancer), with the knowledge that, in the absence of a culture of prevention, increased breast cancer mortality is also caused by the fact that breast cancer is diagnosed, most of the times, in advanced stages. Two years after the adoption of the national *Cancer Control Plan*, the project to implement the pilot Program for early detection of breast cancer was launched in 2018.

France is characterized by a hybrid health system resulting from the combination of the public and private sectors, a system “based on compulsory health insurance and supplemented subsequently by voluntary insurance measures” [28]. In terms of financing, it is dominated by contributions from employers and employees and “10% of total health expenditure is covered by private insurance” [29].

The first cancer prevention plan was implemented in 2003, under the presidency of Jacques Chirac, the year when the *National Cancer Institute* (INCa) was also founded. After the 2003–2007 plan, two further plans followed: 2009–2013 and 2014–2019, under the auspices of which a complex structure of cancer fighting bodies and organizations was set up, leading to significant financial expenditure for the French state (*e.g.*, 16 billion EUR were spent at 2009 level) [30].

An example of good practice

To be able to carry out a meaningful analysis of the effects of these plans in the French society, it is important to analyze the areas around which they are articulated. Looking at the latest plan (2014–2019), its analysis shows that the population eligible for the national screening program carried out in 2015 (at the start of the Plan) was around 10 million women aged 50–74, of which about 51.5% were tested. Through this program, 36 889 cases were detected at 2015 level, which means a rate of 7.4 per thousand of all participating persons [31, 32]. We can say that the national Cancer Plan 2014–2019 was built around three keywords: prevention, cure, and equal opportunities –

through an effective prevention activity, we can detect faster (at the early stage) and cure faster. Last but not least, in a world of social inequalities (which we find both France and in Romania – in particular), a successful public policy, especially in this health field, is one that ensures equal access to detection and, subsequently, treatment services. Not often, as a perverse effect (in the meaning of Boudon (1998) [33]), health campaigns have the effect of “increasing social divisions rather than reducing them, since the more educated groups tend to be the ones who best respond to information on health, disseminated publicly or privately” [34].

Thus, the 2014–2019 Plan in France has been articulated around four axes, each with its own objectives: (i) cure of sick persons (one of the objectives being to promote early diagnosis); (ii) ensuring continuity of life quality (one of the objectives being to reduce the impact of cancer on personal life); (iii) optimization of institutional management (network of cancer prevention and treatment institutions); (iv) investment in research and prevention.

In fact, this last point is a strong point of any successful public policy measure. Without investment in the (research and health) infrastructure, without investment in prevention campaigns and programs, without an adequate financing of public health systems (here the statistical indicators show a major difference between France and Romania – which is the last in the EU in terms of the percentage of GDP allocated to health (5.2% of GDP in 2017, compared with 11.3% in France [35]), no notable results can be achieved in preventing a disease such as cancer or, in the long term, improving the health state and life quality of the population.

Compared to the 2009–2013 plan, the novelty of the plan that started in France in 2015 is that: the 50–74 years category eligible for screening has been maintained, but two more population categories have been added: a population group for which risk assessment actions have been initiated (women aged 25 to 50) and a category envisaged by a vigilant surveillance (women aged over 75) [36].

Regarding the age group “50–74 years”, the National Cancer Plan 2014–2019 considered, first of all, that, when reaching the age of 50, every woman in the target group would receive a free consultation (invitation for consultation from the treating doctor, the gynecologist or to go directly to a radiology clinic to perform the first mammography within this program). Another measure concerned training activities for the actors involved. Thus, the gynecologists-treating physicians of women in this age group are involved in training activities, whose primary purpose is to facilitate dialog and communication with their patients and to assist them in the decision-making process to investigate breast cancer. Moreover, in this age group, the Plan aimed at removing financial obstacles. If the socio-economic situation of the person concerned does not allow an echography to be carried out, the costs of the echography are to be borne by the State at a rate of 96% [35]. Finally, another measure aimed at removing cultural barriers. This was supported by the following concrete actions: the “mammobiles” [37] and the development of health mediation and language interpretation services (with the knowledge that France is a country where the number of immigrants is very high). The concept of mammobiles appeared in France, for the first time in the period 1990–1992 in the Departments of

Hérault and Orne, along the lines of those that already existed in The Netherlands and Sweden [38]. The measure was a successful one, considering that in 10 years the participation rate in the early screening of breast cancer increased – e.g., in the Department of Hérault, it increased from 24.4% in 2004 to 50.7% in 2014 [37].

