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Substitutes or complements? Diagnosis and treatment with non-conventional and conventional medicine

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Abstract
Background: Portugal has a strong tradition of conventional western healthcare. So it provides a natural case study for the relationship between Complementary/Alternative Medicine (CAM) and Western Medicine (WM). This work aims to test the relationship between CAM and WM users in the diagnosis and treatment stages and to estimate the determinants of CAM choice.
Methods: The forth Portuguese National Health Survey is employed to estimate two single probit models and obtain the correlation between the consumption of CAM and WM medicines in the diagnosis and treatment stages.
Results: Firstly, both in the diagnosis and the treatment stage, CAM and WM are seen to be complementary choices for individuals. Secondly, self-medication also shows complementarity with the choice of CAM treatment. Thirdly, education has a non-linear relationship with the choice of CAM. Finally, working status, age, smoking and chronic disease are determinant factors in the decision to use CAM.
Conclusion: The results of this work are relevant to health policy-makers and for insurance companies. Patients need freedom of choice and, for the sake of safety and efficacy of treatment, WM and CAM healthcare ought to be provided in a joint and integrated health system.
Keywords: Health Economics, Complementary/Alternative Medicine (CAM), Diagnosis, Treatment, Probit
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Key Messages

Implications for policy makers
- Complementary/Alternative Medicine (CAM) and Western Medicine (WM) are complements, both in the diagnosis and treatment stages.
- After a WH diagnosis, people may look for a CAM treatment.
- It is not socially desirable to separate WM from CAM in the NHS.
- Patient empowerment, education and individual characteristics are relevant for the choice of CAM.

Implications for public
Private health insurance providers may exploit the desire of people for access to both Complementary/Alternative Medicine (CAM) and Western Medicine (WM) and explore a niche of this market. Additional research on the relationship between income and the use of CAM is needed. The use of CAM is more frequent than it seems.

Background

The use of Complementary/Alternative Medicine (CAM) is becoming more and more common. A broad concept of CAM is used here including all modalities of medicine which are not considered conventional, or allopath, Western Medicine (WM). This approach is actually aligned with the definition proposed by World Health Organization (WHO) (1), which accordingly refers to a broad set of healthcare practices that are not part of that country's own tradition and are not integrated into the dominant healthcare system. Examples of CAM in this work include: acupuncture, natural products, herbal care, homeopathy, osteopathy, phytotherapy and chiropractic care. The definition of CAM used here does not distinguish between the different therapeutic medical traditions; they are all given equal consideration as alternatives to allopath medicine. However, this definition is not very different from the one proposed by the European Information Centre for Complementary and Alternative Medicine (2). Accordingly, *"the most commonly used CAM therapies in Europe are: homeopathy, phytotherapy, antroposophic medicine, naturopathy, traditional Chinese medicine, osteopathy and chiropractic"*. Finally, these definitions are also very close to the definitions suggested by the CAMbrella project (3). This project views complementary and alternative medicine as a group of diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine.

Access to and use of CAM has been increasing in Europe since the mid-1980s (4,5). In general, the reasons people use CAM are various and can be summarized as follows: a need for self-empowerment regarding healthcare, a feeling of dissatisfaction with and distrust of WM, and individual values

and beliefs (6,7). These reasons have been also identified for Portuguese users of CAM (8).

The efficacy and safety of the use of CAM therapies are controversial. On the one hand, the benefits arising from the use of particular CAM therapies are recognized for some diseases such as cancer, asthma, diabetes, cardiovascular diseases, liver diseases and rheumatology (9–12). On the other hand, these benefits lack thorough scientific and clinical evidence (13–15). Moreover, undesirable interactions between CAM and WM treatments are well-known. For instance, the pharmacokinetic interactions between St. John's wort and certain prescribed drugs (16) or between cat's claw and specific blood medication (17) are well-documented. Several research papers review the interaction between herbs, homeopathic and allopathic drugs (18–21). The interactions between traditional Chinese medicines and western therapeutics have been reviewed recently (22).

While acknowledging both the reasons why people choose CAM and also the concern for patient safety and treatment efficacy, the following questions can be raised:

- Are CAM and WM substitutes or complements in the individual decision regarding healthcare?
- How is the relationship between CAM and WM different in the diagnosis and treatment stages?
- What are the main factors determining the individual choice of CAM?

Portugal has a strong tradition of conventional healthcare and so the National Health System does not include any CAM provision. The Portuguese public health system covers the whole population where care is mainly provided without significant copayments, except in the case of drugs [Further details of the Portuguese health system can be found in Barros and Simoes (23)].

Despite this wide coverage, some people choose to buy voluntary private health insurance; it is estimated that around 20% of the population is covered by private voluntary health insurance (24)[1].

The total cost of any CAM provision is borne by the individual. Moreover, because of the strong tradition of conventional healthcare, physicians know little about CAM and they do not approve it (25,26). This attitude helps to explain the ignorance people have of CAM and the fact that they do not actively request it. This backdrop means that Portugal provides a natural case study for the relationship between CAM and WM medicines.

This work employs the forth Portuguese National Health Survey, published in 2006. The questions in this survey allow a distinction to be made both between the use of CAM and WM, and also between the diagnosis and the treatment, once some illness symptoms arise.

Two probit models are estimated, reflecting the binary nature of the target and dependent variables showing whether or not CAM was used, while also allowing analysis of the explanatory variables underlying the behaviour of the dependent variables. The probit estimates provide the correlation between the use of CAM and WM.

The theoretical basis for this analysis is the well-known model of demand for health proposed by Grossman (27). Accordingly, factors such as age, income and education are viewed as determinants of the demand for health. The

applications of this work are several and they provide the empirical background for the independent variables used in the work presented here (28–31).

A relevant branch of the existing literature is related to the efficacy, safety, and also cost effectiveness of CAM (32,33). There is also some work on the use of CAM for particular diseases and on the attitude of physicians towards CAM (34,35). A systematic review of the literature for a selection of countries is carried out by Harris and Rees (5).

For the case of developing countries, Das and Choudhury (36) determine the socio-economic factors of CAM use and estimate the cost effectiveness of such choice in India. However, they do not study the correlation between the uses of CAM and WM. Van Gameren (37) analyzes the effect of insurance coverage on the use of CAM in Mexico. He finds that CAM is substituted by WM covered by insurance and that higher income households substitute less than lower income households.

The USA is the most studied of all the developed countries. Here, the work of Wolsko *et al.* (38) is worthy of note, where a study is made of the effect insurance coverage has on the frequency of CAM use, finding a positive correlation. Pagan and Pauly (6) try to understand if the reason people use CAM has more to do with saving money or their personal beliefs. Their results show that people who could not afford WM were more likely to use CAM. Tom Xu and Farrell (39) study the correlation between CAM and WM among racial and ethnic groups in the United States. Their results indicate that the complementarity and substitution of CAM and WM varies depending on the racial and ethnic group and by type of CAM. These are similar to the determinant factors explaining the use of CAM found by other researchers (40). Finally, an older study by Astin (7) looks for the different motives that led people to choose CAM in the USA, but no correlation is made with traditional medicine.

The literature on Europe has been increasing in last few years and concern with CAM in the health systems is flourishing. It is possible to find research work studying nearly every European country while a vast survey was undertaken by the CAMbrella project in 2009–12 (41,42). This project represented a step towards harmonizing existing knowledge and determining the knowledge gaps in this field. The results of the project yielded recommendations for the European Commission and the European Parliament.

European studies of the prevalence of CAM tend to be poor and heterogeneous (43) and also tend to display huge variability in the national regulatory management which makes a comparison across the EU nearly impossible (44). Some of the research published looks at the determinants of the use of CAM in countries like Finland (45), Italy (46,47), Germany (48), Sweden (49,50) and the UK (51). An overview of the results presented by this European research shows that there is a tendency to find common factors explaining the use of CAM; users are more likely to be women, middle aged, well-educated and from higher income brackets and suffering chronic conditions. Nevertheless, no work was found studying the relationship between CAM and WM in general, despite work having been done looking at the relationship for specific conditions such as cancer (52,53) and HIV (54).