Regarding the age group “25–50 years”, the National Cancer Plan 2014–2019 considered that on reaching the age of 25, any woman who has no personal history of breast cancer and who has already been identified is invited (by letter) to consult her treating physician or gynecologist for the beginning of a period dedicated to prevention and possible early detection. The measure is supported by the state, with 100% coverage of the consultation by medical insurance (so-called “*assurance maladie*”). In addition, women in this age group benefited from primary prevention activities: information on risk factors (tobacco, alcohol consumption, harmful eating habits, lifestyle, and physical activity, etc.) in the appearance of cancers; primary prevention also included information on sexual health elements (sexually transmitted infections, contraception, pregnancy, breastfeeding, etc.).

The results of the implementation of the 2014–2019 Plan were positive if we consider that the women mortality rate of breast cancer dropped in the period 2016–2019 [39], after an increase of 8.9% in the period 2011–2016 (as shown in Table 5). Despite this progress, France is still in the category of those countries where the incidence and mortality of cancer (generally not just breast cancer) is above the EU average [40].

However, the National Cancer Plan of the French society is a model of good practice that can be applied in the Romanian society, although the differences between the two societies in terms of structure, organization, functioning, infrastructure, and financing of the medical system are significant, which would create some difficulties in implementing this model of early detection and prevention of breast cancer.

☐ Conclusions

Based on one of the fundamental principles underpinning health systems, namely universal access, financing of health is conditioned by the country’s level of development. The public financing system has, unquestionably, a defining role, with 70% of the health expenses being borne by the state in 2/3 EU Member States, while in Romania the average yearly allocation of the GDP for health is around 5%.

From the analysis of the secondary data collected and processed for this article, it resulted that there is a need for further algorithms of the main methods of financing the national health system (State budget, health social security, private health insurance, direct payments, community funding), by piloting a model that can support the actions of the Europe Beating Cancer Plan. Without prioritizing the shift from tertiary care to a system based on prevention and primary care and a public commitment to increase health expenditure, Romania will not be able to achieve any coherent action of the EU Beating Cancer Plan and will not be able to direct funds to research aimed at implementing the European Cancer Imaging Initiative.

A healthy community is the one where the mortality rate is low, and this depends on focusing the attention on disease prevention rather than treatment. The GDP for health

is double in France compared to Romania, giving this country the opportunity to invest funds in infrastructure (research and medical) and prevention programs. If the state budget funding is insufficient and a fragile mechanism for collecting health taxes is added, the only remaining solution that can be tested is to change the interventional paradigm centered on hospital healthcare, which involves a series of exponential costs, with that of the preventive paradigm with coercive accents on the population (with the risk of losing the extended benefits of the insured person status).

Conflict of interests

The authors declare that they have no conflict of interests.