Our work tries to fill a gap in the research regarding the

use of CAM in Southern European countries. Up until now, little work has been done: i) testing the relationship between CAM and WM, where the WM is mainly provided by a National Health System that does not include any CAM, and ii) estimating the determinants of CAM choice. iii) Moreover, as far as the author is aware, no research has been done differentiating CAM from WM in the diagnosis and treatment stages.

The main result of this analysis is that for both cases of diagnosis and treatment CAM and WM are complementary choices for the individual. This result and the other results presented in this work provide a new and broader view concerning the use of CAM in Portugal. As a start point, health policy-makers should take into account the well-being and satisfaction of patients. Not only is this relevant from a safety and efficacy perspective, but also from a standpoint of freedom of choice by individuals. From a market perspective, private health insurance providers may see CAM as a niche to be explored.

Methods

Data and descriptive statistics

The data employed is taken from the forth Portuguese National Health Survey (2005/06) providing a representative sample for the country as a whole, since it results from a multi-stage random probability selection design. The survey includes a broad set of questions covering several topics from personal identification to sport and drinking habits. The responses received came from all people in the selected households who accepted to participate. Nationally, 76% of the selected households agreed to participate; reasons given for non-participation included "nobody resident at that address", "incompatible schedules with interviewers" and "refusal" (the rate of refusal was only 5%).

Trained interviewers asked the questions and recorded the answers during face-to-face interviews with a household representative or the individual himself.

The working sample covers all 33,770 adults (older than 18), where 47.5% are males and 52.5% are females. There are two survey questions that relate to the use of CAM. One question asks about the diagnosis and the other about the treatment after a pre-reported illness or symptoms, as shown in Figure 1. In answering the questions, respondents are obliged to choose one of three answers: "yes", "no" or "do not know". The number of "do not know" answers is insignificant. The relevant questions are presented in the Appendix 1.
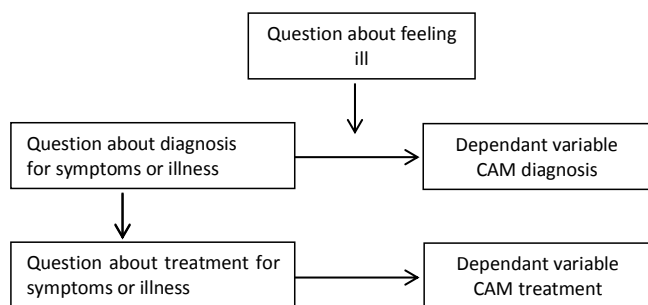

Figure 1. Flowchart for the questions concerning Complementary/Alternative Medicine (CAM) in the survey

A total of 855 people report using CAM, either in one or both the diagnosis and treatment stages. Table 1 shows the number of users of WM and CAM, according to their choices in the diagnosis and/or treatment stages. It should be noted that it is not possible to sum the numbers presented in Table 1 because there are some people who use CAM purely for diagnosis, other people who use CAM purely for treatment and other people again who use CAM for both diagnosis and treatment. In order to refine the descriptive statistics on the use of CAM and because information on the use of CAM is preceded by information recording a feeling of being ill in the two weeks prior to the survey, we now present some additional statistics on the use of CAM. The supporting structure of the described statistics is presented in Figure 2.

The number of adults reporting "feeling ill" in the two weeks prior to the survey was 5,070. Table 2 shows that out of this group of 5,070 people, 2,056 looked for a WM professional to get a diagnosis and 68 looked for a CAM diagnosis, while 379 people used a treatment provided by CAM. The total number of people reporting using CAM and feeling ill is 408. As before, in Table 2, the sum of the entries does not yield the total users of CAM because people use CAM in one or both stages of healthcare.

For those people that sought a WM diagnosis (that is 2,056 people), Table 3 shows the subsequent choice breakdown concerning treatment. Only 649 people followed up from their diagnosis with some form of treatment. From this group, 487 people (23.7%) took a WM treatment (usually drugs),

Table 1. Number of users of WM and CAM

	WM	CAM
Diagnosis	4,258	124
Treatment	2,598	810

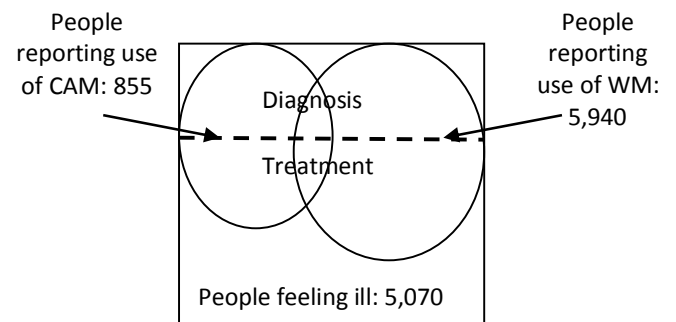CAM= Complementary/Alternative Medicine; WM= Western Medicine

Figure 2. Supporting structure of the additional descriptive statistics

Table 2. Number of users by type of medicine for people reporting "felling ill"[a]

	WM		CAM	
	No. of users	%	No. of users	%
Diagnosis	2,056	40.6	68	1.3
Treatment	1,710	33.7	379	7.5

CAM= Complementary/Alternative Medicine; WM= Western Medicine.
[a] The percentage refers to total numbers of people feeling ill = 5,070.

while 162 (7.9%) people decided upon a CAM treatment after the WM diagnosis. These are unexpected numbers because of the divergence in choices between the type of diagnosis and treatment undertaken.

The three most common types of CAM specialist sought for a diagnosis are phytotherapists (27%), herbal experts (24%) and acupuncturists (15%). This pattern of CAM use changes when it comes to treatment, where the three most sought after forms of treatment are herbs and teas (44%), "other" (33%) and chiropractic (19%). No information is available to determine what "other" means, but it can be inferred to include all other CAM which are not on the list of possible choices in the survey, such as, yoga, reiki, cripto therapy and massage.

To uncover more information about the relationships at play, an analysis is made of the correlation between the choices of CAM and WM for treatment and diagnosis (CAMdiagn, CAMtreat, WMdiagn and WMtreat – these variables are binary taking on a value of 1 if the individual reported uses CAM and 0 otherwise). In the next table, the tetrachoric correlations (The tetrachoric correlation is a coefficient computed for two normally distributed binary variables) are shown for the four variables, as well as Cramer's V statistic measuring the association between two binary variables (in brackets).

The values in Table 4 show that the choices of CAM and WM for diagnosis and treatment exhibit in all cases a strong or medium positive correlation. Moreover, they are not strongly associated, that is, each pair of two variables are far from being equal to each other since Cramer's V statistic is very low.

The survey questions supporting the variables relating to the choice of CAM or WM are presented in Appendix 1, along with information on how the variables were created.

Method and model

The relationship between CAM and WM may be either complement or substitute. These concepts are borrowed

Table 3. Number of users by type of treatment for people reporting being ill and doing WM diagnosis[a]

	No. of users	%
WM treatment	487	23.7
CAM treatment	162	7.9

CAM= Complementary/Alternative Medicine; WM= Western Medicine.
[a] Percentage refers to total numbers= 2,056.

Table 4. Correlations and associations[a]

	CAMdiagn	CAMtreat	WMdiagn	WMtreat
CAMdiagn	1	-	-	-
CAMtreat	0.937 (-0.236)	1	-	-
WMdiagn	0.694 (-0.073)	0.729 (-0.211)	1	-
WMtreat	0.588 (-0.056)	0.439 (-0.076)	0.533 (-0.196)	1

[a] In brackets the Cramer's V statistic.