References

- [1] Amsellem N, Bataille P (eds). Le cancer : un regard sociologique. Biomédicalisation et parcours de soins. Collection « Recherches », Éditions La Découverte, Paris, 2018, 11–12, 18. https://www.editionsdecouverte.fr/le_cancer_un_regard_sociologique-9782707195784
- [2] Ferlay J, Colombet M, Soerjomataram I, Dyba T, Randi G, Bettio M, Gavin A, Visser O, Bray F. Cancer incidence and mortality patterns in Europe: estimates for 40 countries and 25 major cancers in 2018. *Eur J Cancer*, 2018, 103:356–387. <https://doi.org/10.1016/j.ejca.2018.07.005> PMID: 30100160
- [3] Hofmarcher T, Brådvik G, Svedman C, Lindgren P, Jönsson B, Wilking N. Comparator Report on Cancer in Europe 2019 – disease burden, costs and access to medicines. The Swedish Institute for Health Economics (IHE) Report, Lund, Sweden, 2019, 7:16. <https://www.efpia.eu/media/580501/comparator-report-on-cancer.pdf>
- [4] Organization for Economic Co-operation and Development/ European Union (OECD/EU). Health at a glance: Europe 2018. State of health in the EU cycle. OECD Publishing, Paris, France, 2018, 160. https://doi.org/10.1787/health_glance_eur-2018-en https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2018_health_glance_eur-2018-en
- [5] Anderson KN, Schwab RB, Martinez ME. Reproductive risk factors and breast cancer subtypes: a review of the literature. *Breast Cancer Res Treat*, 2014, 144(1):1–10. <https://doi.org/10.1007/s10549-014-2852-7> PMID: 24477977 PMID: PMC 4026199
- [6] European Commission (EC). Europe’s Beating Cancer Plan: communication from the Commission to the European Parliament and the Council. EC, Brussels, Belgium, 2021, 1–31. https://ec.europa.eu/health/sites/health/files/non_communicable_diseases/docs/eu_cancer-plan_en.pdf
- [7] The Economist Intelligence Unit (EIU). Modele europene: opțiuni pentru finanțarea sănătății și medicamentelor inovatoare în România. EIU HealthCare, London–New York–Hong Kong, 2018, 1–67. http://www.lawg.ro/files/assets/userfiles/files/RFC_LAWG_Full_Version_RO_v2_for_Web.pdf
- [8] Borg V, Kristensen TS. Social class and self-rated health: can the gradient be explained by differences in life style or work environment? *Soc Sci Med*, 2000, 51(7):1019–1030. [https://doi.org/10.1016/S0277-9536\(00\)00011-3](https://doi.org/10.1016/S0277-9536(00)00011-3) PMID: 11005390
- [9] Ross CE, Van Willigen M. Education and the subjective quality of life. *J Health Soc Behav*, 1997, 38(3):275–297. PMID: 9343965
- [10] Contoyannis P, Jones AM. Socio-economic status, health and lifestyle. *J Health Econ*, 2004, 23(5):965–995. <https://doi.org/10.1016/j.jhealeco.2004.02.001> PMID: 15353189
- [11] Krieger N. Defining and investigating social disparities in cancer: critical issues. *Cancer Causes Control*, 2005, 16(1):5–14. <https://doi.org/10.1007/s10552-004-1251-5> PMID: 15750853
- [12] Pop CE. Starea de sănătate a populației din România în context european. O abordare din perspectiva calității vieții. *Calitatea Vieții*, 2010, XXI(3–4):274–305. <https://www.revistacalitatea.vietii.ro/2010/CV-3-4-2010/04.pdf>
- [13] International Agency for Research on Cancer (IARC). Romania. World Health Organization (WHO), Globocan 2020, The Global Cancer Observatory (GCO), Geneva, Switzerland, March 2021, 1–2. <https://gco.iarc.fr/today/data/factsheets/populations/642-romania-fact-sheets.pdf>