Table 5. Independent variables

Variable	Description
Variables describing social and economic status	
Gender	1 if male; 0 if female
Age	Number of years of age
Age2	Square of Age
Income	Income per capita[a]
Variables describing personal status	
Single	1 if single; 0 otherwise
Married	1 if married; 0 otherwise
Divorced	1 if divorced; 0 otherwise
Alone	1 if alone; 0 otherwise
Set of variables describing personal occupation	
Work	1 if works; 0 otherwise
Student	1 if studies; 0 otherwise
Unemploy	1 if unemployed; 0 otherwise
Retired	1 if retired; 0 otherwise
Variables describing health status	
Chrndis	1 if individual has at least one chronic disease[b]; 0 otherwise
BMI	Body Mass Index[c]
Variables describing education and empowerment	
Schyr	School years: number of completed schooling years
Schyr2	Square of Schyr
Selfmed	1 if individual chose to take drugs without conventional doctor prescription; 0 otherwise

[a] Income is computed from the average income of an interval of incomes chosen by respondent, divided by the square of the number of individuals in the family in order to take into account economies of scale.
[b] The chronic diseases considered are the following: diabetes, asthma, high blood pressure, chronic pain, rheumatism, osteoporosis, glaucoma, retina diseases, cancer, kidney diseases, anxiety, chronic wound, bronchitis, Cerebrovascular Accident (CVA), obesity, depression and heart attack.
[c] BMI is computed as a ratio between the weight in kilograms and the square of the height in meters.

from the economic theory, in the sense that when the consumption of CAM and WM increases, then they tend to be complementary, but when the consumption of CAM decreases and the WM increases, then they are substitutes. To find the relationship between CAM and WM, two linear equations are estimated, based on several control variables. This econometric approach to test the complementarity of goods and services in health has been used before (55–58). The dependent variables of the econometric model are CAMtreat and CAMdiagn. These are binary variables, taking a value of 1 if the individual reported using CAM and 0 otherwise. The aim to estimate the main determinants of a CAM decision justifies the choice of CAM as a dependent variable.

The independent variables are listed and described in Table 5. For the diagnosis scenario, the estimated probit is as follows:

$$CAMdiagn = c_1 + \alpha_1 X + \delta_1 WMdiagn + v_1,$$

While for the treatment scenario we have:

$$CAMtreat = c_2 + \alpha_2 X + \delta_2 WMtreat + \delta_3 CAMdiagn + \delta_4 WMdiagn + v_2$$

where X are independent variables, c_i is a constant, and v_i is the error term, $i = 1,2$.

According to the definition of complementarity and substitutability, if the estimated δ's are positive, then CAM and WM are complements; if negative, then CAM and WM are substitutes.

Another relevant economic estimate concerns the correlation between income and the choice of CAM. If the estimated coefficient is positive, then CAM is a normal good, however, if it is negative, then it is an inferior good.

Finally, the estimated coefficients for the control variables provide information about the correlation each variable has with the choice of CAM, given that all the other variables are constant.

Results

The estimated models are presented in the next table and were obtained with software STATA version 9 (Table 6).

The most relevant result is that CAM and WM are complements, both in the diagnosis and treatment stages, because estimated coefficients are positive and statistical significant.

The second important result is that people, having sought a WM diagnosis, may look for a CAM treatment, as shown in estimated coefficients of model 1. This result actually shows how CAM and WM are related for patients who seem to value both healthcare contributions. This corroborates previous medical studies that showed the importance of CAM in particular diseases.

Table 6. Results of the estimated models[a]

	CAM treatment Model 1		CAM diagnosis Model 2	
	Coef.	P>|z|	Coef.	P>|z|
WMtreat	**0.150**	**0.015**	-	-
CAMdiagn	**1.944**	**0.000**	-	-
WMdiagn	**0.955**	**0.000**	**0.779**	**0.000**
Gender	-0.049	0.239	-0.063	0.419
Income	0.000	0.992	0.000	0.830
Age	**0.019**	**0.013**	**0.043**	**0.005**
Age2	**0.000**	**0.027**	**0.000**	**0.017**
Schyr	**0.044**	**0.073**	0.058	0.149
Schyr2	**-0.003**	**0.047**	-0.002	0.341
Single	-0.119	0.229	-0.112	0.491
Married	**-0.176**	**0.036**	**-0.233**	**0.084**
Widow	-0.125	0.240	-0.349	0.081
Work	**-0.165**	**0.002**	-0.027	0.784
Unemploy	-0.148	0.129	-0.015	0.938
Retired	0.009	0.894	0.006	0.965
Smoke	**0.136**	**0.005**	**-0.189**	**0.061**
Chrndis	**0.225**	**0.000**	**0.226**	**0.013**
BMI	0.001	0.864	-0.002	0.753
Selfmed	**0.278**	**0.000**	**0.644**	**0.000**
Cons	-2.916	0.000	-4.236	0.000
Number of observation	27,131		27,131	
Wald chi²	1207.680		283.740	
Prob> chi²	0.000		0.000	
Log pseudolikelihood	-2422.211		-614.351	
Pseudo R²	0.202		0.161	

BMI= Body mass index
[a] The non-significant coefficients in regular font; significant coefficients in bold.

The third result worth stressing is that the medical literacy and empowerment of patients, captured by the self-medication variable, contributes towards choosing CAM. Moreover, this medical literacy and empowerment can also be captured by the existence of chronic disease. These patients tend to understand their condition well, along with what makes them feel better, and they are usually willing to try new approaches to their illness. This is why suffering from at least one chronic disease is a determinant factor in choosing CAM. The other result concerning literacy comes from the significance education holds for the choice of CAM treatment, but not for the CAM diagnosis. The higher the level of education, the more likely it becomes for individuals to choose a CAM treatment. However, the marginal effect on individuals' choice as education increases is negative; education presents an inverted U-shape relationship with CAM treatment.

A somewhat surprising result is that smokers are less likely to look for a CAM diagnosis than a CAM treatment. The descriptive statistics show that 810 smokers use CAM treatments while only 124 smokers use a CAM diagnosis. It is not possible to identify the reasons that encouraged smokers to look for CAM. However, it follows that smoking as a condition does not need a diagnosis, and those wishing to follow programs designed to quit smoking are looking for a CAM treatment and not a diagnosis.

Finally, no significant relationship was found between the choice of CAM and income, leaving us unable to reach a conclusion as to whether CAM represents a normal or inferior good for consumers.

These results obtained here are relevant for health policy matters. Firstly, it may be important for the well-being of patients to have a national health system that integrates both types of medicines. This could help increase the clarity and availability of information for physicians and for patients, and increase communication between them, so that higher efficacy and safety, as well as, access equity could be achieved. Secondly, it may be inferred that there exists an increasing interest in including CAM in private health insurance. While this practice is already current in other European countries, it is now becoming more common in Portugal due to the positive correlation between CAM and WM medicines.

Thirdly, the characterization of those who choose CAM is helpful for policy design. People suffering from chronic diseases, smokers, working and mature adults are those who are more likely to appreciate such health policies.

Finally, it could be argued that the estimation of these two probit models could be done simultaneously, in order to account for possible endogeneity. A bivariate probit was estimated where upon the results were found to be identical to the original estimation. Moreover, no significant correlation was found between the residuals of both probits regressions, which most likely means there is no endogeneity. This can be explained by the strong belief and cultural bias towards conventional medicine in Portugal.

Conclusions and Discussion

The increasing use of CAM by the Portuguese follows the European trend. The questions raised by this trend are several: Are CAM and WM substitutes or complements in

the individual decision regarding healthcare? How is the relationship between CAM and WM different in the diagnosis and treatment stages? What are the main factors determining the individual choice of CAM?

The interaction between prescribed WM drugs and CAM therapies is well-known. The importance of this coupled with a concern for the patient's safety, satisfaction and the treatment efficacy, justifies this work.

In this work data is used from the forth Portuguese National Health Survey (2005/06) where two probit models are estimated for CAM diagnosis and treatment. It is found that CAM and WM are complements, both in the diagnosis and treatment stages.