- [14] Cucu MA, Cristea C, Calomfirescu C, Matei E, Galan A, Ursu C, Rădulescu S, Georgescu D. Raport național privind starea de sănătate a populației României 2018. Ministerul Sănătății, Institutul Național de Sănătate Publică (INSP), Centrul Național de Evaluare și Promovare a Stării de Sănătate (CNEPSS), Bucharest, Romania, 2018, 117. http://insp.gov.ro/download/cnepss/stare-de-sanatate/rapoarte_si_studii_despre_starea_de_sanatate/starea_de_sanatate/starea_de_sanatate/RAPORTUL-NATIONAL-AL-STARII-DE-SANATATE-A-POPULATIEI-%25E2%2580%2593-2018.pdf
- [15] Tănăsescu P. Asigurări și protecție socială în România. C.H. Beck Publishing House, Bucharest, Romania, 2009, 44. <https://www.beckshop.ro/asigurari-si-protectie-sociala-in-romania>
- [16] Rădulescu SM. Sociologia sănătății și a bolii. Nemira Publishing House, Bucharest, Romania, 2002, 114–115. <https://www.librariaromana.ro/carti/sociologia-sanatatii-si-a-bolii-radulescu-sorin-m-p1008477>
- [17] Doboș C. Finanțarea sistemelor de sănătate în țările Uniunii Europene. România în context european. Calitatea Vieții, 2008, XIX(1–2):107–123. <https://www.revistacalitatevietii.ro/oldrcv/2008/CV-1-2-2008/06.pdf>
- [18] ***. Charter of Fundamental Rights of the European Union (2012/C 326/02). O J, 2012, C 326/391:391–407. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012P%2FTXT>
- [19] World Health Organization (WHO). WHO position paper on mammography screening. WHO Guidelines, Geneva, Switzerland, 2014. <https://apps.who.int/iris/handle/10665/137339>
- [20] International Agency for Research on Cancer (IARC). Cancer screening in the European Union (2017). Report on the implementation of the Council Recommendation on cancer screening. European Commission, Brussels, Belgium, May 2017. https://ec.europa.eu/health/system/files/2017-05/2017_cancer_screening_2ndreportimplementation_en_0.pdf
- [21] Lechopier N, Hamant C. Accompagner et prévenir. Tensions éthiques dans le dépistage du cancer colorectal. Sciences Sociales et Santé, 2017, 35(4):5–28. <https://doi.org/10.3917/sss.354.0005> <https://www.cairn.info/revue-sciences-sociales-et-sante-2017-4-page-5.htm?ref=doi>
- [22] Dahlgren G, Whitehead M. Policies and strategies to promote social equity in health. Background document to World Health Organization (WHO) – Strategy paper for Europe. Institute of Futures Studies, Stockholm, Sweden, 1991. <https://core.ac.uk/download/pdf/6472456.pdf>
- [23] Motoi G, Popescu MA. A comparative analysis of the educational and health indicators in rural marginalized areas from Dolj County. Revue des Sciences Politiques (RSP), 2017, 55:111–121. http://lfv.ucv.ro/revistadestiintepolitice/files/numarul55_2017/11.pdf
- [24] Niță AM, Stoica M, Trușcă IP. Screening Romanian Medical and Social Security System: self-ratings and healthcare feedback at local level. Revue des Sciences Politiques (RSP), 2015, 46:260–273. http://cis01.central.ucv.ro/revistadestiintepolitice/files/numarul46_2015/24.%20Screening%20Romanian%20Medical%20and%20Social%20Security%20System...%20pp.%20260-273.pdf
- [25] Organization for Economic Co-operation and Development/European Union (OECD/EU). Health at a glance: Europe 2018. State of health in the EU cycle. OECD Publishing, Paris, France, 2018, 161–162. https://doi.org/10.1787/health_glance_eur-2018-en https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2018_health_glance_eur-2018-en
- [26] European Commission (EC). The 2018 ageing report. Underlying assumptions & projection methodologies. EC Institutional Paper 065, Publications Office of the European Union (EU), Luxembourg, November 2017. <https://doi.org/10.2765/286359> <https://op.europa.eu/en/publication-detail/-/publication/23ed1577-6945-11e8-ab9c-01aa75ed71a1/language-en>
- [27] Björnberg A. Euro Health Consumer Index 2017 Report. Health Consumer Powerhouse Ltd., Marseillan, France, 2018. <https://healthpowerhouse.com/media/EHCI-2017/EHCI-2017-report.pdf>
- [28] Vlădescu C, Bușoi CC. Politici de sănătate în Uniunea Europeană. Polirom Publishing House, Iași, Romania, 2011, 193. <https://www.polirom.ro/carti/-/carte/4161>