This main result, along with the relevance of patient empowerment and individual patient characteristics, provides important insights for health policy-makers and for private health insurance providers.

The determinant factors of the use of CAM found in this work are not very different from those found in other research work. Some differences arise, as for instance with gender, which is not a significant factor in the current work in contrast with other studies (46–48). Even if no explanation may be provided for this, it is expected that as soon as the prejudice surrounding open discussion of CAM diminishes, gender may be a significant determinant factor driving the choice of CAM.

Income is similarly poor at explaining CAM use. While in other European research (47,48,51), income has had a significant capacity to explain CAM prevalence, here that does not appear to be the case. The reason for this may be due to the way the variable is defined (in classes), meaning it does not capture much of the variability in the use of CAM.

The last difference worth mentioning relates to education. The results found for schooling are inconclusive since the estimated coefficient was significant for CAM treatment but not for CAM diagnosis. This provides a basis for future research as other studies (46–48,51) found a significant relationship and this work finds a negative marginal effect of education on the choice of CAM. This may be interpreted as a decreasing effect of education for very high levels of education.

The results obtained in this work seem to show that the separation between WM and CAM is not socially desirable. Patients need for freedom of choice and, for the sake of safety and efficacy of treatment, WM and CAM healthcare should be provided in a joint and integrated health system.

From a different perspective, private health insurance providers may exploit the desire of people for access to both WM and CAM and explore a niche of this market. In particular, advertising such health insurance to mature working adults who tend to smoke more often.

The main disadvantage of this analysis is the number of people self-reporting using CAM. This number may be smaller than the true number of people using CAM diagnosis and treatment. This under-reporting can be explained by the fact that Portuguese society is WM dominated and CAM is little known or understood, leading people to not openly discuss its use. Hence, one potential limitation arises from the fact that it is not possible to interpret what is the meaning of negative answers to the survey questions used to create the observable variables on use of CAM. Does it mean "no use of CAM"? Or does it mean "I do not want to talk about it"?

Lastly, the economic quantitative analysis and the database used in this work does not allow for a qualitative analysis where cultural, social and anthropological features also play a role. The emphasis of the work presented here has quantitative nature.

Ethical issues
Ethical principles were followed throughout the conduct of this research. Informed consent was obtained from each respondent and their anonymity guaranteed.

Competing interests
Author declares that she has no competing interests.

Author's contribution
AIT is the single author of the manuscript.

Endnotes
This work was done before the full effects of the debt crisis took hold in 2011. At that time, the National Health Service (NHS) copayments were fairly low. In 2010, it was estimated that on average about 30% of total expenditure on healthcare was private, mainly in the form of out-of-pocket (OOP) payments. After 2011, some reforms have been implemented in order to decrease public expenditure on health (25). However, an assessment of these measures has not been made. Moreover, due to financial constraints, there is no statistical information about the current use of CAM nor is there any health survey.

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Appendix 1

I) Question for Diagnosis Stage

"Related to that (health) problem you mentioned before, to whom did you go?"
1) Doctor
2) Nurse
3) Pharmacist
4) Acupuncturist
5) Homeopaths
6) Osteopaths
7) Naturopaths
8) Phytotheraphist
9) Chiropractor
10) Herbal expert
11) Healer
12) Other health professional

Variable CAMdiagn is created by at least one answer being chosen from options 4 to 10.
Variable WMdiagn is created by at least one answer being chosen from options1 to 3.

II) Question for Treatment Stage

"In relation to the (health) problem you mentioned before, what treatment have you administered in the last two weeks?"
1) Herbs and teas
2) Change of food
3) Took drugs you knew
4) Took drugs advised by friends
5) Took drugs advised by doctor
6) Acupuncture
7) Homeopathy
8) Osteopathy
9) Naturapathy
10) Phytotherapy
11) Chiropractic
12) Something else

Variable CAMtreat is created by at least one answer being chosen out of theoptions1 and 6 to 11.
Variable WMtreat is created by at least one answer being chosen from options 3 to 5.