- [29] Joumard I, André C, Nicq C. Health care systems. Efficiency and institutions. Organisation for Economic Cooperation and Development (OECD) Economics Department Working Papers No. 769, 2010, 34. <https://doi.org/10.1787/18151973> <https://www.oecd-ilibrary.org/docserver/5kmp51f5f9t-en.pdf?expires=1653720501&id=id&accname=guest&checksum=62D4BD A771D14E2B2E99266BF9F0E6C3>
- [30] Castel P, Juven PA, Vézian A. Les politiques de lutte contre le cancer en France : regards sur les pratiques et les innovations médicales. Presses de L'École des Hautes Études en Santé Publique (EHESP), Paris, 2019, 7, 8. <https://www.presses.ehesp.fr/produit/politiques-de-lutte-contre-cancer-france/>
- [31] Institut National du Cancer (INCa). Le Plan cancer 2014–2019. INCa, Boulogne–Billancourt, France, Février 2015. <https://www.e-cancer.fr/Institut-national-du-cancer/Strategie-de-lutte-contre-les-cancers-en-France/Les-Plans-cancer/Le-Plan-cancer-2014-2019>
- [32] Bousquet PJ, Lefeuvre D, Tuppin P, BenDiane MK, Rocchi M, Bouée-Benhamiche E, Viguier J, Le Bihan-Benjamin C. Cancer care and public health policy evaluations in France: usefulness of the national cancer cohort. PLoS One, 2018, 13(10):e0206448. <https://doi.org/10.1371/journal.pone.0206448> PMID: 30379946 PMID: PMC6209307
- [33] Boudon R. Efecte perverse și ordine socială. Eurosong & Book Publishing House, Bucharest, Romania, 1998. <https://www.targulcartii.ro/raymond-boudon/efecte-perverse-si-ordine-sociala-eurosong-book-1998-380676>
- [34] Giddens A. Europa în epoca globală. Ziua Publishing House, Bucharest, Romania, 2007, 193. <https://www.printrecarti.ro/279145-anthony-giddens-europa-in-epoca-globala.html>
- [35] Eurostat. Statistics explained: Current healthcare expenditure, 2017 (SPS20.png). https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Current_healthcare_expenditure_2017_SPS20.png
- [36] Institut National du Cancer (INCa). Le Plan cancer 2014–2019 : priorités et objectifs. INCa, Boulogne–Billancourt, France, Janvier 2014. <https://www.e-cancer.fr/Plan-cancer/Plan-cancer-2014-2019-priorites-et-objectifs>
- [37] Vallée A. Le « Mammobile » : une méthode pertinente en France? Santé Publique, 2016, 28(5):599–602. <https://doi.org/10.3917/spub.165.0599> <https://www.cairn.info/revue-sante-publique-2016-5-page-599.htm?ref=doi>
- [38] Daires JP, Berthaud G, Stoebner A, Arnaud C, Lamarque JL, Laurent JC, Chersischeikh D, Boulet P, Pujol J. Résultats des 5,000 premières mammographies lors du dépistage de masse par le “mammobile” dans l'Hérault [Diagnosis of cancer of the breast by mammography screening in a mobile van: the 5,000 first results of the Hérault experience]. Pathol Biol (Paris), 1992, 39(9):853–854. PMID: 1538905
- [39] Basu P, Ponti A, Anttila A, Ronco G, Senore C, Vale DB, Segnan N, Tomatis M, Soerjomataram I, Primić Žakelj M, Dillner J, Elfström KM, Lönnberg S, Sankaranarayanan R. Status of implementation and organization of cancer screening in The European Union Member States – summary results from the second European screening report. Int J Cancer, 2018, 142(1):44–56. <https://doi.org/10.1002/ijc.31043>. Erratum in: Int J Cancer, 2018, 143(1):E1. PMID: 28940326
- [40] Espina C, Soerjomataram I, Forman D, Martín-Moreno JM. Cancer prevention policy in the EU: best practices are now well recognised; no reason for countries to lag behind. J Cancer Policy, 2018, 18:40–51. <https://doi.org/10.1016/j.jcipo.2018.09.001> PMID: 30510896 PMID: PMC6255794

Corresponding authors

Gabriela Motoi, Senior Lecturer, PhD, Faculty of Social Sciences, University of Craiova, 13 Alexandru Ioan Cuza Street, 200585 Craiova, Dolj County, Romania; Phone/Fax +40251–418 515, Mobile +40736–654 228, e-mail: gabriela.motoi@edu.ucv.ro

Andreea Mihaela Niță, Associate Professor, PhD, Faculty of Social Sciences, University of Craiova, 13 Alexandru Ioan Cuza Street, 200585 Craiova, Dolj County, Romania; Phone/Fax +40251–418 515, Mobile +40743–108 885, e-mail: andreea.nita@edu.ucv.ro